ESCC
European Space Components Coordination

CRYSTAL UNITS IN METAL HOLDER,

BASED ON TYPE T807,

FREQUENCY RANGE 4.0 - 140MHZ

ESCC Detail Specification No. 3501/012

(Follow-up specification to ESCC Detail Specification Nos. 3501/001, 3501/008 and 3501/011)

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DCR No.	CHANGE DESCRIPTION
582	Specification upissued to incorporate technical changes per DCR.

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APPENDICES (Applicable to specific Manufacturers only)

1.1 SCOPE

This specification details the values, physical and electrical characteristics, test and inspection data for Crystal Units in Metal Holder, based on Type T807, Frequency Range 4.0 - 140MHz.

It shall be read in conjunction with ESCC Generic Specification No. 3501, the requirements for which are supplemented herein.

This is a follow-up specification to ESCC Detail Specification Nos. 3501/001 and 3501/008. ESCC 3501/001 and 3501/008 should also be consulted by:-

(a) Users seeking information concerning the availability of variants additional to those listed in this specification.

(b) Manufacturers before requesting the introduction of a new variant in accordance with the requirements of Para. 1.2 of this specification.

1.2 COMPONENT TYPE VARIANTS

A list of the type variants of the crystal units specified herein, which are also covered by this specification, is given in "Table 1(a) - Type Variant Summary".

For each type variant, the full electrical and physical characteristics are given in individual Tables 1(a) - "Type Variant Detailed Information" at the end of this specification.

The contents of the individual Tables 1(a) shall be as shown in Table 1(c) and the characteristics therein listed shall relate to the design parameters of the individual crystal units, optimised for the intended application.

The specific characteristics shall be negotiated between the Manufacturer and the Orderer. The Manufacturer shall then apply to the ESCC Secretariat for a type variant number for each individual crystal unit concerned, by sending a finalised Table 1(a) which shall also be copied to the ESCC Executive.

1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the crystal units specified herein, are as scheduled in Table 1(b).

1.4 PHYSICAL DIMENSIONS

The physical dimensions of the crystal units specified herein are shown in Figure 2.

1.5 FUNCTIONAL DIAGRAM

The functional diagram showing lead identification of the crystal units specified herein is shown in Figure 3.

TABLE 1(a) - TYPE VARIANT SUMMARY

N.B. For additional information concerning Type Variants, see Para. 1.1.

Variant	Resonance Frequency (MHz)	Load Capacitance (C_L pF)	Reference Temp. (T_o °C)	Operating Temp. Range (T_{op} °C)	Intend. Applica-tion	Figure
01	56.307974	∞	+60	−20 to +80	OCXO	2(a)
02	56.214223	∞	+60	−20 to +80	OCXO	2(a)
03	46.286060	∞	+25	−20 to +80	TCXO	2(a)
04	68.882769	∞	+25	−20 to +80	TCXO	2(a)
05	24.686200	30	+25	−20 to +70	TCXO	2(a)
06	67.988538	∞	+25	−20 to +80	TCXO	2(a)
07	118.689	∞	+25	−20 to +70	TCXO	2(a)
08	128.689	∞	+25	−20 to +70	TCXO	2(a)
09	32.0	30	+27	−55 to +100	TCXO	2(a)
10	69.081879	∞	+25	−20 to +80	TCXO	2(a)
11	69.097030	∞	+25	−20 to +80	TCXO	2(a)
12	15.0	∞	+25	−30 to +80	XO	2(b)
13	75.0	12	+25	−20 to +80	VCXO	2(b)
14	54.672426	∞	+60	−20 to +80	OCXO	2(a)
15	53.846315	∞	+60	−20 to +80	OCXO	2(a)
16	31.611111	∞	+25	−20 to +80	XO	
17	4.194304	22	+60	−20 to +70	XO	
18	16.0	30	+25	−20 to +90	XO	
19	137.912500	∞	+25	−20 to +60	XO	
20	137.1	∞	+25	−20 to +60	XO	
21	35.5	∞	+25	−15 to +65	TCXO	2(a)
22	35.85	∞	+25	−15 to +65	TCXO	2(a)
23	36.625	∞	+25	−15 to +65	TCXO	2(a)
24	36.7	∞	+25	−15 to +65	TCXO	2(a)
25	49.375	∞	+25	−15 to +65	TCXO	2(a)
26	46.210937	∞	+25	−15 to +65	TCXO	2(a)
27	55.231250	∞	+25	−15 to +65	TCXO	2(a)
28	55.425	∞	+25	−15 to +65	TCXO	2(a)
29	55.45	∞	+25	−15 to +65	TCXO	2(a)
30	50.5	∞	+25	−15 to +65	TCXO	2(a)
31	68.75	∞	+25	−15 to +65	TCXO	2(a)
32	70.0	∞	+25	−15 to +65	TCXO	2(a)
33	69.531250	∞	+25	−15 to +65	TCXO	2(a)
34	16.0	30	+25	−50 to +80	XO	
35	30.0	30	+25	−55 to +100	XO	
36	67.117	∞	+25	−30 to +85	XO	

NOTES: See Page 8.

TABLE 1(a) - TYPE VARIANT SUMMARY (CONTINUED)

Variant	Resonance Frequency (MHz)	Load Capacitance (C_L pF)	Reference Temp. (T_o °C)	Operating Temp. Range (T_{op} °C)	Intend. Applica-tion	Figure
37	37.806667	∞	+25	−20 to +80	XO	
38	37.933333	∞	+25	−20 to +80	XO	
39	8.388608	22	+25	−55 to +80	XO	
40	4.8	30	+25	−40 to +80	XO	
41	119.875	∞	+25	−5 to +70	TCXO	2(a)
42	122.2	∞	+25	−5 to +70	TCXO	2(a)
43	123.611111	∞	+25	−5 to +70	TCXO	2(a)
44	125.479167	∞	+25	−5 to +70	TCXO	2(a)
45	125.5	∞	+25	−5 to +70	TCXO	2(a)
46	126.041667	∞	+25	−5 to +70	TCXO	2(a)
47	126.461538	∞	+25	−5 to +70	TCXO	2(a)
48	126.944444	∞	+25	−5 to +70	TCXO	2(a)
49	120.104167	∞	+25	−5 to +70	TCXO	2(a)
50	125.454545	∞	+25	−5 to +70	TCXO	2(a)
51	128.625	∞	+25	−5 to +70	TCXO	2(a)
52	22.7	30	+25	−40 to +80	TCXO	2(a)
53	16.0	30	+27	−55 to +100	XO	2(a)
54	30.0	∞	+25	−55 to +120	XO	2(a)
55	54.311	∞	+25	−55 to +105	TCXO	2(a)
56	62.38	∞	+25	−55 to +105	TCXO	2(a)
57	62.5	∞	+25	−55 to +105	TCXO	2(a)
58	64.997	∞	+25	−55 to +105	TCXO	2(a)
59	66.916666	∞	+25	−55 to +105	TCXO	2(a)
60	67.708333	∞	+25	−55 to +105	TCXO	2(a)
61	67.916666	∞	+25	−55 to +105	TCXO	2(a)
62	69.166666	∞	+25	−55 to +105	TCXO	2(a)
63	87.24	∞	+25	−55 to +105	TCXO	2(a)
64	87.312	∞	+25	−55 to +105	TCXO	2(a)
65	87.375	∞	+25	−55 to +105	TCXO	2(a)
66	87.412	∞	+25	−55 to +105	TCXO	2(a)
67	87.448	∞	+25	−55 to +105	TCXO	2(a)
68	87.485	∞	+25	−55 to +105	TCXO	2(a)
69	87.489750	∞	+25	−55 to +105	TCXO	2(a)
70	88.743	∞	+25	−55 to +105	TCXO	2(a)
71	88.8	∞	+25	−55 to +105	TCXO	2(a)
72	88.86	∞	+25	−55 to +105	TCXO	2(a)

NOTES: See Page 8.

TABLE 1(a) - TYPE VARIANT SUMMARY (CONTINUED)

Variant	Resonance Frequency (MHz)	Load Capacitance (C_L pF)	Reference Temp. (T_o °C)	Operating Temp. Range (T_{op} °C)	Intend. Applica-tion	Figure
73	88.913	∞	+25	−55 to +105	TCXO	2(a)
74	44.286060	∞	+25	−20 to +80	TCXO	2(a)
75	45.056	∞	+25	−20 to +80	TCXO	2(a)
76	35.5	∞	+25	−15 to +65	TCXO	2(a)
77	50.5	∞	+25	−15 to +65	TCXO	2(a)
78	54.497500	∞	+25	−15 to +65	TCXO	2(a)
79	69.531250	∞	+25	−15 to +65	TCXO	2(a)
80	36.625	∞	+25	−15 to +65	TCXO	2(a)
81	42.5	∞	+25	−15 to +65	TCXO	2(a)
82	49.375	∞	+25	−15 to +65	TCXO	2(a)
83	55.231250	∞	+25	−15 to +65	TCXO	2(a)
84	68.75	∞	+25	−15 to +65	TCXO	2(a)
85	70.0	∞	+25	−15 to +65	TCXO	2(a)
86	55.45	∞	+25	−15 to +65	TCXO	2(a)
87	128.707627	∞	+25	−15 to +75	TCXO	2(a)
88	118.707627	∞	+25	−15 to +75	TCXO	2(a)
89	16.0	30	+27	−20 to +70	XO	2(a)
90	123.333333	∞	+81	+76 to +86	OCXO	2(a)
91	126.625	∞	+81	+76 to +86	OCXO	2(a)
92	127.08333	∞	+81	+76 to +86	OCXO	2(a)
93	127.272727	∞	+81	+76 to +86	OCXO	2(a)
94	127.777778	∞	+81	+76 to +86	OCXO	2(a)
95	128.75	∞	+81	+76 to +86	OCXO	2(a)
96	120.833333	∞	+81	+76 to +86	OCXO	2(a)
97	121.212121	∞	+81	+76 to +86	OCXO	2(a)
98	128.571429	∞	+81	+76 to +86	OCXO	2(a)
99	50.0	∞	+85	−20 to +80	TCXO	2(a)

NOTES

1. Full electrical and physical characteristics are given in the individual Tables 1(a) at the end of this specification.

TABLE 1(b) - MAXIMUM RATINGS

No.	Characteristic	Symbol	Values	Unit	Remarks
1	Nominal Frequency Range	f	4.0 to 140	MHz	Note 1
2	Drive Level Range	P	Note 1	mW	Note 1
3	Operating Temperature Range	T_{op}	-	°C	Note 2
4	Storage Temperature Range	T_{stg}	− 65 to + 125	°C	Note 3
5	Soldering Temperature	T_{sol}	+ 260	°C	Note 4

NOTES

1.

Fundamental and Overtone Order	Approx. Frequency Range (MHz)	Drive Level Range (mW)
Fundamental	4 - 35	0.05 to 0.2
3	30 - 100	0.05 to 0.25
5	80 - 140	0.05 to 0.25

2. See Table 1(a).
3. The duration at maximum storage temperature shall not exceed 16 hours.
4. Duration 10 seconds maximum at a distance of not less than 3.0mm from the device body and the same lead shall not be resoldered until 3 minutes have elapsed.

TABLE 1(c) - FORMAT FOR INDIVIDUAL TABLES 1(a)

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO.

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r			MHz	AT Cut
2	Reference Temperature	T_o			°C	
3	Overtone Order	-				
4	Load Capacitance	C_L			pF	
5	Rated Drive Level	P_o			mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$			10^{-6}	At T_o °C
7	Resonance Resistance	R_r			Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$			10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$			% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}			°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$			10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.5mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$			%	From P_{S1} = 0.5mW to P_{S2} = 0.5mW
13	Motional Inductance	L_1			mH	
14	Motional Capacitance	C_1			fF	
15	Static Capacitance	C_o			pF	
16	Q Factor	Q			-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$				In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\frac{\Delta f}{f}$			10^{-6}	
19	Physical Dimensions					
20	Intended Application					

NOTES: See Pages 11 and 12.

NOTES TO TABLE 1(c)

1. (a) If C_L is not specified, Symbol and measurement shall be f_r.

   (b) If C_L is specified, Symbol and measurement shall be f_L.

2. Reference Temperature T_o

   (a) For a crystal unit functioning in a non-controlled temperature environment, the reference temperature is normally +25 ±2 °C.

   (b) For a crystal unit functioning in a controlled temperature environment, the reference temperature shall normally be the mid-point of the temperature range of the controlled environment.

3. Load Capacitance C_L

   (a) When a crystal unit must function at its series resonance frequency, C_L shall be infinite.

   (b) When a crystal must function with a load capacitance, the C_L value shall be specified. The standard values of load capacitance are as follows:

   - Fundamental Frequency Operation: 20pF, 30pF, 50pF and 100pF.
   - Overtone Operation: 8pF, 12pF, 15pF, 20pF and 30pF.

   N.B
   The tolerance on the load capacitance shall be that value which results in a frequency change not exceeding 10% of the frequency tolerance at T_o or 1% of the nominal load capacitance, whichever is smaller.

4. Rated Drive Level P_o

   The rated drive level shall be selected from the standard drive levels specified below:

   - Preferred values: 2mW, 1mW, 0.5mW, 0.2mW, 0.1mW, 0.05mW, 0.02mW, 0.01mW, 0.001mW or 0.0001mW at ±20%.
   - Non-preferred values: 10mW, 5mW and 4mW all at ±20%.

5. Frequency Adjustment Tolerance

   (a) When a crystal must function at its series resonance frequency, the standard value of the adjustment tolerance shall be $\pm 10 \times 10^{-6}$.

   (b) When a crystal has to function with a load capacitance, the standard value of the adjustment tolerance shall also be $\pm 10 \times 10^{-6}$. However, if the load capacitance is adjustable, it is preferable to specify that the nominal frequency be obtained with a load capacitance value between the minimum and maximum value when the crystal is functioning in its fundamental mode.

6. Resonance Resistance

   (a) Generally, the maximum value only is specified.

   (b) R_L may be calculated by $R_L = R_r\left(1 + \frac{C_o}{C_L}\right)^2$

7. Frequency and Resistance Variation with Temperature

   These values shall be specified such that they are consistent with the operating temperature range.

8. Frequency and Resistance Variation with Drive Level

   These limits and the Drive Level range (P_{S1} to P_{S2}) shall be specified for very special crystals only (i.e. crystals used in very high stability oscillators).

NOTES TO TABLE 1(c) (Continued)

9. Electrical Values

The electrical values shall be specified only when required for the correct functioning of the equipment in which the crystal is used.

10. Motional Inductance L_1

Because the inductance value may be restricted by other chosen parameters, the Manufacturer shall propose the value of L_1 in accordance with the Customer's requirements.

11. 'Q' Factor

If 'R' and 'L' have been already specified, it will not be necessary to specify the minimum value of the 'Q' factor.

The maximum value of the 'Q' factor is never specified.

12. Ratio of Unwanted Response Resistance to Resonance Resistance

The standard minimum value is 2, but it is possible to obtain higher values.

The frequency range within which the minimum value of the ratio is required shall also be specified.

13. Ageing

Specify limits under appropriate column and ageing period under "Remarks".

14. Physical Dimensions

The applicable Figure Number is to be specified.

15. Not applicable Items

For all items where limits are not specified, "Not applicable" shall be entered in the Limits column.

16. Intended Application

For definitions of the selected symbol to be added, see ESCC Generic Specification No. 3501, Para. 3.

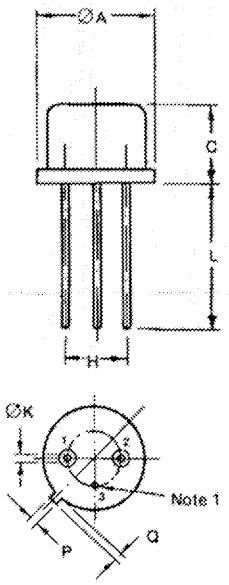
FIGURE 1 - PARAMETER DERATING INFORMATION

Not applicable.

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) - 3-PIN PACKAGE

Symbol	Millimetres		Remarks
	Min.	Max.	
ØA	-	10.70	-
C	-	6.80	-
H	4.83	5.33	Pitch 5.08mm
ØK	0.41	0.48	-
L	12.70	-	-
P	-	0.90	Note 2
Q	-	0.90	Note 2



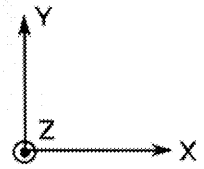
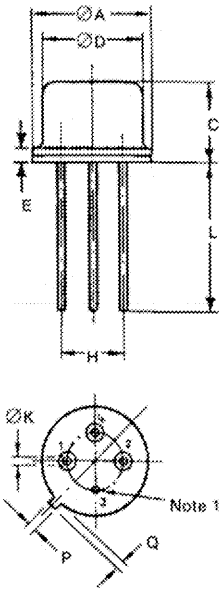


FIGURE 2(b) - 4-PIN PACKAGE

Symbol	Millimetres		Remarks
	Min.	Max.	
ØA	8.51	10.70	-
C	6.10	6.90	-
ØD	7.75	8.50	-
E	0.25	1.00	-
H	4.93	5.23	-
ØK	0.41	0.48	-
L	12.70	-	-
P	-	0.90	Note 2
Q	-	0.90	Note 2

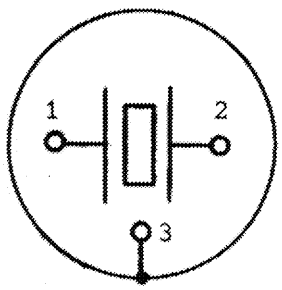


NOTES

1. Lead No. 3 is grounded to case.
2. The tag's position or presence is optional.

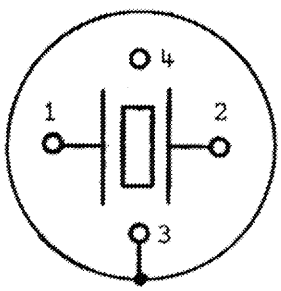
FIGURE 3 - FUNCTIONAL DIAGRAM

FIGURE 3(a) - 3-PIN PACKAGE



(Bottom View)

FIGURE 3(b) - 4-PIN PACKAGE



(Bottom View)

2. APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:-

(a) ESCC Generic Specification No. 3501 for Quartz Crystal Units.

3. TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic Specification No. 21300 shall apply. In addition, the following symbols are used:-

Resonance Frequency	= f_r
Load Resonance Frequency	= f_L
Reference Temperature	= T_o
Resonance Resistance	= R_r
Load Resonance Resistance	= R_L
Rated Drive Level	= P_o
Static Capacitance	= C_o
Load Capacitance	= C_L
Motional Capacitance	= C_1
Motional Inductance	= L_1
Response Resistance	= R_P
Response Impedance	= $\|Z_P\|$
Insulation Resistance	= Ri

4. REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the crystal units specified herein shall be as stated in this specification and ESCC Generic Specification No. 3501 for Quartz Crystal Units. Deviations from the Generic Specification applicable to this specification only, are detailed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

4.2 DEVIATIONS FROM GENERIC SPECIFICATION

4.2.1 Deviations from Special In-process Controls

None.

4.2.2 Deviations from Final Production Tests (Chart II)

None.

4.2.3 Deviations from Burn-in Tests (Chart III)

None.

4.2.4 Deviations from Qualification Tests (Chart IV)

None.

4.2.5 Deviations from Lot Acceptance Tests (Chart V)

None.

4.3 MECHANICAL REQUIREMENTS

4.3.1 Dimension Check

The dimensions of the crystal units specified herein shall be checked; they shall conform to those shown in Figure 2.

4.3.2 Weight

The maximum weight of the crystal units specified herein shall be 2.0 grammes.

4.3.3 Robustness of Terminations

The requirements for robustness of termination testing are specified in Section 9 of ESCC Generic Specification No. 3501.

4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the crystal units specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

4.4.1 Case

4.4.1.1 Cap

Copper, nickel plated or nickel and gold plated.

4.4.1.2 Base

Kovar, nickel plated and gold plated.

4.4.2 Lead Material and Finish

The lead material shall be Type 'D' with Type '2' finish in accordance with the requirements of ESCC Basic Specification No. 23500.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and the following paragraphs. When the component is too small to accommodate all of the marking specified, as much as space permits shall be marked and the marking information, in full, shall accompany the component in its primary package.

The information to be marked and the order of precedence, shall be as follows:-

(a) The ESCC Component Number.

(b) Characteristics.

(c) Traceability Information.

4.5.2 The ESCC Component Number

Each component shall bear the ESCC Component Number, which shall be constituted and marked as follows:-

350101101B

Detail Specification Number
Type Variant, (see Table 1(a))
Testing Level (B or C, as applicable)

4.5.3 Characteristics

The resonance frequency of the crystal units shall be clearly specified in MHz. Where necessary, it shall be specified to 6 decimal places.

4.5.4 Traceability Information

Each component shall be marked in respect of traceability information in accordance with the requirements of ESCC Basic Specification No. 21700.

4.5.5 Manufacturer's Name, Symbol or Code

The Manufacturer's marking shall be in accordance with the requirements of ESCC Basic Specification No. 21700.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Reference Temperature

The parameters to be measured in respect of electrical characteristics are scheduled in Table 2. The measurements shall be performed at the temperatures specified in the individual Tables 1(a), Item 2.

4.6.2 Electrical Measurements at High and Low Temperatures

The parameters to be measured at high and low temperatures are scheduled in Table 3. These measurements shall only be performed if values are specified in Table 1(a) Items 8 and/or 9.

4.6.3 Circuits for Electrical Measurements (Figure 4)

Not applicable.

4.7 BURN-IN TESTS

4.7.1 Parameter Drift Values

The parameter drift values applicable to burn-in are specified in Table 4 of this specification. Unless otherwise stated, measurements shall be performed at $T_{amb} = T_0 \pm 2$ °C. The parameter drift values (Delta) applicable to the scheduled parameters shall not be exceeded. In addition to these drift value requirements for a given parameter, the appropriate limit value specified in Table 2 shall not be exceeded.

4.7.2 Conditions for Burn-in

The requirements for burn-in are specified in Section 7 of ESCC Generic Specification No. 3501. The conditions for burn-in shall be as specified in Table 5 of this specification.

4.7.3 Electrical Circuits for Burn-in (Figure 5)

Not applicable.

TABLE 2 - ELECTRICAL MEASUREMENTS AT REFERENCE TEMPERATURE

No.	Characteristics	Symbol	ESCC 3501 Test Method	Limits	Unit
1	Resonance frequency at reference temperature and rated drive level - with C_O - with C_L	 f_r (T_o, P_o) f_L (T_o, P_o)	Para. 9.2.1.1	Table 1(a), Item 1 ± Item 6	MHz
2	Resonance resistance at reference temperature and rated drive level - with C_O - with C_L	 R_r (T_o, P_o) R_L (T_o, P_o)	Para. 9.2.1.1	Table 1(a), Item 7	Ω
3	Frequency variation with Drive Level	$\frac{\Delta f}{f}$ (T_o, ΔP)	Para. 9.2.1.1	Table 1(a), Item 11	10^{-6}
4	Resistance variation with Drive Level	$\frac{\Delta R}{R}$ (T_o, ΔP)	Para. 9.2.1.1	Table 1(a), Item 12	%
5	Motional Inductance	L_1	Para. 9.2.1.3	Table 1(a), Item 13	mH
6	Static Capacitance	C_o	Para. 9.2.1.4	Table 1(a), Item 15	pF
7	Unwanted response	R_P/R or $\lvert Z_P \rvert/R$	Para. 9.2.1.5	Table 1(a), Item 17	-
8	Insulation Resistance	Ri	Para. 9.2.1.6	500 Min.	MΩ

TABLE 3 - ELECTRICAL MEASUREMENTS AT HIGH AND LOW TEMPERATURES

No.	Characteristics	Symbol	ESCC 3501 Test Method	Limits	Unit
9	Frequency variation with Temperature over T_{op}	$\frac{\Delta f}{f}$ (ΔT, P_o)	Para. 9.2.1.2	Table 1(a) Item 8	10^{-6}
10	Resistance variation with Temperature over T_{op}	$\frac{\Delta R}{R}$ (ΔT, P_o)	Para. 9.2.1.2	Table 1(a) Item 9	%

FIGURE 4 - CIRCUITS FOR ELECTRICAL MEASUREMENTS

Not applicable.

TABLE 4 - PARAMETER DRIFT VALUES

No.	Characteristics	Symbol	Spec. and/or Test Method	Test Conditions	Change Limits (Δ)	Unit
1	Resonance frequency drift	$\frac{\Delta f}{f}$	As per Table 2	As per Table 2	$\pm$ 2	10^{-6}
2	Resonance resistance drift	$\frac{\Delta R}{R}$	As per Table 2	As per Table 2	$\pm$ 10 or (1) $\pm$ 1	% Ω

NOTES 1. Whichever is the highest value.

TABLE 5 - CONDITIONS FOR BURN-IN AND LIFE TEST

No.	Characteristics	Symbol	Condition	Unit
1	Ambient Temperature	T_{amb}	+85 $\pm$5	°C

FIGURE 5 - ELECTRICAL CIRCUIT FOR BURN-IN AND LIFE TEST

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC GENERIC SPECIFICATION NO. 3501)

4.8.1 Measurements and Inspections on Completion of Environmental Tests

The parameters to be measured and inspections to be performed on completion of environmental tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at $T_{amb} = T_o \pm 2$ °C.

4.8.2 Measurements and Inspections at Intermediate Points and on Completion of Endurance Tests

The parameters to be measured and inspections to be performed at intermediate points and on completion of endurance tests are scheduled in Table 6. Unless otherwise stated, the measurements shall be performed at $T_{amb} = T_o \pm 2$ °C.

4.8.3 Conditions for Operating Life Test (Part of Endurance Testing)

The requirements for the operating life test are specified in Section 9 of ESCC Generic Specification No. 3501. The test shall be performed as a high temperature storage test and the temperature to be applied shall be the maximum operating temperature specified in the individual Tables 1(a) given in this specification.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING

NO.	ESCC GENERIC SPEC. NO. 3501		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		Min.	Max.	
01	Electrical Measurements at Reference Temperature	Para. 9.2.4	Electrical Measurements	Table 2		Table 1(a)		
02	Shock	Para. 9.3	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Table 2 Item 1		
			Resonance Resistance	Table 2 Item 2	R	Table 2 Item 2		
			Final Measurements					
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	−1.0	+1.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	−10	+10	%
					ΔR	−1.0	+1.0	Ω
03	Vibration	Para. 9.4	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Table 2 Item 1		
			Resonance Resistance	Table 2 Item 2	R	Table 2 Item 2		
			Final Measurements					
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	−1.0	+1.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	−10	+10	%
					ΔR	−1.0	+1.0	Ω
04	Seal Test	Para. 9.5	Fine Leak Gross Leak	Para. 9.5.1 Para. 9.5.2		Para. 9.5.1 Para. 9.5.2		
05	Permanence of Marking	Para. 9.8	**Final Measurements** Visual Examination	No corrosion or obliteration of marking	-	-	-	-
06	External Visual Inspection	Para. 9.9	**Final Measurements** Visual Inspection	ESCC No. 20500	-	-	-	-
07	Solderability	Para. 9.13	-	-	-	-	-	-

NOTES

1. The tests in this table refer to either Chart IV or V, and shall be used as applicable.
2. Whichever is the highest value.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING (Cont.)

NO.	ESA/SCC GENERIC SPEC. NO. 3501		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		Min.	Max.	
08	Climatic Sequence Dry Heat	Para. 9.14 Para. 9.14.1	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Table 2 Item 1		
			Resonance Resistance	Table 2 Item 2	R	Table 2 Item 2		
			Final Measurements					
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	- 2.0	+ 2.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	- 10	+ 10	%
					ΔR	- 1.0	+ 1.0	Ω
09	Cold	Para. 9.14.3	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Para. 9.14.1.3		
			Resonance Resistance	Table 2 Item 2	R	Final Measurements		
			Final Measurements					
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	- 2.0	+ 2.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	- 10	+ 10	%
					ΔR	- 1.0	+ 1.0	Ω
10	Damp Heat (Accelerated) Remaining Cycles	Para. 9.14.4	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Para. 9.14.3.2		
			Resonance Resistance	Table 2 Item 2	R	Final Measurements		
			Final Measurements					
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	- 2.0	+ 2.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	- 10	+ 10	%
					ΔR	- 1.0	+ 1.0	Ω
			Insulation Resistance	Table 2 Item 8	Ri	500	-	MΩ
11	Rapid Change of Temperature	Para. 9.15	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Para. 9.14.4.2		
			Resonance Resistance	Table 2 Item 2	R	Final Measurements		
			Final Measurements	After minimum Recovery of 2 hours				
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	- 2.0	+ 2.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	- 10	+ 10	%
					ΔR	- 1.0	+ 1.0	Ω
12	Robustness of Terminations	Para. 9.16	Tensile Strength	Gen. 3501 Para. 9.16.1				
			Visual Examination	No visible damage				
			Bending	Gen. 3501 Para. 9.16.2				
			Visual Examination	No visible damage				

NOTES

1. The tests in this table refer to either Chart IV or V, and shall be used as applicable.
2. Whichever is the highest value.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL TESTS AND AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING (Cont.)

NO.	ESA/SCC GENERIC SPEC. NO. 3501		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		Min.	Max.	
13	Life Test	Para. 9.17	**Initial Measurements**					
			Resonance Frequency	Table 2 Item 1	f	Table 2 Item 1		
			Resonance Resistance	Table 2 Item 2	R	Table 2 Item 2		
			Intermediate Measurements	At 500 hours				
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	−2.0	+2.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	−10	+10	%
					ΔR	−1.0	+1.0	Ω
			Intermediate Measurements (Chart IV) and Final Measurements (Chart V)	At 1000 hours				
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	−2.5	+2.5	10^{-6}
			Resonance Resitance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	−10	+10	%
					ΔR	−1.0	+1.0	Ω
			Final Measurements (Chart IV)	At 2000 hours				
			Resonance Frequency Drift	Table 2 Item 1	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}
			Resonance Resistance Drift	Table 2 Item 2	$\frac{\Delta R}{R}$ or (2)	−10	+10	%
					ΔR	−1.0	+1.0	Ω

NOTES

1. The tests in this table refer to either Chart IV or V, and shall be used as applicable.
2. Whichever is the highest value.

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 01

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	56.307974		MHz	AT Cut
2	Reference Temperature	T_o	+55	+65	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature. Over T_{op}. At $T_o \pm 5$°C.	$\frac{\Delta f}{f}$	 −12 0	 +12 +1.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−20 or −2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	−0.5	+0.5	10^{-6}	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	−10	+10	%	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r − 10% to f_r + 10%
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 5 years. Operating: 15 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 02

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	56.214223		MHz	AT Cut
2	Reference Temperature	T_o	+55	+65	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature. Over T_{op}. At $T_o \pm 5$°C.	$\frac{\Delta f}{f}$	 −12 0	 +12 +1.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−20 or −2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	−0.5	+0.5	10^{-6}	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	−10	+10	%	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r −10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 5 years. Operating: 15 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 03

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	44.286060		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	Over T_{op}
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−20 or −2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	−0.5	+0.5	10^{-6}	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	−10	+10	%	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0-		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r − 10% to f_r + 10%
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 5 years. Operating 15 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 04

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	68.882769		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 or -2.0	+20 +2.0	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	−0.5	+0.5	10^{-6}	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	−10	+10	%	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r −10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 5 years. Operating: 15 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 05

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_L	24.686200		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	10	Ω	At T_o °C
8	Frequency Variation with Temperature Over $T_{op.}$ At 1.5°C steps over $T_{op.}$	$\frac{\Delta f}{f}$	 −8.0 −1.0	 +8.0 +1.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature Over $T_{op.}$ At 1.5°C steps over $T_{op.}$	$\frac{\Delta R}{R}$	 −1.5 −0.5	 +1.5 +0.5	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.7	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	40 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	 4:1 5:1	 - -		In the frequency range: f_L −50kHz to f_L +50kHz (Overtones 3 and 5)
18	Ageing Ageing (Storage) Ageing (Operating) Ageing	$\frac{\Delta f}{f}$	−2.9 −3.9 −4.8 −6.0	+2.9 +3.9 +4.8 +6.0	10^{-6}	Over 4 years after Burn-in Over 5 years after Burn-in Over 5 yrs incl. Rad. Effect Over 9 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 06

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	67.988538		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 or -2.0	+20 +2.0	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	−0.5	+0.5	10^{-6}	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	−10	+10	%	From P_{S1} = 0.05mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r −10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 5 years. Operating: 15 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 07

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	118.689		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−10	+10	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r −5000kHz to f_r +5000kHz
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 3 years. Operating: 13 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 08

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_r	128.689		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−10	+10	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−20	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	3:1	-		In the frequency range: f_r −5000kHz to f_r +5000kHz
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Storage: 3 years. Operating: 13 years. After 500 Hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 09

No.	Characteristics	Symbol	Limits		Unit	Remarks
			Min.	Max.		
1	Resonance Frequency	f_L	32.0		MHz	AT Cut
2	Reference Temperature	T_o	+25	+29	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	−10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	120	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	−40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	−20 or −2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	−55	+100	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	60 000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	Rp/R or |Zp|/R	2:1	-		In the frequency range: f_L −200kHz to f_L +200kHz
18	Ageing	$\frac{\Delta f}{f}$	−3.0	+3.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 10

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	69.081879		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 - or - -2.0	% - or - Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	Storage 5 years, Operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 11

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	69.097030		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 12

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	15.0		MHz	
2	Reference Temperature	T_o	+22	+28	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	75	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-50.0	+50.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		%	
10	Operating Temperature Range	T_{op}	-30	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	Not applicable		pF	
16	Q Factor	Q	Not applicable		-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	Not applicable			
18	Ageing	$\frac{\Delta f}{f}$	-25	+25	10^{-6}	Over 5 years after Burn-in
19	Physical Dimensions		Figure 2(b)			
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 13

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	75.0		MHz	
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	11.9	12.1	pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-2.0	+2.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	25	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-5.0 -10	+5.0 +10	10^{-6}	From -20°C to +70°C From -20°C to +80°C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		%	
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	1.7	-	fF	
15	Static Capacitance	C_o	-	6.0	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2.5:1	-		In the frequency range: f_L -100kHz to f_L +100kHz
18	Ageing	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	Over 5 years at 200 µW drive 22V
19	Physical Dimensions		Figure 2(b)			
20	Intended Application		VCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 14

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	54.672426		MHz	AT Cut
2	Reference Temperature	T_o	+55	+65	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$ df/f	-12.0 0	-12.0 1.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 15

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	53.846315		MHz	AT Cut
2	Reference Temperature	T_o	+55	+65	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.05	0.25	mW	Rated D. level :.1
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op} $T0 \pm 5°C$	$\frac{\Delta f}{f}$ df/f	-12 0	-12 1.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert /R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δ f/f	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 16

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	31.611111		MHz	
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	40	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-2.0	+2.0	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: $f_r \pm 10\%$
18	Ageing	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	10 Years after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 17

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	4.194304		MHz	
2	Reference Temperature	T_o	+60		°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	22		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	75	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-15	+15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		%	
10	Operating Temperature Range	T_{op}	-20	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.5	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	100,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_L -420kHz to f_L +420kHz
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	Per Year after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 18

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	16.0		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.2		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	10	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-20	+20	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-40	+90	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	Not applicable		pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_L -10% to f_L +10%
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	5 years storage and 15 years operation
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 19

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	137.912500		MHz	
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	Rated 0.1 mW
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-2.0	+2.0	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+60	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	65,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-2.5	+2.5	10^{-6}	10 years after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 20

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	137.1		MHz	
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-2.0	+2.0	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+60	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	65,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-2.5	+2.5	10^{-6}	10 years after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 21

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	35.5		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 22

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	35.85		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 23

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	36.625		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 24

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	36.7		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 25

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	49.375		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)		mm	
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 26

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	46.210937		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 27

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	55.231250		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 28

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	55.425		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 29

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	55.45		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 30

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	50.5		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 31

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	68.75		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 32

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	70.0		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 33

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	69.531250		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 34

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	16.0		MHz	AT Cut
2	Reference Temperature	T_o	+22	+28	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	25	35	pF	
5	Rated Drive Level	P_o	0.2		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-30	+30	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10 - or - -1.5	+10 +1.5	% Ω	From resistance measured at T_o °C If R< 15Ω
10	Operating Temperature Range	T_{op}	-50	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_L -10% to f_L +10%
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	Per year
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 35

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	30.0		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	2.5	15	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-30	+30	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10 - or - -1.5	+10 +1.5	% Ω	From resistance measured at T_o °C If R < 10Ω
10	Operating Temperature Range	T_{op}	-55	+100	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-1.0	+1.0	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.8	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Resistance	R_p/R or R_p	4:1 30	- -	 Ω	In the frequency range: f_L -10% to f_L +10% Overtone 3
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 36

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	67.117		MHz	
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.2		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-30	+85	°C	Function must be guaranteed to -50°C
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\frac{\Delta f}{f}$	-3.0	+3.0	10^{-6}	15 years operating
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 37

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	37.806667		MHz	
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	
9	Resistance Variation with Temperature over T_{op}	ΔR	-2.0	+2.0	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 38

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	37.933333		MHz	
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-6.0	+6.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	Over T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-2.0	+2.0	Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 39

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	8.388608		MHz	
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	22		pF	
5	Rated Drive Level	P_o	0.2		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-50	+50	10^{-6}	
7	Resonance Resistance	R_L	-	40	Ω	
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-50	+50	10^{-6}	
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-25	+25	%	
10	Operating Temperature Range	T_{op}	-55	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	Not applicable		pF	
16	Q Factor	Q	Not applicable		-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_L -500kHz to f_L +500kHz
18	Ageing	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	After Burn-in and per year / life of 10 years
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 40

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	4.8		MHz	
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	25	35	pF	
5	Rated Drive Level	P_o	0.2		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-20	+20	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		%	
10	Operating Temperature Range	T_{op}	-40	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	Not applicable		pF	
16	Q Factor	Q	58,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_L -500kHz to f_L +500kHz
18	Ageing	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	15 years operation
19	Physical Dimensions					
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 41

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	119.875		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_o/R or $\lvert Z_o \rvert/R$	3:1	-		In the frequency range: f_r -5000KHZ to f_r +5000KHZ
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 42

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	122.2		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 43

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	123.611111		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 44

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	125.479167		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r + 5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 45

	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	125.5		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r + 5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 46

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	126.041667		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 47

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	126.461538		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 48

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	126.944444		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 49

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	120.104167		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 50

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	125.454545		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 51

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	128.625		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-8.0	+8.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-5.0	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.52mW
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Storage 3 years, operation 15 years after 1060 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 52

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	22.7		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	25	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-14	+14	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-40	+85	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-20	+20	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	100,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_L -10% to f_L + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 53

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	16.0		MHz	AT Cut
2	Reference Temperature	T_o	+25	+29	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	100	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+100	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_L -200kHz to f_L +200kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 54

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	30.0		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-50	+50	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+125	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 55

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	54.311000		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	3.4	5.15	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 56

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	62.38		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.6	3.9	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 57

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	62.5		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.6	3.9	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 58

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	64.997		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.4	3.6	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 59

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	66.916666		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.3	3.4	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 60

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	67.708333		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.3	3.4	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 61

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	67.916666		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.3	3.4	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert /R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 62

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	69.166666		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.1	3.2	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION
TYPE VARIANT NO. 63

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.24		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 64

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.312		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 65

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.375		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 66

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.412		MHz	AT Cut
2	Reference Temperature	$T_ø$	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	$P_ø$	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 67

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.44		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 68

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.485		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_d	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 69

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	87.489750		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-65	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 70

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	88.743		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 71

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	88.8		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 72

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	88.86		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p\rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 73

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	88.918		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	50	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-40	+40	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-55	+105	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	1.3	2.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Over 10 years after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 74

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	44.286060		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 75

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	45.056		MHz	AT Cut
2	Reference Temperature	T_o	+20	+30	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	40	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	2.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	70,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 76

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	35.5		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	18	24	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 77

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	50.5		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	6.0	8.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 78

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	58.4975		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	4.0	5.5	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 79

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	69.53125		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_d	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.5	3.7	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 80

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	36.625		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	18	24	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 81

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	42.5		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	9.6	14.4	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 82

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	49.375		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	6.0	8.0	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r + 10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 83

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	55.231250		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	4.5	6.5	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 84

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	68.75		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.5	3.7	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 85

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	70		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_a	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	2.5	3.7	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 86

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	55.45		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	3			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-5.0	+5.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+65	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	4.5	6.5	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.5	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert /R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	$\Delta f/f$	-1.0	+1.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 87

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	128.707627		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+75	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-10	+10	10^{-6}	Storage 5 years, operation 13 years
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 88

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	118.707627		MHz	AT Cut
2	Reference Temperature	T_o	+23	+27	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-9.0	+9.0	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-15	+75	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 5 years, operation 13 years
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 89

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_L	16.0		MHz	AT Cut
2	Reference Temperature	T_o	+25	+29	°C	
3	Overtone Order	-	Fundamental			
4	Load Capacitance	C_L	30		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_L	-	30	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-20 - or - -2.0	+20 +2.0	% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+70	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	7.0	pF	
16	Q Factor	Q	50,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_L -200kHz to f_L +200kHz
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Per year after Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		XO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 90

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	123.333333		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p\rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-1.5	+1.5	10^{-6}	Storage 5 years, operation 13 years after Ageing in an oscillator
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 91

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	126.625		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1			fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000khz to f_r +5000khz
18	Ageing	Δf/f	-1.5	+1.5	10^{-6}	Storage 5 years, operation 1 years after Ageing in an oscillator
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 92

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	127.083333		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Storage 5 years, operation 13 years after 500 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 93

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	127.272727		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-5.0	+5.0	10^{-6}	Storage 5 years, operation 13 years after 750 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 94

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	127.777778		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Storage 5 years, operation 13 years after 750 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 95

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	128.75		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	Δf/f	-1.5	+1.5	10^{-6}	Storage 5 years, operation 13 years after Ageing in an oscillator
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 96

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	120.833333		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-3.0	+3.0	10^{-6}	Storage 5 years, operation 13 years after Ageing in an oscillator
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 97

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	121.212121		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-1.5	+1.5	10^{-6}	Storage 5 years, operation 13 years after Ageing in an oscillator
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 98

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	128.571429		MHz	AT Cut
2	Reference Temperature	T_o	+78	+84	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-7.0	+7.0	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	45	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	-0.15	+0.15	10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	-10	+10	%	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	+76	+86	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	Not applicable		%	
13	Motional Inductance	L_1	Not applicable		mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	3.5	pF	
16	Q Factor	Q	60,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	3:1	-		In the frequency range: f_r -5000kHz to f_r +5000kHz
18	Ageing	$\Delta f/f$	-5.0	+5.0	10^{-6}	Storage 5 years, operation 13 years after 750 hours Burn-in
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		OCXO			

TABLE 1(a) - TYPE VARIANT DETAILED INFORMATION

TYPE VARIANT NO. 99

No.	Characteristic	Symbol	Limits		Unit	Remarks
			Min.	Max		
1	Resonance Frequency	f_r	50.0		MHz	AT Cut
2	Reference Temperature	T_o	+70	+80	°C	
3	Overtone Order	-	5			
4	Load Capacitance	C_L	∞		pF	
5	Rated Drive Level	P_o	0.1		mW	
6	Frequency Adjustment Tolerance	$\frac{\Delta f}{f}$	-10	+10	10^{-6}	At T_o °C
7	Resonance Resistance	R_r	-	80	Ω	At T_o °C
8	Frequency Variation with Temperature over T_{op}	$\frac{\Delta f}{f}$	Not applicable		10^{-6}	From frequency measured at T_o °C
9	Resistance Variation with Temperature over T_{op}	$\frac{\Delta R}{R}$	Not applicable		% Ω	From resistance measured at T_o °C
10	Operating Temperature Range	T_{op}	-20	+80	°C	
11	Frequency Variation with Drive Level	$\frac{\Delta f}{f}$	-0.5	+0.5	10^{-6}	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
12	Resistance Variation with Drive Level	$\frac{\Delta R}{R}$	-10	+10	%	From P_{S1} = 0.5mW to P_{S2} = 0.25mW
13	Motional Inductance	L_1	6.0	-	mH	
14	Motional Capacitance	C_1	Not applicable		fF	
15	Static Capacitance	C_o	-	5.0	pF	
16	Q Factor	Q	100,000	-	-	
17	Ratio of Unwanted: Response Resistance to Resonance Resistance or Response Impedance to Resonance Resistance	R_p/R or $\lvert Z_p \rvert/R$	2:1	-		In the frequency range: f_r -10% to f_r +10%
18	Ageing	Δf/f	-3.0	+3.0	10^{-6}	Storage 5 years, operation 15 years
19	Physical Dimensions		Figure 2(a)			
20	Intended Application		TCXO			

APPENDIX 'A'

AGREED DEVIATIONS FOR RAKON (F)

ITEMS AFFECTED	DESCRIPTION OF DEVIATION
Para. 4.2.2	Para. 9.3, Shock: Shall not be performed.
Para. 4.2.3	Para. 9.11, Radiographic Inspection: Shall not be performed.

APPENDIX 'B'

AGREED DEVIATIONS FOR KVG Quartz Crystal Technology GmbH (D)

ITEMS AFFECTED	DESCRIPTION OF DEVIATION
Para. 4.2.2 Para. 4.2.3 Para. 4.2.4 Para. 4.2.5	Para. 9.5.1, Seal Test Fine Leak: The crystal units shall be subjected to MIL-STD-202, Method 112, Procedure IIIa.