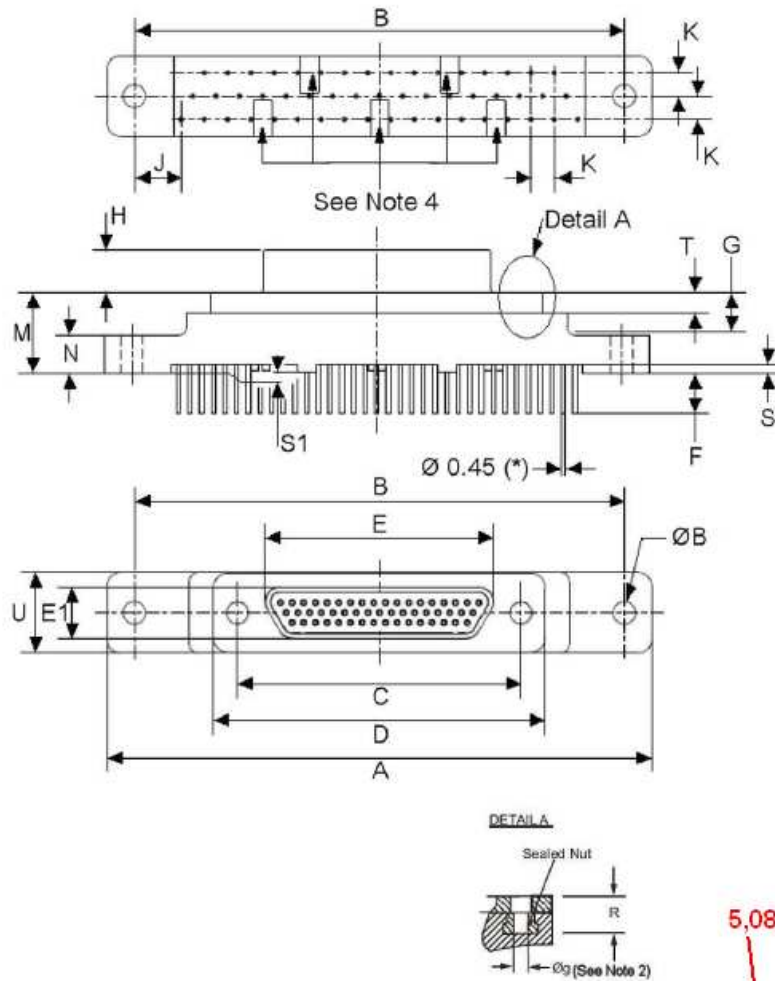


FIGURE 2.21 - CONNECTORS TYPE - FR139
PLUG MALE CONTACTS - SIZE 51



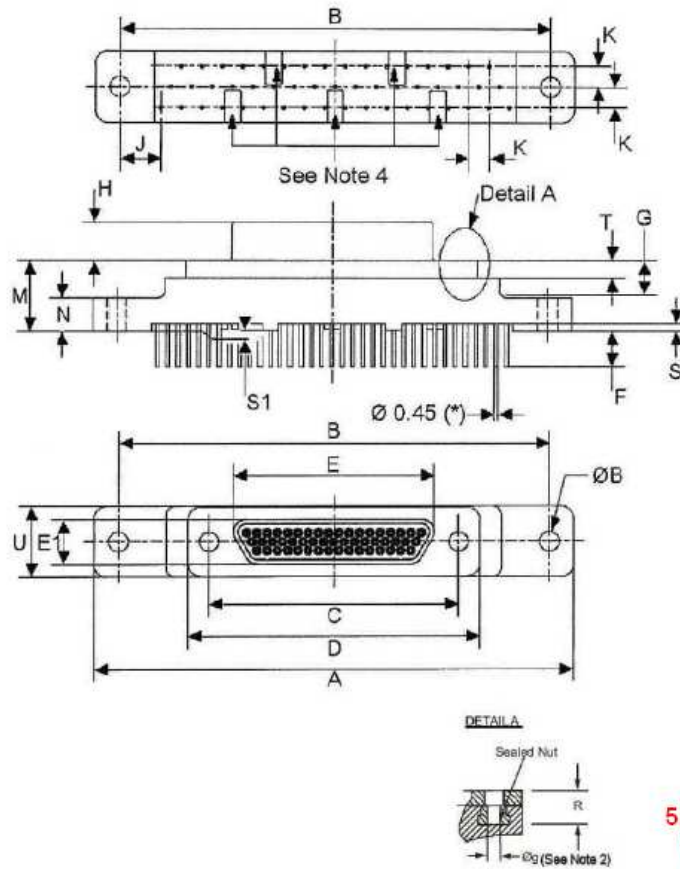
Shell Size	A		B		ØB (3)		C		D	E	E1	E		G	H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.
51	59.44	53.16	53.52	2.31	2.59	30.73	30.99	36.5	24.97	5.78	4.15	4.85	4	4.72	3.51	

Shell Size	K	M		N		R	S		S1 (4)		T		U
	Typ.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.	Max.	Min.	Max.	Max.
51	2.54	8.62	9.02	4	4.2	4.8	0.9	1.1	0	0.2	2.23	2.49	9

NOTES:

1. All dimensions are in millimetres.
2. Øg: 2-56-UNC-2B.
3. Maximum torque 0.44 Nm.
4. Standoffs (5 places): 4.25 x 2.1 maximum.

**FIGURE 2.2J - CONNECTORS TYPE - FR139
RECEPTACLE FEMALE CONTACTS - SIZE 51**



Shell Size	A		B		ØB (3)		C		D	E	E1	E		G	H	J
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Max.	Max.	Max.	Min.	Max.	Min.	Max.	Max.	Typ.
51	59.44	53.16	53.52	2.31	2.59	30.73	30.99	38.5	28.67	7.47	4.15	4.85	4	5.05	3.81	

Measurements	Inner Diameter (mm)		Separation Force Min. (N)	Engagement Force Max. (N)
	Min.	Max.		
Max. Gauge Fixture	0.559	0.564	-	1.667
Min. Gauge Fixture	0.582	0.587	0.137	-

4.3.10 Oversize Pin Exclusion
Not applicable.

4.3.11 Probe Damage
Not applicable.

4.3.12 Solderability
Not applicable.

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 components 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 Shells
Shells shall be made of aluminium alloy. Variant 01 shall have a minimum plating thickness of $25.4\mu\text{m}$ of electroless nickel. The plating for Variant 02 shall be $0.7\mu\text{m}$ minimum of gold with a $25.4\mu\text{m}$ minimum electroless nickel underplating.

4.4.2 Inserts
Inserts shall be made of glass fibre-filled diallylphthalate resin or suitable thermoplastic material.

4.4.3 Contacts

4.4.3.1 *Female Contacts*

The contact body shall be made of copper alloy with an underplate of $1\mu\text{m}$ minimum of copper to MIL-C-14550, gold plated with $1.27\mu\text{m}$ minimum of gold, Type 2, Grade C of MIL-DTL-45204. Measurement of thickness shall be performed at a distance of 1.5mm from the engagement end.

4.4.3.2 *Male Contacts*

The contact body and the bundle shall be made of copper alloy with an underplate of $1\mu\text{m}$ minimum of copper to MIL-C-14550, gold plated with $1.27\mu\text{m}$ minimum of gold, Type 2, Grade C of MIL-DTL-45204. Measurement of thickness shall be performed at a distance of 1.5mm from the engagement end.

4.4.4 Interfacial Seals

Interfacial seals shall be made of silicon base rubber.

4.4.5 Insulated Wires

Wire materials and finishes shall be in accordance with the requirements specified in Para. 4.4 of ESCC