



# DOCUMENT CHANGE REQUEST

DCR number 1692

Changes required for: MRB decision

Originator: Carole Gagnard

Date: 2024/11/28

Date sent: 2024/09/25

Organisation: Rakon

Status: IMPLEMENTED

Title: CRYSTAL OSCILLATORS, CLASS 2, 4MHz TO 100MHz, AHCMOS COMPATIBLE OUTPUT, RAD-

Number: 3503/001

Issue: 7

Other documents affected:

Page:

6, 8 to 11, 15, 16, 17 and 21

Paragraph:

§1.4.3, §1.6.1 to 1.6.4, §2.3.1, §2.3.2, §2.4 and APPENDIX A

Original wording:

§1.4.3: none

§1.6.1 to 1.6.4 : Flat packages drawings

§2.3.1 : Input Current

For 4MHz fNom < 20MHz: Max 20mA

For 20MHz fNom < 50MHz: Max 25mA

For 50MHz fNom 100MHz: Max 30mA

§2.3.2

Input Current

For 4MHz fNom < 20MHz: Max 20mA

For 20MHz fNom < 50MHz: Max 25mA

For 50MHz fNom 100MHz: Max 30mA

Frequency-Temperature Stability Max +/-30 ppm

§2.4 : Frequency Accuracy Initial measurement: MAX ±15 ppm

APPENDIX A : none

Proposed wording:

§1.4.3 : add SEL characteristic "Latchup free up to LET=60MeV/mg/cm<sup>2</sup>" and jitter typical value

§1.6.1 to 1.6.4 : All flat package drawings with dimension I (distance between centre of lead and bottom) added

§2.3.1 : Input Current

AHCMOS :



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For 4MHz fNom < 20MHz: Max 20mA  
For 20MHz fNom < 50MHz: Max 25mA  
For 50MHz fNom 100MHz: Max 30mA  
ACMOS :  
For 4MHz fNom 100MHz: Max 35mA

§2.3.2 :  
Input Current  
AHC MOS :  
For 4MHz fNom < 20MHz: Max 20mA  
For 20MHz fNom < 50MHz: Max 25mA  
For 50MHz fNom 100MHz: Max 30mA  
ACMOS :  
For 4MHz fNom 100MHz: Max 35mA

Frequency-Temperature Stability  
FP package (var 01 to 04)  
For 4MHz fNom < 80MHz:  
Max +/-30 ppm  
For 80MHz fNom 100MHz:  
Max +/-40 ppm  
JL2 package (var 06)  
For 4MHz fNom 100MHz:  
Max +/-50 ppm

§2.4 : Frequency Accuracy Initial measurement : MAX ±20 ppm

## APPENDIX A:

ITEMS AFFECTED : Para. 2.1.2 Deviations from the Generic Specification:


Deviations from Screening Tests - Chart F3

DESCRIPTION OF DEVIATIONS : Constant acceleration the following test conditions shall apply:

MIL-STD-883, Test Method 2001, Test Condition A, Y1 axis only. except that the tests condition values shall be 2500g.

## Justification:

- SEE and jitter characteristic requested by customer
- dimension missing in flat packages drawings
- not enough margin on input current for ACMOS
- not enough margin on Frequency-Temperature Stability for high frequency in flatpack package and in all range for JL2 package
- To allow a higher initial tuning of frequency as drift is less than ±10 ppm
- NC2RAKC2408 constant acceleration level during screening too high for lenses with the higher mass.

Attachments:
esc3503001iss8_draft_c_in_review.docx
Modifications:
N/A
Approval signature:

Date signed:
2024-11-28