RF COAXIAL CONNECTORS, TYPE SMA,

50 OHMS (MALE CONTACT)

ESCC Detail Specification No. 3402/001

ISSUE 1

October 2002

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space components
coordination group

Issue/Rev.	Date	Approved by	
		SCCG Chairman	ESA Director General or his Deputy
Issue 5	May 1997		
Revision 'A'	July 2002		

DOCUMENTATION CHANGE NOTICE

Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.
		This Issue supersedes Issue 4 and incorporates all modifications defined in Revisions 'A', 'B' and 'C' to Issue 4 and the changes agreed by the following DCRs:-		
		Cover page		None
		DCN		None
		Figure 1(c)	: Deleted in toto	23850
		Para. 4.4.1	: Title amended	21098/ 221368
		Para. 4.4.1.1	: Title deleted	221368
			: Items (a), (b) and (d) amended	21098/ 221368
		Para. 4.4.1.2	: Deleted in toto	221368
		Para. 4.4.2	: Title amended	221368
			: Items (a), (b) , (c) and (e) amended	21098/ 221368
		Para. 4.4.3	: New paragraph added	221368
		Para. 4.4.4	: New paragraph added	221368
		Para. 4.5.3.2	: Note 4 reference added to (b) and (c)	221368
			: In the Part Marking, codes for contact length and tolerance and insert length amended	23850
			: In Note 2, code reference for insert length amended	23850
			: Note 4 added	221368
		Para. 4.5.3.3	: Table amended	221368
			: In text, paragraph references amended	221368
		Para. 4.5.3.4	: In the Table, length value and code amended	221368
		Table 6	: Table restructured and "Plating Thickness" added	23850
'A'	July '02	P1. Cover page		None
		P2. DCN		None
		P27. Figure 2(b)	: Variant 05, Mini cable retention force amended to "90"	221679
		P33. Figure 2(b)	: Variant 12, Mini cable retention force amended to "90"	221679

TABLE OF CONTENTS

1. GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for RF Coaxial Connectors, Type SMA, 50 Ohms (Male Contact). It shall be read in conjunction with ESA/SCC Generic Specification No. 3402, the requirements of which are supplemented herein.

1.2 TYPE VARIANTS

A list of the type variants of the connectors specified herein, which are also covered by this specification, is given in Table 1(a).

For each type variant, the full electrical and physical characteristics are given in individual Figures 2(b) at the end of this specification.

1.3 MAXIMUM RATINGS

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

1.4 PARAMETER DERATING INFORMATION (FIGURE 1)

The derating information applicable to the connectors specified herein is shown in Figure 1.

1.5 PHYSICAL DIMENSIONS

The physical dimensions of the connectors specified herein are shown in Figures 2(a) and 2(b).

1.6 STANDARD TEST CONNECTOR INTERFACE

Whenever gauges are required for mating with the connectors under test, their physical dimensions shall be in accordance with those specified in Figure 3.

TABLE 1(a) - TYPE VARIANTS

VARIANT	DESCRIPTION
01	Straight Plug, Solder Type, for Semi-Rigid Cable ∅2.20mm (0.085")
02	Straight Plug, Solder Type, for Semi-Rigid Cable ∅3.58mm (0.141")
03	Straight Plug with Cable Clamp, Solder Type, for Semi-Rigid Cable ∅6.35mm (0.250")
04	Straight Plug with Cable Clamp, Solder Type, for Semi-Rigid Microporous Cable ∅6.35mm (0.250")
05	Straight Plug, Crimp-Type
06	Straight Plug, Crimp-Type (50 CIS)
07	Straight Plug, Crimp or Solder Type, Cable ∅5mm/50Ω, Single Braid
08	Straight Plug, Crimp or Solder Type, Cable ∅5mm/50Ω, Double Braid
09	Right Angle Plug, Solder Type for Semi-Rigid Cable ∅2.20mm (0.085")
10	Right Angle Plug, Solder Type for Semi-Rigid Cable ∅3.58mm (0.141")
11	Not to be used
12	Right Angle Plug, Crimp Type
13	Right Angle Plug, Crimp Type
14	Right Angle Plug, Crimp Type, for Cable ∅5mm/50Ω, Double Braid
15	Square Flange Male Receptacle
16	2-Hole Flange Male Receptacle
17	Square Flange Male Receptacle
18	Male Flange Receptacle, Triplate Launcher
19	Not used
20	Male Flange Receptacle, Triplate Launcher
21	Male Flange Receptacle, Triplate Launcher
22	Square Flange Male Receptacle, Low RF Leakage
23	Square Flange Male Receptacle, Low RF Leakage
24	Square Flange Male Receptacle, Low RF Leakage
25	Square Flange Male Receptacle
26	Straight Plug, Crimp-Type
27	Square Flange Male Receptacle
28	2-Hole Flange Male Receptacle
29	Straight Plug, Solder Type for SHF 5 Cable
30	2-Hole Flange Male Receptacle
31	Not to be used
32	2-Hole Flange Male Receptacle with EMI Gasket and Glass Seal ∅ Contact 0.30
33	2-Hole Flange Male Receptacle with EMI Gasket and Glass Seal ∅ Contact 0.46
34	Bulkhead Receptacle with Glass Seal ∅ Contact 0.30
35	Bulkhead Receptacle with Glass Seal ∅ Contact 0.46
36	Hermetic Bulkhead Receptacle
37	Straight Plug, Solder Type, for SHF 3 Cable
38	Straight Plug, Solder Type, for SHF 8 Cable
39	Right Angle Plug, Solder Type, for SHF 3 Cable
40	Right Angle Plug, Solder Type, for SHF 5 Cable
41	Elbow Plug, Solder Type, for SHF 3 Cable
42	Elbow Plug, Solder Type, for SHF 5 Cable
43	Elbow Plug, Solder Type, for SHF 8 Cable
44	Right Angle Plug, Crimp Type (50 CIS)

NOTES

1. The Variants are described in Figure 2(b).
2. For finishes, see Para. 4.4.

TABLE 1(b) - MAXIMUM RATINGS

No.	CHARACTERISTICS	SYMBOL	MAXIMUM RATINGS	UNIT	REMARKS
1	Peak Power at +25°C	Pmax	20	kW	1.0μs max.
2	Power	P	2.0	kW	See Figures 1(a) and 1(b)
3	Nominal Impedance	Z	50	Ω	-
4	Frequency Range	f	See Figure 2(b)	GHz	-
5	Operating Voltage	V_{op}	335	Vrms	-
6	Operating Temperature Range	T_{op}	See Figure 2(b)	°C	-
7	Storage Temperature Range	T_{stg}	As per Operating Temperature Range	°C	-

FIGURE 1 - PARAMETER DERATING INFORMATION

FIGURE 1(a) - POWER VERSUS TEMPERATURE

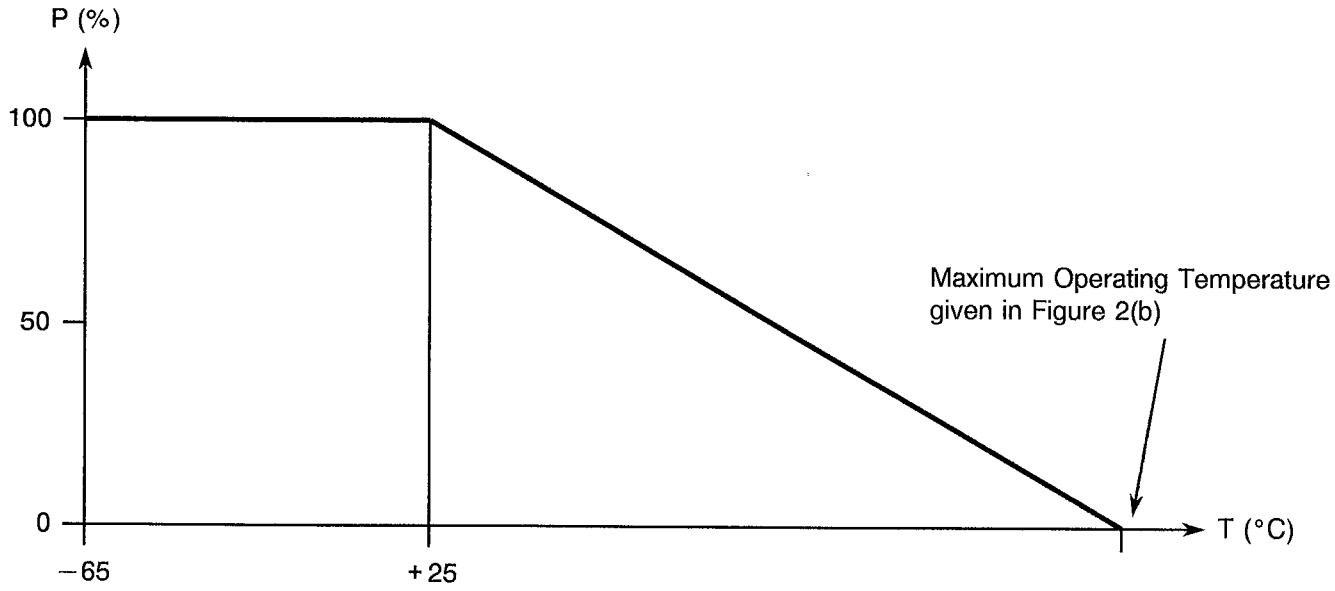
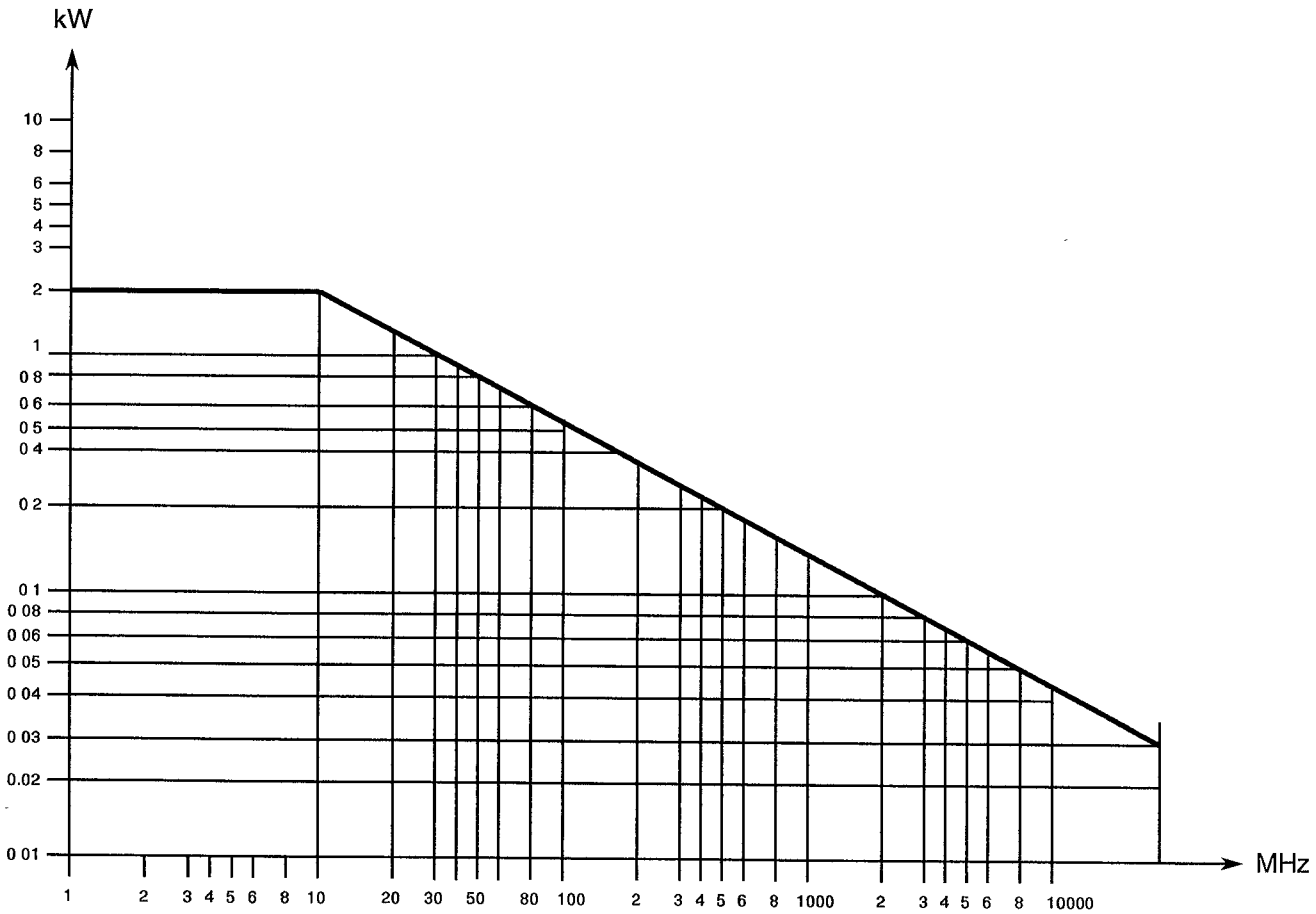


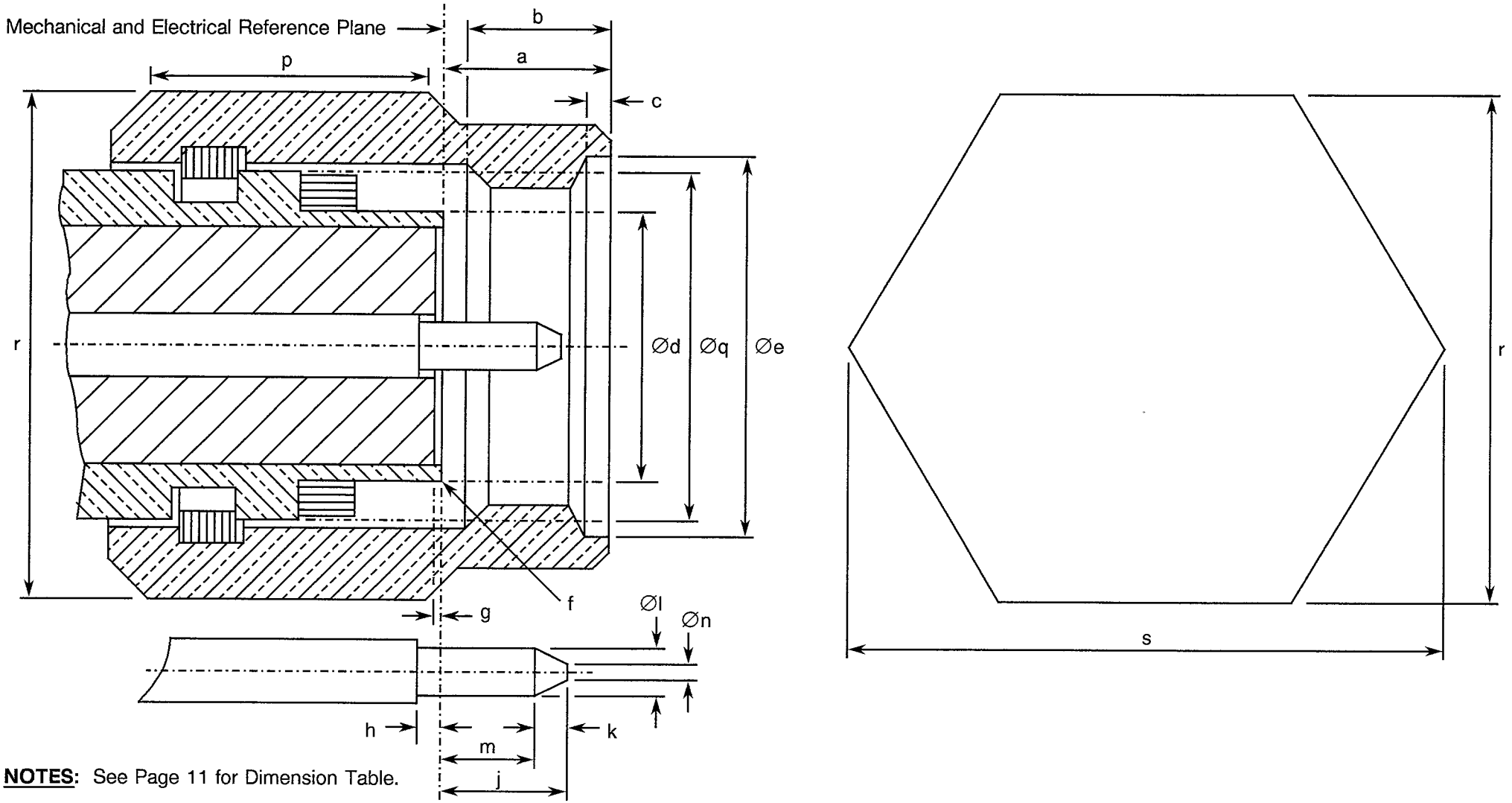
FIGURE 1(b) - POWER VERSUS FREQUENCY



POWER (VSWR in line 1) at T_{amb} = +40°C.

FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) - CONNECTOR INTERFACE – MALE CONTACT



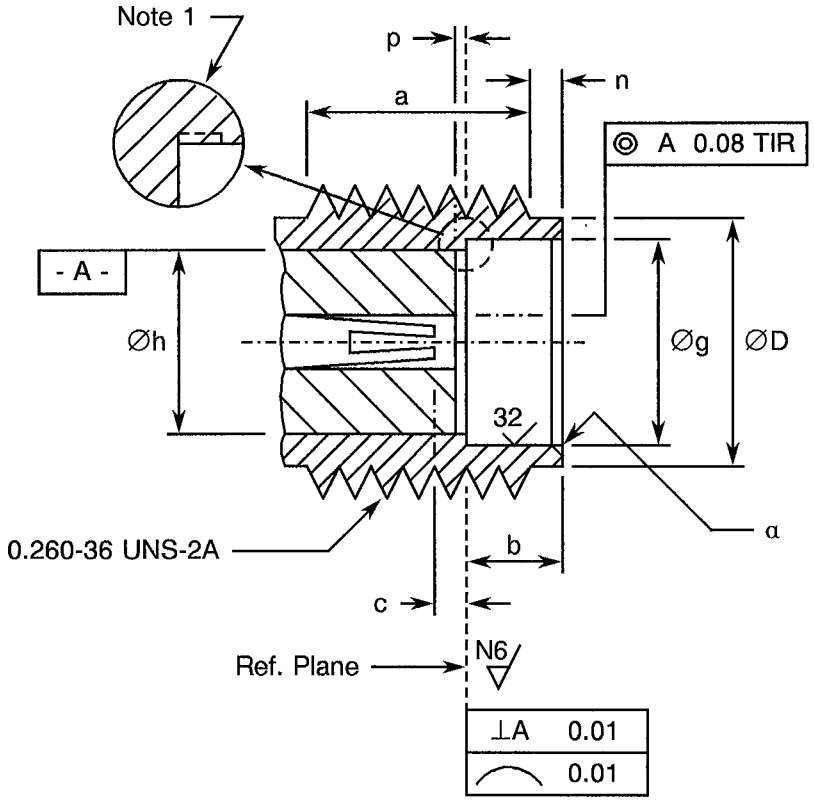
NOTES: See Page 11 for Dimension Table.

FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)

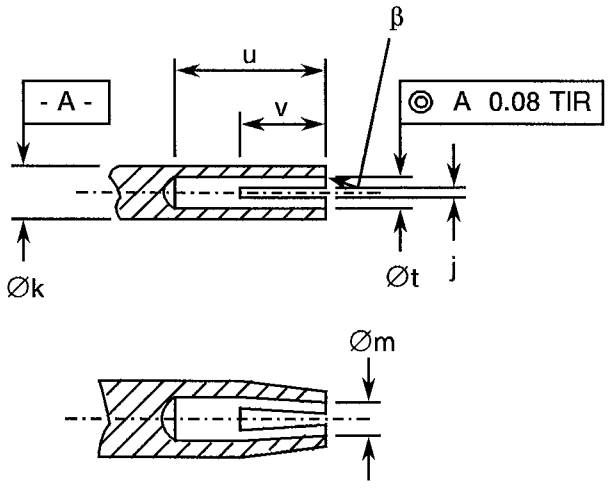
FIGURE 2(a) - CONNECTOR INTERFACE – MALE CONTACT (CONTINUED)

SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	-	3.43	
b	2.54	-	
c	0.38	1.14	
Ød	-	4.592	
Øe	6.35	-	
f	-	0.08	Radius or 45° chamfer
g	0.00	0.20	
h	0.00	0.25	
j	-	2.54	
k	0.38	-	
Øl	0.90	0.94	
m	1.27	-	
Øn	-	0.38	
p	3.17	-	
Øq			
r	7.84	8.00	Hexagonal on flat
s	-	9.20	

FIGURE 3 - STANDARD TEST CONNECTOR INTERFACE - FEMALE CONTACT



DETAIL OF INNER CONTACT



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	3.81	-	
b	1.88	1.98	
c	0.00	0.08	Contact recess
ØD	5.28	5.49	
Øg	4.60	4.67	
Øh	4.10	4.13	
j	0.13	0.23	2 or more slots
Øk	1.27	1.29	
Øm	0.72	0.84	After closing
n	0.38	1.14	
p	0.00	0.05	Insert recess
u	2.54	-	
Øt	0.94	0.99	
v	1.91	2.41	
α	-	0.25	45° Chamfer
β	0.99	1.19	45° Chamfer

NOTES

1. No fillet permitted. Radial undercut 0.20 (max.) deep × 0.89 (max.) long permitted.

2. APPLICABLE DOCUMENTS

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

(a) ESA/SCC Generic Specification No. 3402 for RF Coaxial Connectors.

(b) MIL-G-45204, Gold Plating, Electrodeposited.

3. TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESA/SCC Basic Specification No. 21300 shall apply.

4. REQUIREMENTS

4.1 GENERAL

The complete requirements for procurement of the connectors specified herein are stated in this specification and ESA/SCC Generic Specification No. 3402. Deviations from the Generic Specification applicable to this specification only, are listed 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 ESA/SCC 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)

For Variants 01, 02, 03, 04, 29, 37, 38, 39, 40, 41, 42 and 43, the tests: Change of Temperature (Para. 9.26), Insulation Resistance (Para. 9.1) and Voltage Proof (Para. 9.2) are not applicable (Variants delivered with unmounted contact and insulator).

4.2.3 Deviations from Burn-in Tests (Chart III)

Not applicable.

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 connectors specified herein shall be verified in accordance with the requirements set out in Para. 9.25 of ESA/SCC Generic Specification No. 3402 and shall conform to those shown in Figures 2(a) and 2(b) of this specification.

4.3.2 Weight

The maximum weight of the connectors specified herein shall be as specified in Figure 2(b).

4.3.3 Coupling Proof Torque

The requirements for testing of the coupling proof torque are specified in Section 9 of ESA/SCC Generic Specification No. 3402. The applied torque shall be 170N.cm.

4.3.4 Cable Retention Force

The requirements for testing of the cable retention force are specified in Section 9 of ESA/SCC Generic Specification No. 3402. Figure 2(b) specifies the values for axial loads. Torque shall be applied as follows:-

4.3.4.1 Flexible Cables

Flexible cables shall be rotated 180° in both directions.
Rotational movement shall be applied at 15cm from the connector.

4.3.4.2 Semi-rigid Cables

The torque value shall be as follows:-

RG 405/U : 11.28N.cm.
RG 402/U : 38.85N.cm.
RG 401/U : 38.85N.cm.

4.3.5 Mating and Unmating Forces

The applicable measurement requirements are specified in Section 9 of ESA/SCC Generic Specification No. 3402. The maximum torque during mating and unmating shall not exceed 24N.cm.

Whenever a test is performed on mated pairs of connectors, the pairs shall be torqued at 80-120N.cm.

4.3.6 Endurance

The applicable test requirements are specified in Section 9 of ESA/SCC Generic Specification No. 3402. The test conditions shall be as follows:-

(a) Number of cycles : 500 for qualification; 100 for lot acceptance.
(b) Rate : 12 cycles maximum/minute.

4.3.7 Residual Magnetism

The applicable measurement requirements are specified in Section 9 of ESA/SCC Generic Specification No. 3402.

4.3.7.1 Beryllium copper, copper underplate, gold-plated connectors. The maximum allowable value shall not exceed 20 gammas.

4.3.7.2 Beryllium copper, nickel underplate, gold-plated connectors. There are no requirements in respect of residual magnetism. This version is made such that the residual magnetism does not exceed 2000 gammas.

4.3.7.3 Residual magnetism is not applicable to stainless steel versions.

4.3.8 Contact Engagement and Separation Forces

The requirements for these measurements are specified in Section 9 of ESA/SCC Generic Specification No. 3402 and apply to female contacts only.

(a) Oversize Pin

Steel test pin diamater	:	0.9525/0.955 mm.
Insertion depth	:	0.76/1.14 mm.
Number of insertions	:	3.

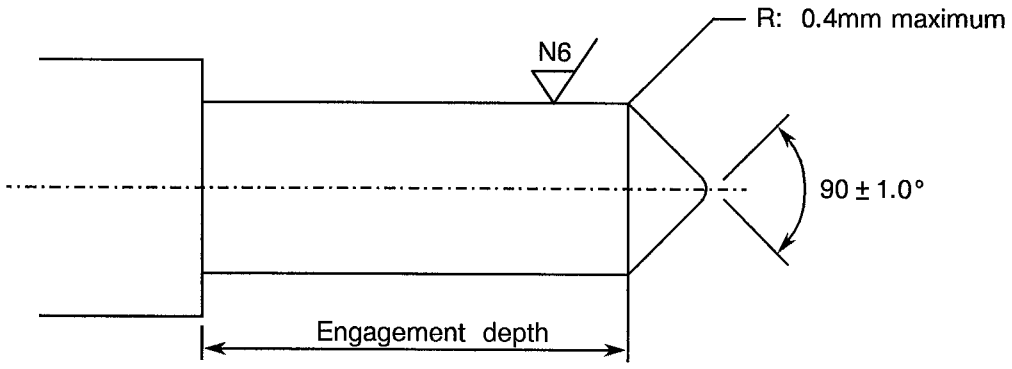
(b) Engagement Force Test (Maximum Diameter Test Pin)

Steel test pin diamater	:	0.940/0.942 mm.
Engagement depth	:	1.27/1.91 mm.
Engagement force	:	1360g max.

(c) Separation Force Test (Minimum Diameter Test Pin)

Steel test pin diamater	:	0.902/0.904 mm.
Separation depth	:	1.27/1.91 mm.
Separation force	:	28.4g min.

FIGURE 4 - TEST PIN CONFIGURATION



4.3.9 Contact Retention

The requirements for this test are specified in Section 9 of ESA/SCC Generic Specification No. 3402. The test conditions are given in Figure 2(b). After testing, the connector interface dimensions shall be within the limits of Figure 2(a).

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 connectors 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 Beryllium Copper Version Gold Plated

(a) Shell, Coupling Nut, Centre Contact

Material : Beryllium copper (or brass for male contact only).

(i) Plating for standard version

Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(ii) Plating for amagnetic version

Underplate : Copper, 2.5µm minimum.
Plating : Gold, 2.5µm minimum, Type 2 Grade C of MIL-G-45204.

(b) Inserts

Material : PTFE.

(c) Gaskets

Material : Silicone rubber.

(d) Accessories (ferrule, crimping or solder sleeves and nut)

Material : Brass or copper.

(i) Plating for standard version

Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 0.5µm minimum, Type 2 Grade C of MIL-G-45204.

(ii) Plating for amagnetic version

Underplate : Copper, 2.5µm minimum.
Plating : Gold, 2.5µm minimum, Type 2 Grade C of MIL-G-45204.

4.4.2 Stainless Steel Version Electro-passivated

(a) Shell, Coupling Nut

Material : Stainless steel, electro-passivated.

For solder-type connectors: Rear part of shell shall be protected with:

Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(b) Centre Contact

Material : Beryllium copper (or brass for male contact only).
Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(c) Inserts

Material : PTFE.

(d) Gaskets

Material : Silicone.

(e) Accessories

- Crimping sleeve

  Material : Brass or copper.
  Plating : Nickel, 2.0µm minimum.

- Solder sleeve

  Material : Brass or copper.
  Underplate : Nickel, 2.0µm minimum.
  Plating : Gold, 0.5µm minimum, Type 2 Grade C of MIL-G-45204.

- Nut

  Material : Stainless steel, electro-passivated.

- Washers

  Material : Beryllium copper.
  Plating : Nickel, 2.0µm minimum.

4.4.3 Stainless Steel Version Gold Plated

(a) Shell, Coupling Nut

Material : Stainless steel.
Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(b) Centre Contact

Material : Beryllium copper (or brass for male contact only).
Underplate : Nickel, 2.0µm minimum.
Plating : Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(c) Inserts

Material : PTFE.

(d) Gaskets

Material : Silicone.

(e) Accessories

- Crimping or solder sleeve

  Material : Brass or copper.
  Underplate : Nickel, 2.0µm minimum.
  Plating : Gold, 0.5µm minimum, Type 2 Grade C of MIL-G-45204.

- Nut

  Material : Stainless steel.
  Underplate : Nickel, 2.0µm minimum.
  Plating : Gold, 0.5µm minimum, Type 2 Grade C of MIL-G-45204.

- Washers

  Material : Beryllium copper.
  Underplate : Nickel, 2.0µm minimum.
  Plating : Gold, 0.5µm minimum, Type 2 Grade C of MIL-G-45204.

4.4.4 Iron Nickel Gold Plated Hermetic Type

(a) Shell

Material	:	Iron.
Underplate	:	Nickel, 2.0µm minimum.
Plating	:	Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(b) Centre Contact

Material	:	Steel.
Underplate	:	Nickel, 2.0µm minimum.
Plating	:	Gold, 1.27µm minimum, Type 2 Grade C of MIL-G-45204.

(c) Inserts

Material	:	Glass.

4.5 MARKING

4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESA/SCC Basic Specification No. 21700 and the following paragraphs. Each component shall be marked in respect of:-

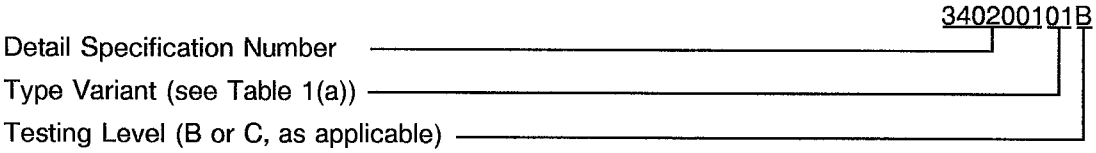
(a) The SCC Component Number.

(b) Characteristics.

(c) Traceability Information.

4.5.2 The SCC Component Number

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



4.5.3 Characteristics

Characteristics cover the type of plating/material and 2 different dimensional aspects:-

(a) Variants of fixed configuration.

(b) Variants where the rear end (length of contact A and length of insert B) may vary within a range limited by a specified maximum value.

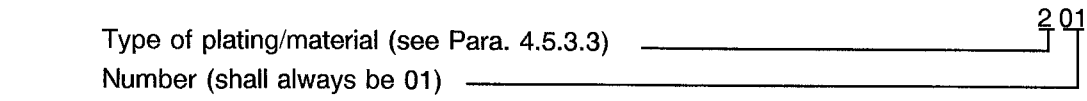
4.5.3.1 Variants of Fixed Configuration

Each component shall be marked in respect of:-

(a) Type of plating/material.

(b) Number.

The information shall be constituted and marked as follows:



4.5.3.2 Variants where Dimensions A and B of Figure 2(b) are indicated by a Maximum Only

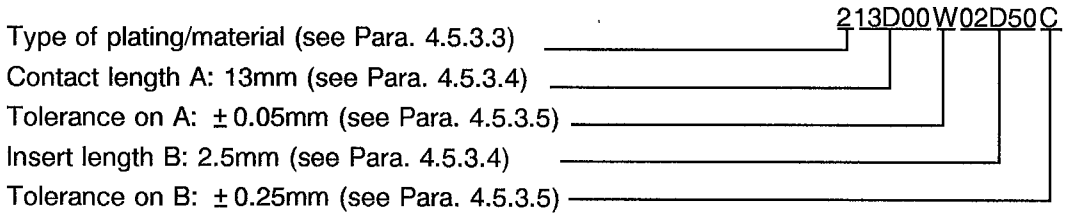
Each component shall be marked in respect of:-

(a) Type of plating/material.

(b) Length and tolerance of centre contact (dimension A) (see Note 4).

(c) Length and tolerance of insert (dimension B) (see Note 4).

The information shall be constituted and marked as follows:



NOTES

1. Dimension A shall always be greater than B. Both values shall always be positive.
2. When dimension B (insert) is flush with the flange (B = 0), the insert length shall be marked 00D00 with the appropriate tolerance.
3. When applicable, Figure 2(b) makes reference to Para. 4.5.3.
4. The length values of the centre contact and insert shall be marked only on the primary package.

4.5.3.3 Type of Plating/Material

The type of plating/material shall be identified by means of the following codes:-

CODE	TYPE OF PLATING/MATERIAL	PARA.
1	Beryllium copper gold plated, copper underplate (amagnetic version)	4.4.1
2	Beryllium copper gold plated, nickel underplate (standard version)	4.4.1
3	Stainless steel electro-passivated	4.4.2
4	Stainless steel gold plated	4.4.3

For hermetic types (see Para. 4.4.4), only plating code 2 is available.

4.5.3.4 Length Values

Length values shall be expressed by means of the following codes. The unit quantity for marking shall be millimetres.

LENGTH VALUE	CODE
XX.XX	XXDXX

4.5.3.5 Tolerance

The tolerances on length values shall be indicated by the letter codes specified hereafter:-

TOLERANCE (mm)	CODE LETTER
± 0.05	W
± 0.10	B
± 0.25	C

4.5.4 Traceability Information

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

4.5.5 Marking of Small Components

When it is considered that the component is too small to accommodate the marking as specified above, as much as space permits shall be marked. The order of precedence shall be as specified in Para. 4.5.1. The marking information in full shall accompany each component in its primary package.

4.6 ELECTRICAL MEASUREMENTS

4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured in respect of electrical characteristics are scheduled in Table 2. Unless otherwise specified, the measurements shall be performed at T_{amb} = +22 ± 3 °C.

4.6.2 Electrical Measurements at High and Low Temperatures (Table 3)

Not applicable.

4.6.3 Circuits for Electrical Measurements

Not applicable.

4.7 BURN-IN TESTS (TABLES 4 AND 5)

Not applicable.

TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE

No.	CHARACTERISTICS	SYMBOL	SPEC. AND/OR TEST METHOD	TEST CONDITIONS	LIMITS		UNIT
					MIN	MAX	
1	Insulation Resistance	Ri	ESA/SCC 3402, Para. 9.1	500 Vdc	5000	-	MΩ
2	Voltage Proof Leakage Current	I_L	ESA/SCC 3402, Para. 9.2	See Figure 2(b)	-	2.0	mA

TABLES 3, 4 AND 5

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESA/SCC GENERIC SPECIFICATION No. 3402)

4.8.1 Measurements and Inspections on Completion of Environmental Tests

The parameters to be measured on completion of environmental tests are scheduled in Table 6 of this specification. Unless otherwise stated, the measurements shall be performed at $T_{amb} = +22 \pm 3$ °C.

4.8.2 Measurements and Inspections at Intermediate Points during Endurance Tests

Not applicable.

4.8.3 Measurements and Inspections on Completion of Endurance Tests

The parameters to be measured on completion of endurance tests are scheduled in Table 6 of this specification. Unless otherwise stated, the measurements shall be performed at $T_{amb} = +22 \pm 3$ °C.

4.8.4 Conditions for Operating Life Tests (Part of Endurance Testing)

Not applicable.

4.8.5 Electrical Circuits for Operating Life Tests

Not applicable.

4.8.6 Conditions for High Temperature Storage Test (Part of Endurance Testing)

The requirements for the high temperature storage test are specified in Section 9 of ESA/SCC Generic Specification No. 3402. The conditions for high temperature storage shall be the maximum operating temperature as specified in Figure 2(b).

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL AND ENDURANCE TESTS

NO.	ESA/SCC GENERIC SPEC. NO. 3402		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		MIN.	MAX.	
01	Coupling Proof Torque	Para. 9.4	**Final Measurements** Interface Dimensions Visual Examination	 - Para. 9.4 of ESA/SCC 3402	 - -	 Figure 2(a) -	 -	 - -
02	Mating and Unmating Forces	Para. 9.5	**During Test** Torque	 Para. 4.3.5 of this spec.	 -	 -	 24	 N.cm
03	Seal Test	Para. 9.7	Hermeticity Leakage	If applicable As applicable	- -	- No Bubbles	1.10^{-8}	cm^3/s -
04	External Visual Inspection	Para. 9.8	External Visual Inspection	Para. 9.8 of ESA/SCC 3402	-	-	-	-
05	Contact Resistance	Para. 9.9 6V 10mA	**During Test** Contact Resistance	 Centre Contact Shell Hermetic Centre Contact	 - - -	 - - -	 3.0 2.0 10	 mΩ mΩ mΩ
06	Vibration	Para. 9.10 Full Engagement	**During Test** Electrical Measurements **Final Measurements** Visual Examination Contact Resistance	**Last cycle in each direction** No open or short circuits No evidence of damage Centre Contact (6V 10mA)	 - - -	 - - -	 - - 3.0	 - - mΩ
07	Shock or Bump	Para. 9.11 Full Engagement	**Final Measurements** Visual Examination Contact Resistance	 No evidence of damage Centre Contact (6V 10mA)	 - -	 - -	 - 3.0	 - mΩ
08	Rapid Change of Temperature	Para 9.12	**Final Measurements** Contact Resistance Voltage Proof Leakage Current Visual Examination	**After a recovery period of 24 ± 2 hrs** Centre Contact (6V 10mA) Table 2 Item 2 -	 - I_L -	 - Table 2 Item 2 -	 3.0 -	 mΩ -
09	Climatic Sequence	Para. 9.13	**During Test** Voltage Proof **Final Measurements** External Visual Inspection Insulation Resistance Voltage Proof Leakage Current	**At Low Air Pressure** 0.1X value of Figure 2(b) **After final Damp Heat cycle (within 1 to 24 hrs recovery)** Para. 9.8 of ESA/SCC 3402 Table 2 Item 1 Table 2 Item 2	 VP - Ri I_L	 No flashover or breakdown - 200 Table 2 Item 2	 - - 	 - MΩ
10	Cable Retention Force	Para. 9.14 and Para. 4.3.4 of this spec.	**During Test** Continuity	-	-	-	-	-
11	Cabling and Crimping Capability	Para. 9.15	Visual Examination Dimensions Insulation Resistance Voltage Proof Leakage Current	Para. 9.15 of ESA/SCC 3402 Para. 9.15 of ESA/SCC 3402 Table 2 Item 1 Table 2 Item 2	- - Ri I_L	 Fig. 2(a) & 2(b) 5000 Table 2 Item 2	 - 	- - MΩ

NOTES

1. The tests in this Table refer to either Chart IV or V and shall be used as applicable.

TABLE 6 - MEASUREMENTS AND INSPECTIONS ON COMPLETION OF ENVIRONMENTAL AND ENDURANCE TESTS (CONT'D)

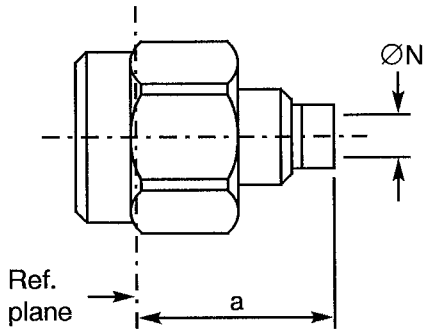
NO.	ESA/SCC GENERIC SPEC. NO. 3402		MEASUREMENTS AND INSPECTIONS		SYMBOL	LIMITS		UNIT
	ENVIRONMENTAL AND ENDURANCE TESTS (1)	TEST METHOD AND CONDITIONS	IDENTIFICATION	CONDITIONS		MIN.	MAX.	
12	VSWR or Reflection Coefficient	Para. 9.16	VSWR	Para. 9.16 of ESA/SCC 3402	-	Figure 2(b)		-
13	Corona Level	Para. 9.17	Corona	Para. 9.17 of ESA/SCC 3402	-	Figure 2(b)		-
14	Endurance	Para. 9.18 and Para. 4.3.6 of this spec.	**Final Measurements**					
			Mating/Unmating Forces	Para. 4.3.5 of this spec.	-	-	24	N.cm
			Contact Resistance	Centre Contact (6V 10mA)	-	-	4.0	mΩ
				Shell (6V 10mA)		-	3.0	mΩ
				Hermetic Centre Contact (6V 10mA)	-	-	12	mΩ
			Visual Examination	Para. 9.18 of ESA/SCC 3402		-	-	-
15	RF Insertion Loss	Para. 9.19	Insertion Loss	Para. 9.19 of ESA/SCC 3402	-	Figure 2(b)		-
16	Corrosion	Para. 9.20	Visual Examination	Para. 9.20 of ESA/SCC 3402 No exposure of base metal	-	-	-	-
17	Residual Magnetism	Para. 9.21	Magnetism	-	-	Para. 4.3.7		-
18	Soldering Proof	Para. 9.22	**Final Measurements**					
			Interface Dimensions	-	-	Figure 2(b)		-
			Mating/Unmating Forces	Para. 4.3.5 of this spec.	-	-	24	N.cm
			Insulation Resistance	Table 2 Item 1	Ri	5000	-	MΩ
			Voltage Proof Leakage Current	Table 2 Item 2	I_L	Table 2 Item 2		-
			Contact Resistance	Centre Contact (6V 10mA)		-	3.0	mΩ
				Shell (6V 10mA)		-	2.0	mΩ
				Hermetic Centre Contact (6V 10mA)	-	-	10	mΩ
			External Visual Inspection	Para. 9.8 of ESA/SCC 3402	-	-	-	-
19	RF Leakage	Para. 9.23	Leakage	-	-	Figure 2(b)		-
20	High Temperature Storage	Para. 9.24 and Para. 4.8.6 of this spec.	**Final Measurements**					
			Mating/Unmating Forces	Para. 4.3.5 of this spec.	-	-	24	N.cm
			Insulation Resistance	Table 2 Item 1	Ri	5000	-	MΩ
			Voltage Proof Leakage Current	Table 2 Item 2	I_L	Table 2 Item 2		-
			Contact Retention	Para. 4.3.9 of this spec.	-	Para. 4.3.9		-
			Visual Examination	-	-	-	-	-
			Contact Resistance	Centre Contact (6V 10mA)	-	-	8.0	mΩ
				Shell (6V 10mA)		-	7.5	mΩ
				Hermetic Centre Contact (6V 10mA)		-	15	mΩ
			External Visual Inspection	Para 9.8 of ESA/SCC 3402	-	-	-	-
21	Permanence of Marking	Para. 9.27	Marking Permanence	Para. 9.27 of ESA/SCC 3402	-	-	-	-
22	Plating Thickness (Hermetic Types Only)	Para. 9.29	Plating Thickness	Para. 5.3.4 of ESA/SCC 3402	-	-	-	-

NOTES

1. The tests in this table refer to either Chart IV or V and shall be used as applicable.

FIGURE 2(b) - VARIANTS

VARIANT 01 - STRAIGHT PLUG, SOLDER TYPE, FOR SEMI-RIGID CABLE ∅2.20mm (0.085")



SYMBOL	MILLIMETRES	
	MIN.	MAX.
a	8.40	8.70
∅N	2.25	2.35

NOTES

1. Removable coupling nut.

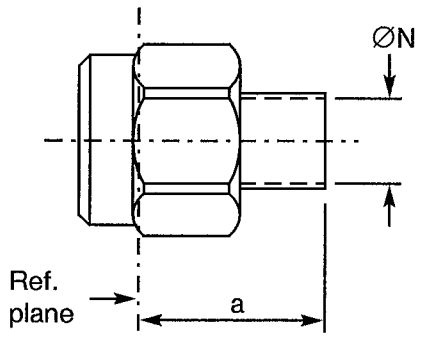
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.07 + 0.008 f (GHz)	
Maximum reflection coefficient	0.034 + 0.0034 f (GHz)	
Maximum insertion loss	$0.02\sqrt{f\ (GHz)}$	dB
RF leakage	−[100 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	200	N
Mini cable retention torque value	11.5	N.cm
Maximum weight	2.3	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	KS 1, RG 405/U, (∅2.20mm)	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 02 - STRAIGHT PLUG, SOLDER TYPE, FOR SEMI-RIGID CABLE ∅3.58mm (0.141")



SYMBOL	MILLIMETRES	
	MIN.	MAX.
a	8.40	8.70
∅N	3.65	3.75

NOTES
1. Removable coupling nut.

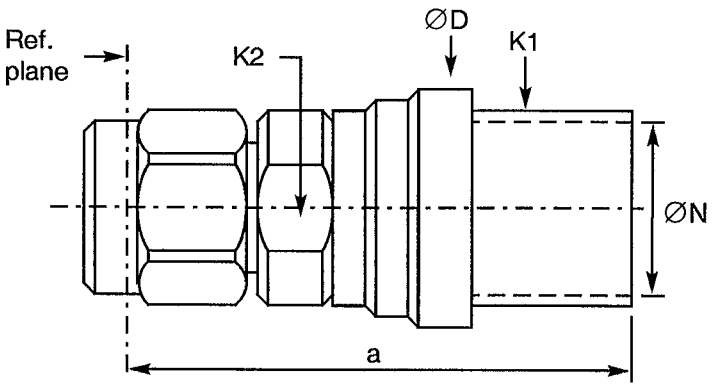
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.05 + 0.004 f (GHz)	
Maximum reflection coefficient	0.024 + 0.0018 f (GHz)	
Maximum insertion loss	$0.02\sqrt{f\ (GHz)}$	dB
RF leakage	−[100 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	500	N
Mini cable retention torque value	39.6	N.cm
Maximum weight	2.4	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	−65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	KS 2, RG 402/U, (∅3.58mm)	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 03 - STRAIGHT PLUG WITH CABLE CLAMP, SOLDER TYPE, FOR SEMI-RIGID CABLE ∅6.35mm (0.250")



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	21.50	22.50	
∅D	10.90	11.00	
K1	-	10.00	2 flats
K2	-	8.00	2 flats
∅N	6.45	6.70	

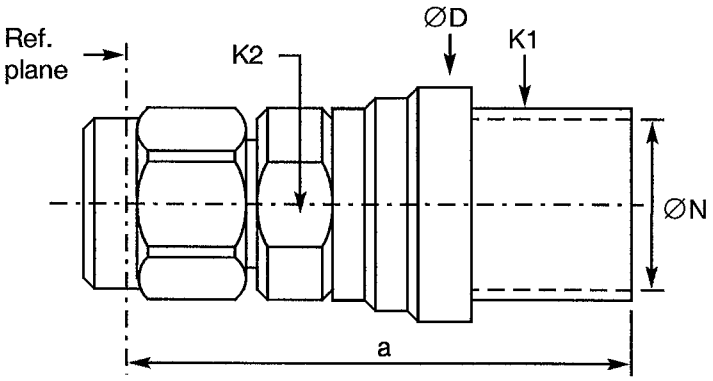
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.05 + 0.015 f (GHz)	
Maximum reflection coefficient	0.024 + 0.0063 f (GHz)	
Maximum insertion loss	$0.02\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	300	N
Mini cable retention torque value	39.6	N.cm
Maximum weight	8.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Not applicable	
Cables used	KS 3, RG 401/U, (∅6.35mm)	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 04 - STRAIGHT PLUG WITH CABLE CLAMP, SOLDER TYPE, FOR SEMI-RIGID MICROPOROUS CABLE, ∅6.35mm



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	-	22.50	
∅D	10.90	11.10	
K1	-	10.00	2 flats
K2	-	8.00	2 flats
∅N	6.45	6.70	

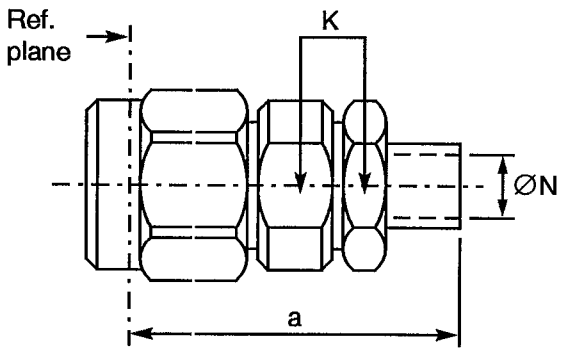
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.05 + 0.015 f (GHz)	
Maximum reflection coefficient	0.024 + 0.0063 f (GHz)	
Maximum insertion loss	$0.02\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	300	N
Mini cable retention torque value	39.6	N.cm
Maximum weight	8.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Not applicable	
Cables used	Microporous ∅6.35mm	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 05 - STRAIGHT PLUG, CRIMP-TYPE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	23.10	23.95	
K	-	7.00	2 flats
ØN	3.15	3.35	

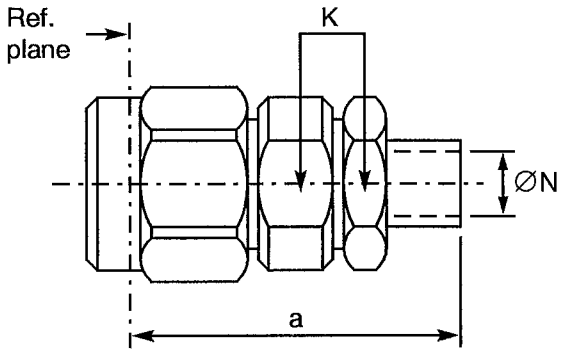
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.015 f (GHz)	
Maximum reflection coefficient	0.047 + 0.0063 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	0.5	N.cm
Mini cable retention force	90	N
Mini cable retention torque value	2 × 180° applic. point 50 × ØN	
Maximum weight	5.0	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 200 (see cables used)	°C
Operating temperature range	− 65 to + 165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	KX 3B - KX 22A RG 174/U - RG 316/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 06 - STRAIGHT PLUG, CRIMP-TYPE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	23.10	23.95	
K	-	7.00	2 flats
ØN	2.00	2.20	

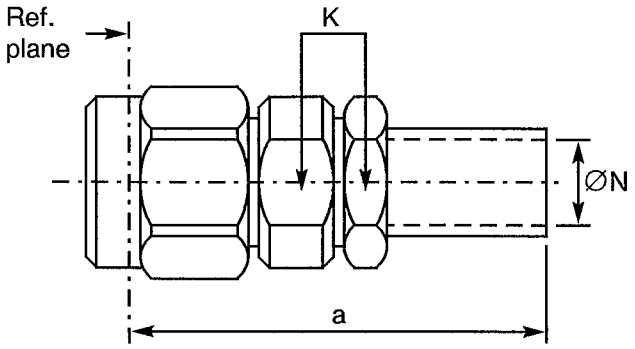
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.015 f (GHz)	
Maximum reflection coefficient	0.047 + 0.0063 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	0.5	N.cm
Mini cable retention force	80	N
Mini cable retention torque value	2 × 180° applic. point 50 × ØN	
Maximum weight	4.9	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+200 (see cables used)	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	50 CIS	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 07 - STRAIGHT PLUG, CRIMP OR SOLDER TYPE, CABLE ∅5mm/50Ω, SINGLE BRAID



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	25.10	25.95	2 flats
K	-	7.00	
∅N	5.55	5.65	

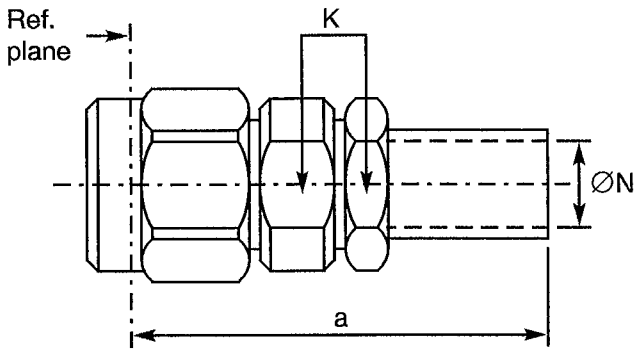
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.15 + 0.01 f (GHz)	
Maximum reflection coefficient	0.070 + 0.004 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	−[95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	0.5	N.cm
Mini cable retention force	180	N
Mini cable retention torque value	2 × 180° applic. point 50 × ∅N	
Maximum weight	6.0	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+200 (see cables used)	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	KX 15, RG 58 C/U, RG 141 A/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 08 - STRAIGHT PLUG, CRIMP OR SOLDER TYPE, CABLE ∅5mm/50Ω, DOUBLE BRAID



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	25.10	25.95	
K	-	7.00	2 flats
∅N	5.55	5.65	

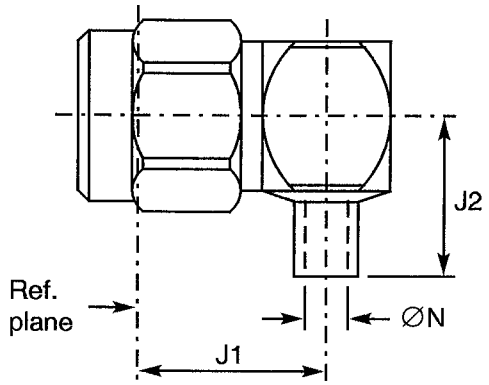
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.15 + 0.01 f (GHz)	
Maximum reflection coefficient	0.070 + 0.004 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	0.5	N.cm
Mini cable retention force	180	N
Mini cable retention torque value	2 × 180° applic. point 50 × ∅N	
Maximum weight	6.0	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+200 (see cables used)	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	KX 23, RG 142 B/U, RG 223/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 09 - RIGHT ANGLE PLUG, SOLDER TYPE FOR SEMI-RIGID CABLE ∅2.20mm (0.085")



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	7.25	7.70
∅N	2.25	2.35

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.01 f (GHz)	
Maximum reflection coefficient	0.047 + 0.004 f (GHz)	
Maximum insertion loss	$0.02\sqrt{f\ (GHz)}$	dB
RF leakage (1)	− [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

NOTES

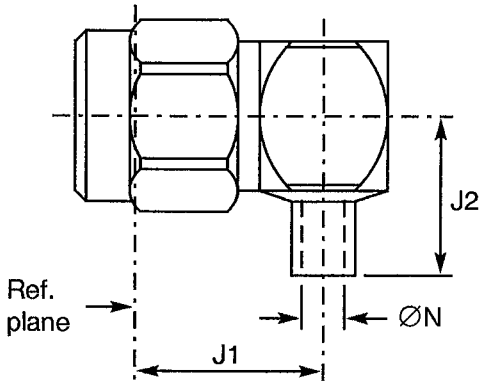
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	200	N
Mini cable retention torque value	11.5	N.cm
Maximum weight	5.0	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	KS 1, RG 405/U (∅2.20mm)	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 10 - RIGHT ANGLE PLUG, SOLDER TYPE FOR SEMI-RIGID CABLE ∅3.58mm (0.141")



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	7.25	7.70
∅N	3.65	3.75

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.01 f (GHz)	
Maximum reflection coefficient	0.047 + 0.004 f (GHz)	
Maximum insertion loss	$0.15\sqrt{f\ (GHz)}$	dB
RF leakage (1)	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

NOTES

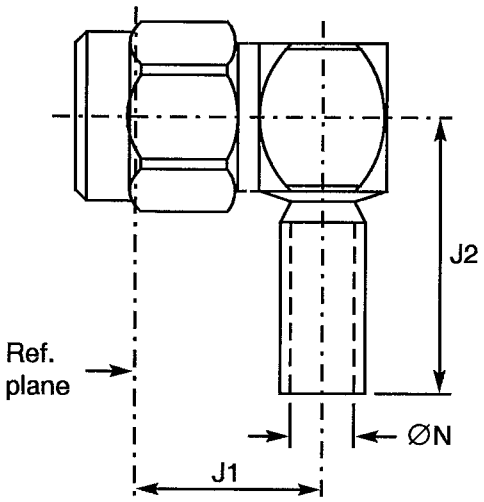
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	500	N
Mini cable retention torque value	39.6	N.cm
Maximum weight	4.1	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	KS 2, RG 402/U (∅3.58mm)	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 12 - RIGHT ANGLE PLUG, CRIMP TYPE



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	-	16.80
ØN	3.25	3.30

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.025 f (GHz)	
Maximum reflection coefficient	0.047 + 0.009 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage (1)	− [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

NOTES

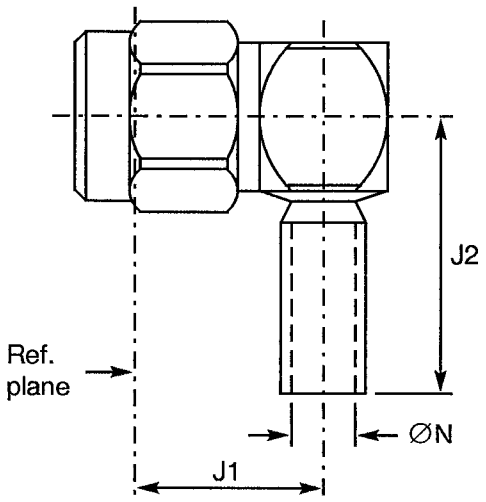
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	90	N
Mini cable retention torque value	2 × 180° applic. point 50 × ØN	N.cm
Maximum weight	4.8	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115 (see cables used)	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	KX 3B - KX 22A RG 174/U - RG 316/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 13 - RIGHT ANGLE PLUG, CRIMP TYPE



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	-	18.00
ØN	5.55	5.65

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.02 f (GHz)	
Maximum reflection coefficient	0.047 + 0.0077 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage (1)	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

NOTES

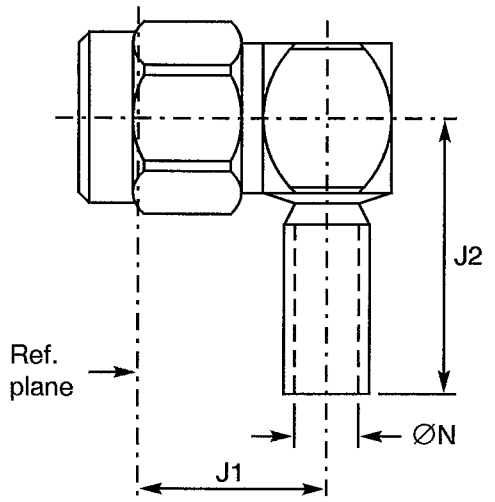
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	180	N
Mini cable retention torque value	2 × 180° applic. point 50 × ØN	
Maximum weight	4.9	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115 (see cables used)	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	KX 15, RG 58C/U - RG 141A/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 14 - RIGHT ANGLE PLUG, CRIMP TYPE, FOR CABLE ∅5mm/50Ω, DOUBLE BRAID



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	-	18.00
∅N	5.55	5.65

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.02 f (GHz)	
Maximum reflection coefficient	0.047 + 0.0077 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage (1)	− [95 - f (GHz)]	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

NOTES

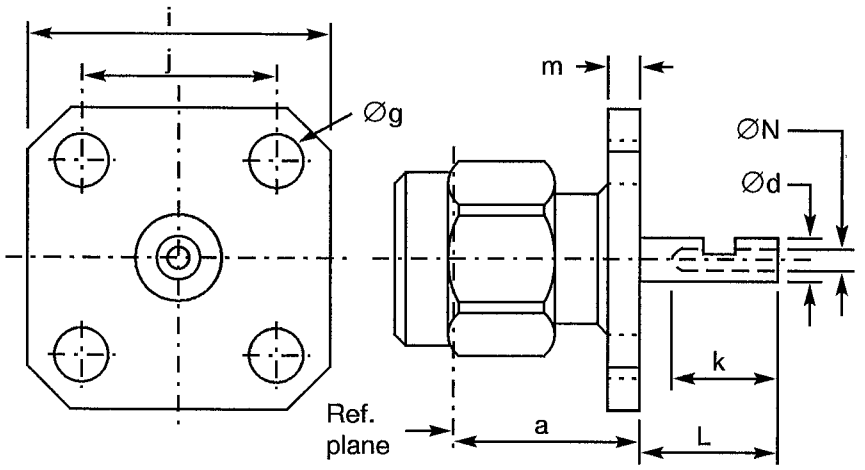
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	180	N
Mini cable retention torque value	2 × 180° applic. point 50 × ∅	
Maximum weight	4.1	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115 (see cables used)	°C
Operating temperature range	− 65 to + 105 (see cables used)	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	KX 23, RG 142B/U - RG 223/U	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 15 - SQUARE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
Ød	1.24	1.30	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
k	2.40	-	
L	4.75	5.25	
m	1.40	1.80	
ØN	0.70	1.00	

Solder Bucket - Optional Shapes:

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(1)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(1)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(1)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(1)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

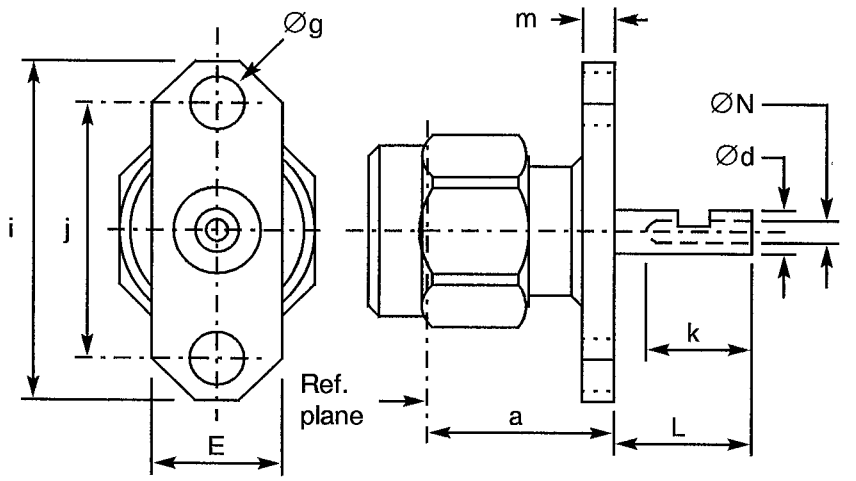
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

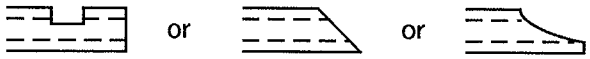
OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 16 - 2-HOLE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
Ød	1.24	1.30	
E	5.50	5.80	
Øg	2.55	2.70	2 holes
i	15.90	16.10	
j	12.10	12.30	
k	2.40	-	
L	4.75	5.25	
m	1.40	1.80	
ØN	0.70	1.00	

Solder Bucket - Optional Shapes:  or or

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(1)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(1)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(1)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(1)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

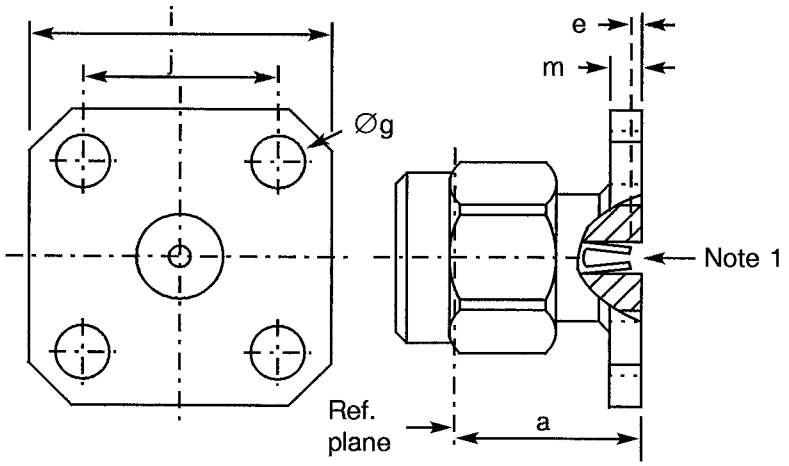
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	3.4	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 17 - SQUARE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
e	0.18	0.41	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.06 + 0.007 f (GHz)	
Maximum reflection coefficient	(2)	0.029 + 0.0031 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(2)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

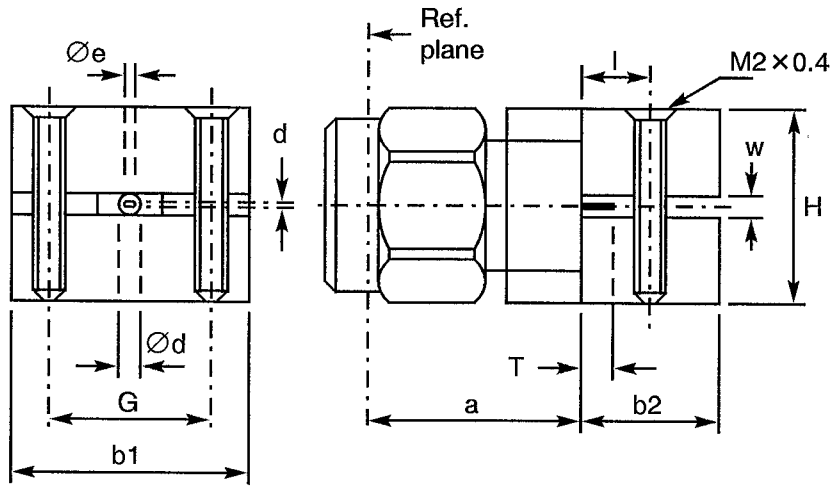
1. Contact engagement and separation forces shall be measured on the rear contact (see Para. 4.3.8).
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Not applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 18 - MALE FLANGE RECEPTACLE, TRIPLATE LAUNCHER



SYMBOL	MILLIMETRES	
	MIN.	MAX.
a	9.90	10.10
b1	13.90	14.10
b2	5.60	5.80
d	0.10	0.15
Ød	1.25	1.30
Øe	0.40	0.60
G	9.40	9.60
H	9.40	9.60
l	2.70	2.90
T	0.90	1.10
w	1.55	1.60

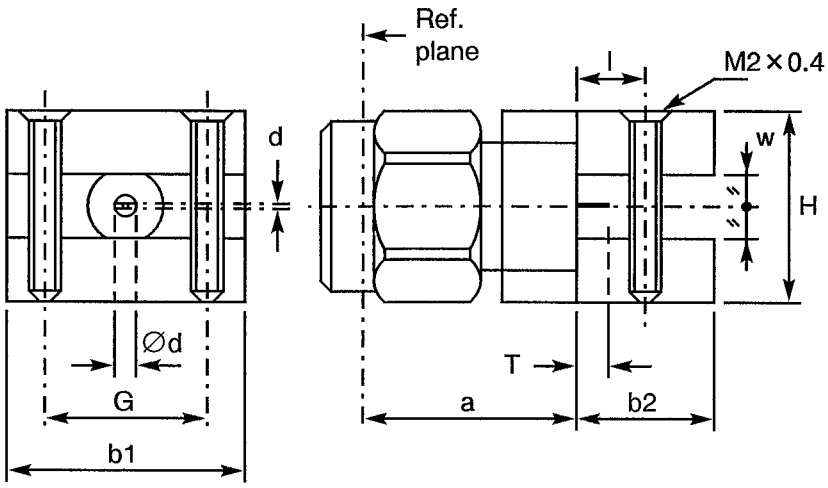
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 4.0	GHz
Maximum voltage standing wave ratio (VSWR)	1.20	
Maximum reflection coefficient	0.0909	
Maximum insertion loss	Not applicable	dB
RF leakage	Not applicable	dB
Voltage proof	750	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	16	g

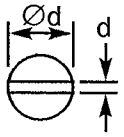
OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 20 - MALE FLANGE RECEPTACLE, TRIPLATE LAUNCHER



SYMBOL	MILLIMETRES	
	MIN.	MAX.
a	9.90	10.10
b1	13.90	14.10
b2	5.60	5.80
d	0.10	0.15
Ød	1.25	1.30
G	9.40	9.60
H	9.40	9.60
l	2.70	2.90
T	2.40	2.60
w	3.15	3.20



DETAILED VIEW

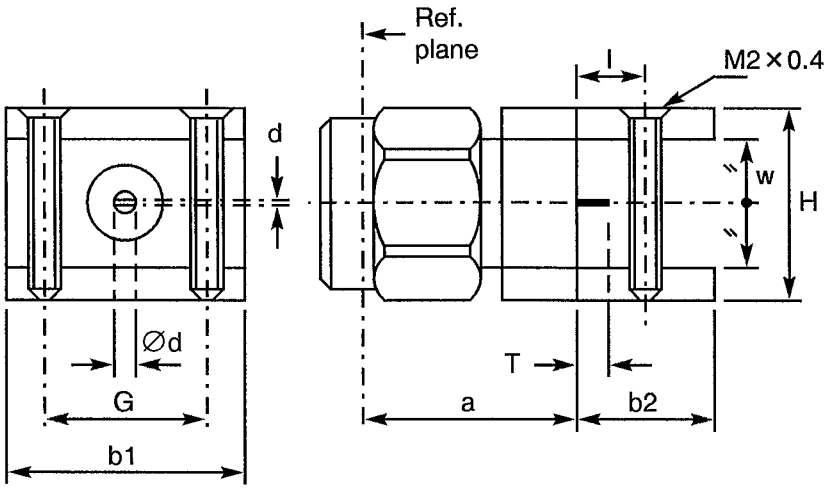
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 4.0	GHz
Maximum voltage standing wave ratio (VSWR)	1.20	
Maximum reflection coefficient	0.0909	
Maximum insertion loss	Not applicable	dB
RF leakage	Not applicable	dB
Voltage proof	150	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	16	g

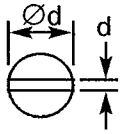
OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 21 - MALE FLANGE RECEPTACLE, TRIPLATE LAUNCHER



SYMBOL	MILLIMETRES	
	MIN.	MAX.
a	9.90	10.10
b1	13.90	14.10
b2	5.60	5.80
d	0.10	0.15
Ød	1.25	1.30
G	9.40	9.60
H	9.40	9.60
l	2.70	2.90
T	2.40	2.60
w	6.35	6.40



DETAILED VIEW

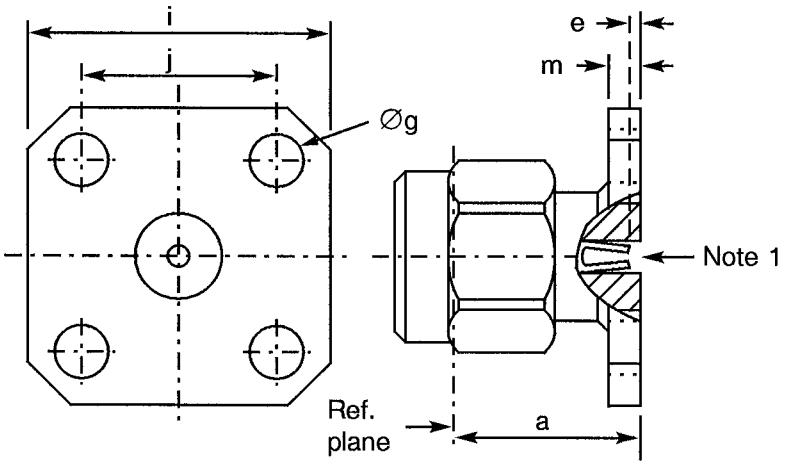
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 2.0	GHz
Maximum voltage standing wave ratio (VSWR)	1.20	
Maximum reflection coefficient	0.0909	
Maximum insertion loss	Not applicable	dB
RF leakage	Not applicable	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	16	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 22 - SQUARE FLANGE MALE RECEPTACLE, LOW RF LEAKAGE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
e	0.18	0.41	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.06 + 0.007 f (GHz)	
Maximum reflection coefficient	(2)	0.029 + 0.0031 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage		−120 at 10 GHz	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

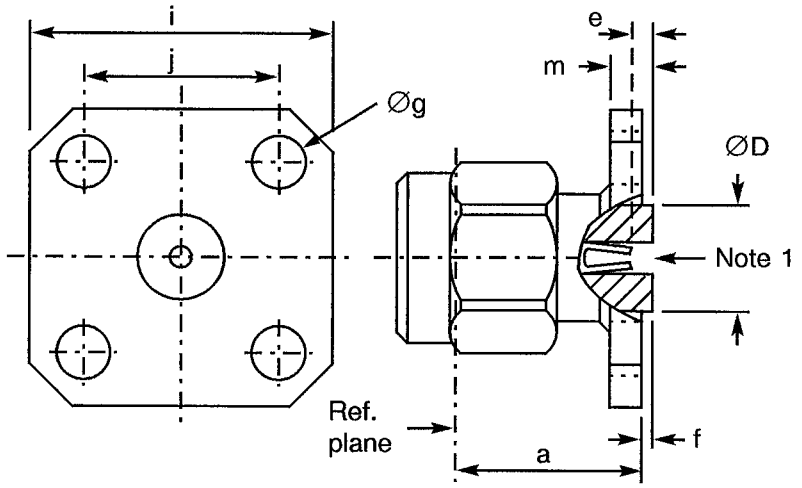
1. Contact engagement and separation forces shall be measured on the rear contact (see Para. 4.3.8).
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Not applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 23 - SQUARE FLANGE MALE RECEPTACLE, LOW RF LEAKAGE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
ØD	5.90	6.10	
e	0.18	0.41	
f	0.30	0.50	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.06 + 0.007 f (GHz)	
Maximum reflection coefficient	(2)	0.029 + 0.0031 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage		−120 at 10 GHz	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

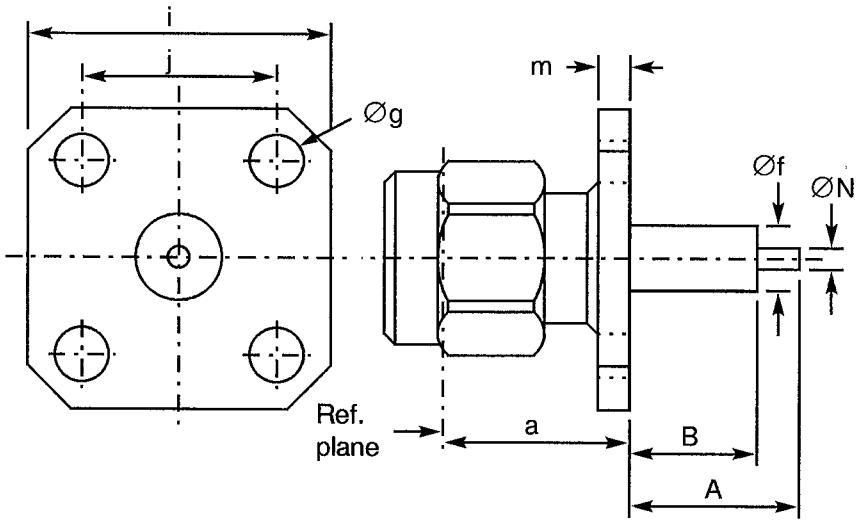
1. Contact engagement and separation forces shall be measured on the rear contact (see Para. 4.3.8).
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	−65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Not applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 24 - SQUARE FLANGE MALE RECEPTACLE, LOW RF LEAKAGE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
A	-	40.10	Note 1
B	-	20.00	Note 1
Øf	4.00	4.20	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	
ØN	1.25	1.30	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(2)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage		−120 at 10 GHz	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

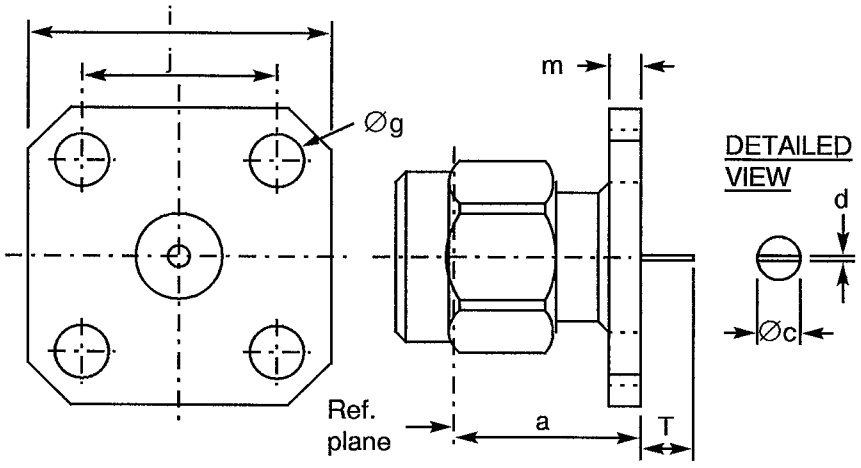
1. To specify dimensions, see Para. 4.5.3.
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	5.1	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 25 - SQUARE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
Øc	1.24	1.30	
d	0.10	0.20	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	
T	2.10	2.55	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(1)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(1)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(1)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(1)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

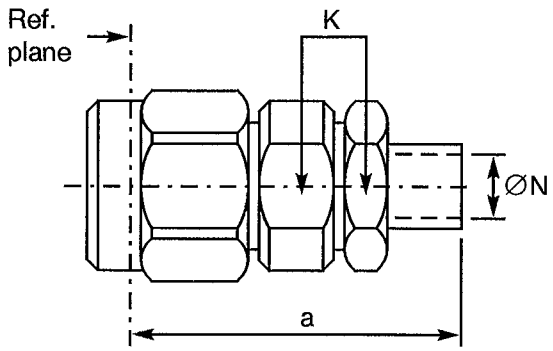
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 26 - STRAIGHT PLUG, CRIMP-TYPE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	22.90	24.10	
K	-	7.00	2 flats
ØN	2.55	2.65	

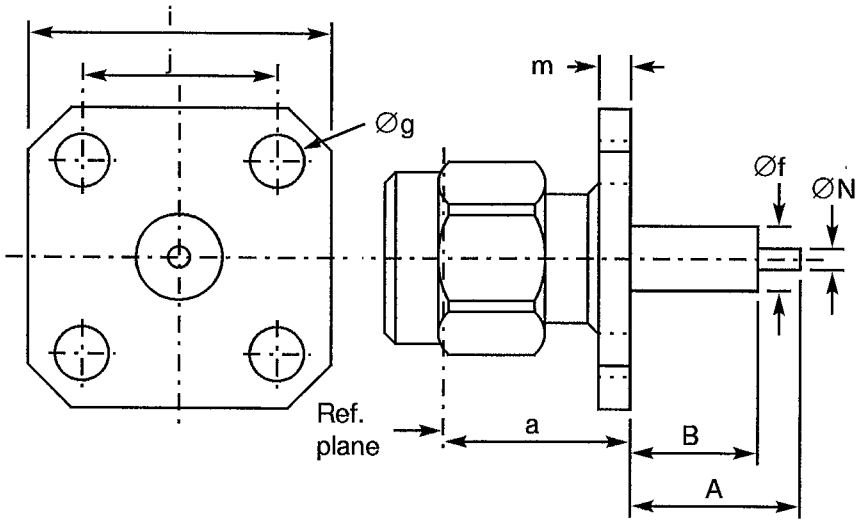
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.015 f (GHz)	
Maximum reflection coefficient	0.047 + 0.0063 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	− [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	0.5	N.cm
Mini cable retention force	80	N
Mini cable retention torque value	2 × 180° applic. point 50 × ØN	
Maximum weight	4.3	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+200 (see cables used)	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	RG 178/U, KX 21A	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 27 - SQUARE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
A	-	40.10	Note 1
B	-	20.00	Note 1
Øf	4.00	4.20	
Øg	2.55	2.70	4 holes
i	12.60	12.80	
j	8.59	8.69	
m	1.40	1.80	
ØN	1.25	1.30	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(2)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(2)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

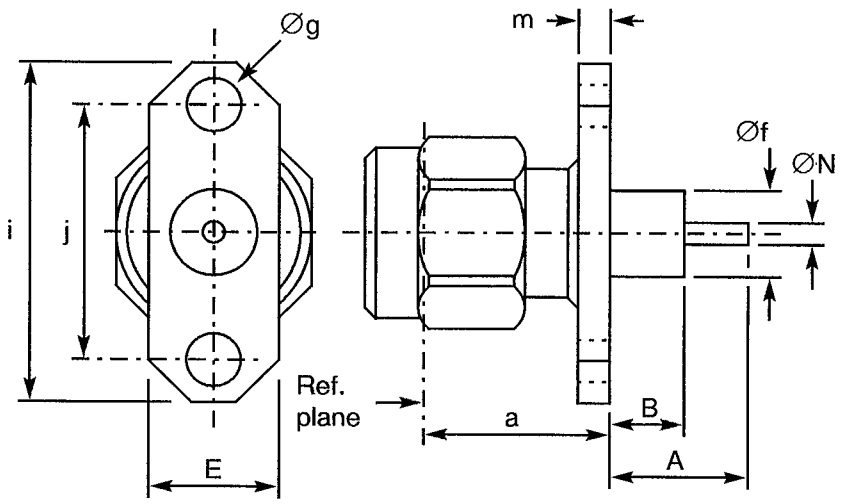
1. To specify dimensions, see Para. 4.5.3.
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 28 - 2-HOLE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
A	-	40.10	Note 1
B	-	20.00	Note 1
E	5.50	5.80	
Øf	4.00	4.20	
Øg	2.55	2.70	2 holes
i	15.90	16.10	
j	12.10	12.30	
m	1.40	1.80	
ØN	1.25	1.30	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(2)	1.05 + 0.003 f (GHz)	
Maximum reflection coefficient	(2)	0.024 + 0.0013 f (GHz)	
Maximum insertion loss	(2)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(2)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

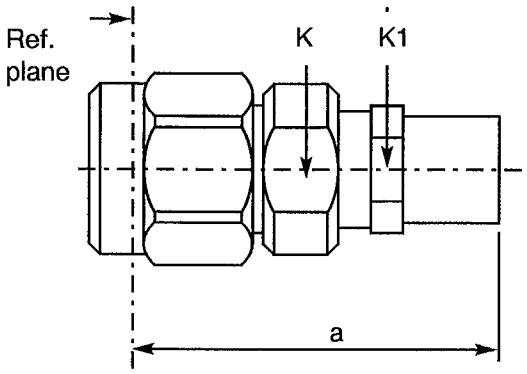
1. To specify dimensions, see Para. 4.5.3.
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	3.4	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	On centre contact only	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 29 - STRAIGHT PLUG, SOLDER TYPE FOR SHF 5 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	20.80	21.15	
K	-	8.50	2 flats
K1	-	8.00	2 flats

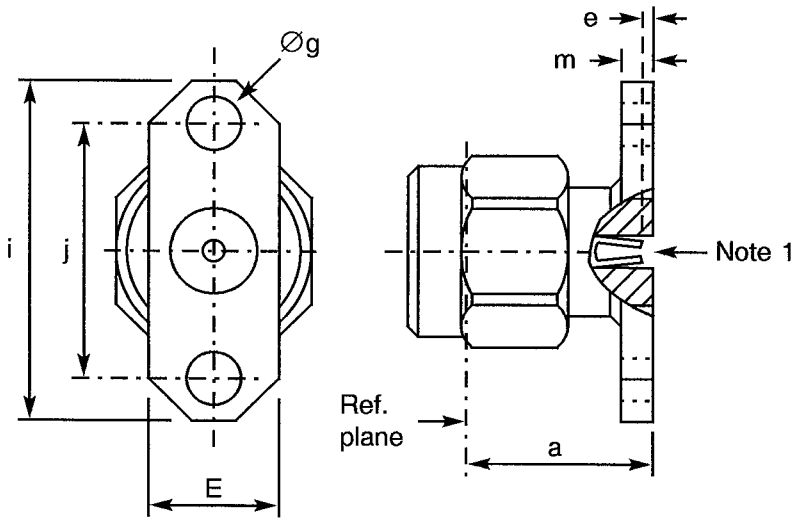
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	10	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	5.6	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+200	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Not applicable	
Cables used	1703-145	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 30 - 2-HOLE FLANGE MALE RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.45	9.55	
e	0.18	0.41	
E	5.50	5.80	
Øg	2.55	2.70	2 holes
i	15.90	16.10	
j	12.10	12.30	
m	1.40	1.80	

ELECTRICAL CHARACTERISTICS		VALUES	UNITS
Frequency range		0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	(1)	1.06 + 0.007 f (GHz)	
Maximum reflection coefficient	(1)	0.029 + 0.0031 f (GHz)	
Maximum insertion loss	(1)	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage	(1)	− [95 - f (GHz)]	dB
Voltage proof		1000	Vrms
Corona level		Not applicable	Vrms

NOTES

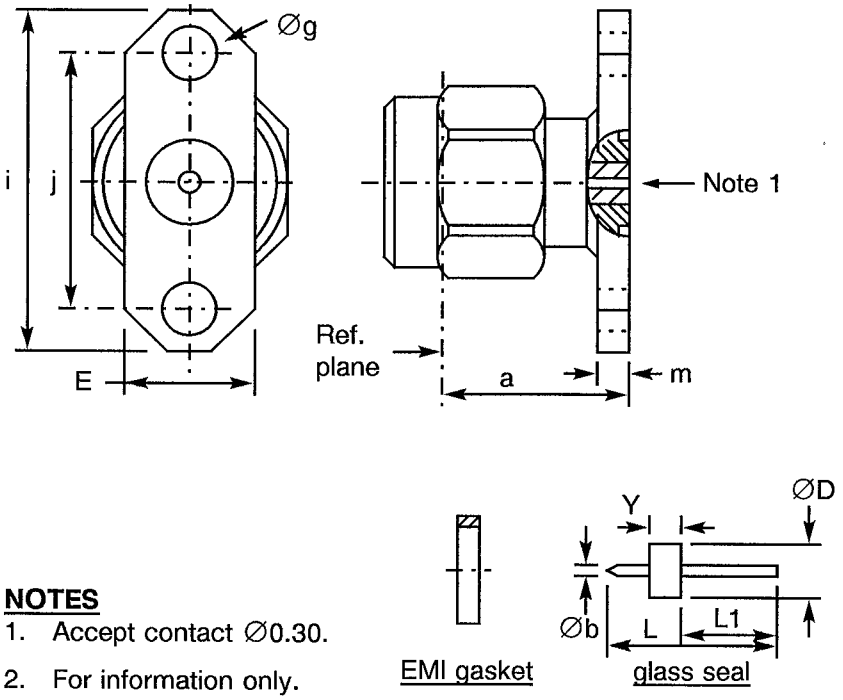
1. Contact engagement and separation forces shall be measured on the rear contact (see Para. 4.3.8).
2. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	− 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Not applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 32 - 2-HOLE FLANGE MALE RECEPTACLE WITH
EMI GASKET AND GLASS SEAL ∅ CONTACT 0.30



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.40	9.55	
∅b	0.25	0.35	
∅D	2.47	2.57	
E	5.50	5.80	
∅g	2.55	2.70	2 holes
i	15.90	16.10	
j	12.10	12.30	
L	7.80	8.20	
L1	4.45	4.70	
m	1.40	1.80	
Y	1.55	1.65	

NOTES

1. Accept contact ∅0.30.
2. For information only.

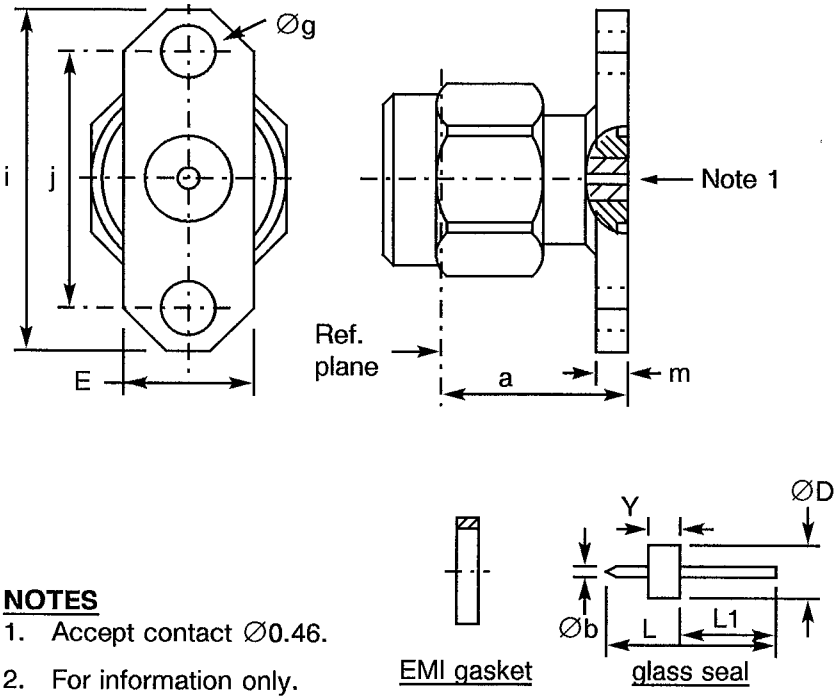
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.06 + 0.01 f (GHz)	
Maximum reflection coefficient (2)	0.029 + 0.0043 f (GHz)	
Maximum insertion loss	0.3	dB
RF leakage	−70	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	3.7	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	10^{-8} (seal only)	$atm.cm^3/s$
Solderability	Applicable (contact only)	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 33 - 2-HOLE FLANGE MALE RECEPTACLE WITH EMI GASKET AND GLASS SEAL ∅ CONTACT 0.46



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	9.40	9.55	
∅b	0.41	0.51	
∅D	2.80	2.90	
E	5.50	5.80	
∅g	2.55	2.70	2 holes
i	15.90	16.10	
j	12.10	12.30	
L	7.80	8.20	
L1	4.45	4.70	
m	1.40	1.80	
Y	1.55	1.65	

NOTES

1. Accept contact ∅0.46.
2. For information only.

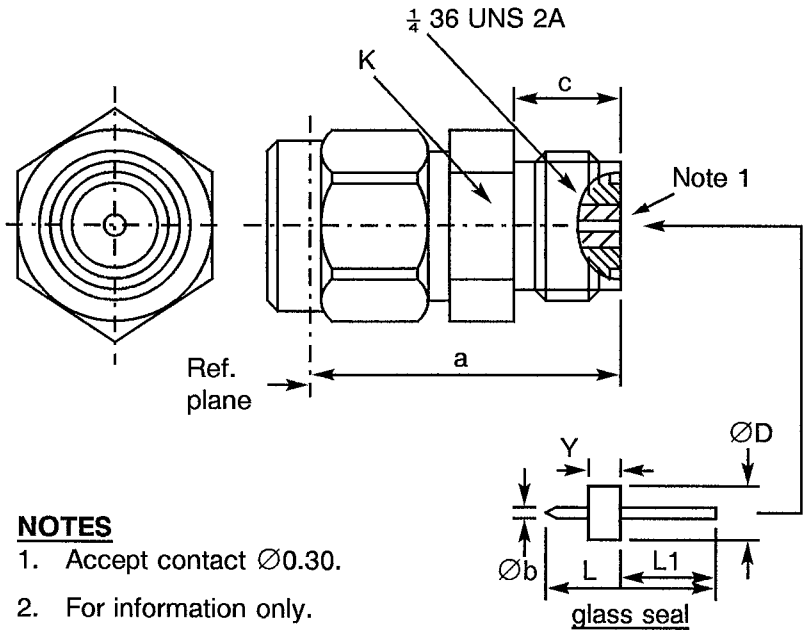
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.06 + 0.01 f (GHz)	
Maximum reflection coefficient (2)	0.029 + 0.0043 f (GHz)	
Maximum insertion loss	0.3	dB
RF leakage	−70	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	3.7	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	−65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	10^{-8} (seal only)	$atm.cm^3/s$
Solderability	Applicable (contact only)	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 34 - BULKHEAD RECEPTACLE WITH GLASS SEAL ∅ CONTACT 0.30



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	12.95	13.95	
c	4.30	4.50	
∅b	0.25	0.35	
∅D	2.47	2.57	
K	-	7.00	2 flats
L	7.80	8.20	
L1	4.45	4.70	
Y	1.55	1.65	

NOTES

1. Accept contact ∅0.30.
2. For information only.

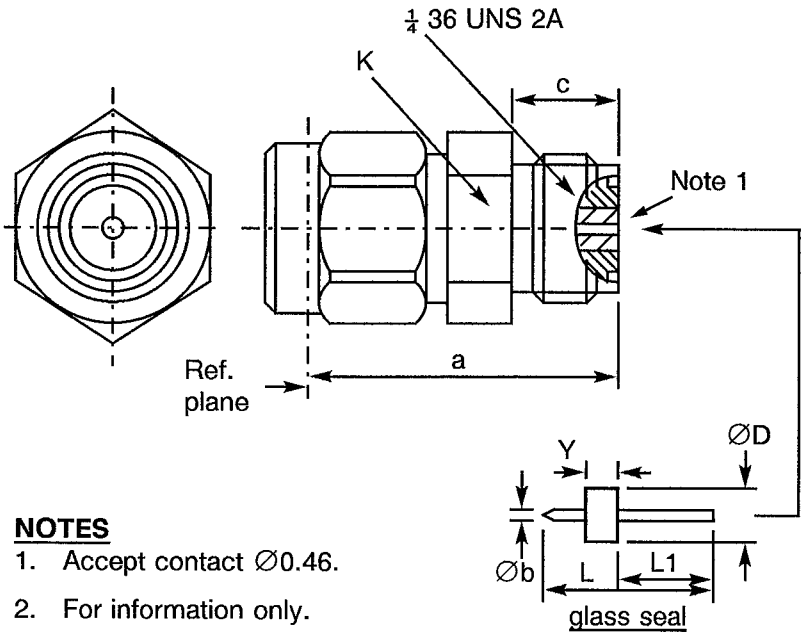
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.06 + 0.01 f (GHz)	
Maximum reflection coefficient (2)	0.029 + 0.0043 f (GHz)	
Maximum insertion loss	0.3	dB
RF leakage	−70	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	10^{-8} (seal only)	$atm.cm^3/s$
Solderability	Applicable (contact only)	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 35 - BULKHEAD RECEPTACLE WITH GLASS SEAL ∅ CONTACT 0.46



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	12.95	13.95	
c	4.30	4.50	
∅b	0.41	0.51	
∅D	2.80	2.90	
K	-	7.00	2 flats
L	7.80	8.20	
L1	4.45	4.70	
Y	1.55	1.65	

NOTES

1. Accept contact ∅0.46.
2. For information only.

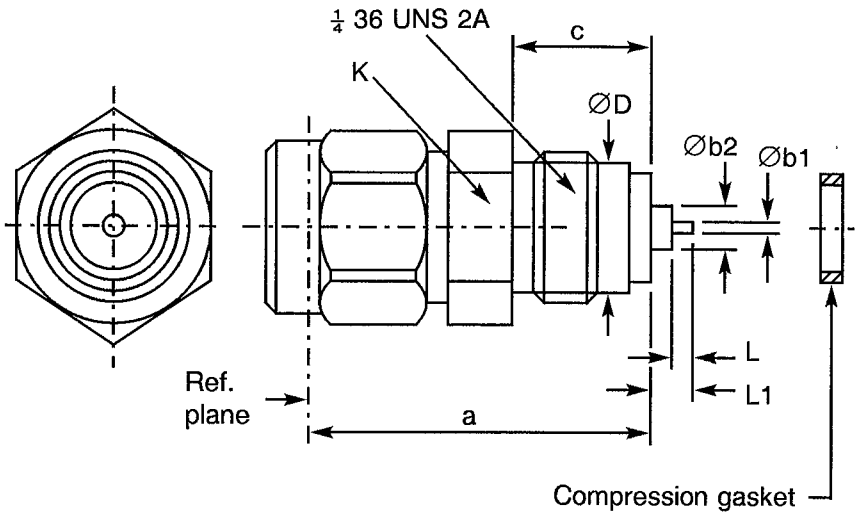
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.06 + 0.01 f (GHz)	
Maximum reflection coefficient (2)	0.029 + 0.0043 f (GHz)	
Maximum insertion loss	0.3	dB
RF leakage	−70	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.2	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	10^{-8} (seal only)	$atm.cm^3/s$
Solderability	Applicable (contact only)	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 36 - HERMETIC BULKHEAD RECEPTACLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	14.65	15.65	
Øb1	0.45	0.55	
Øb2	1.62	1.72	
c	5.95	6.25	
ØD	5.30	5.40	
K	-	7.00	2 flats
L	1.30	1.50	
L1	3.10	3.35	

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.06 + 0.01 f (GHz)	
Maximum reflection coefficient (1)	0.029 + 0.0043 f (GHz)	
Maximum insertion loss	0.3	dB
RF leakage	−70	dB
Voltage proof	1000	Vrms
Corona level	Not applicable	Vrms

NOTES

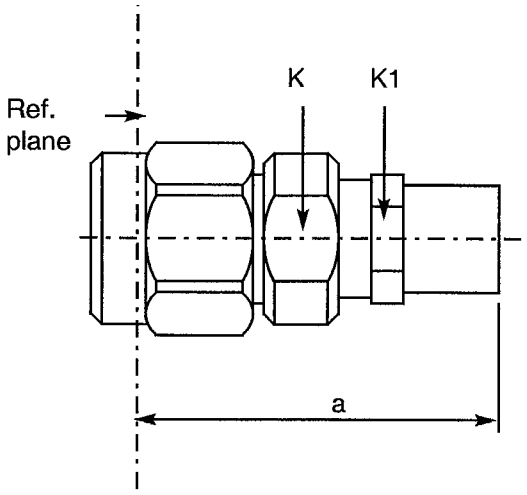
1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.4	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	−65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	10^{-8} (seal only)	atm.cm³/s
Solderability	Applicable (contact only)	
Soldering proof	Applicable	
Cables used	Not applicable	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 37 - STRAIGHT PLUG, SOLDER TYPE, FOR SHF 3 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	18.70	19.10	
K	-	6.50	2 flats
K1	-	5.00	2 flats

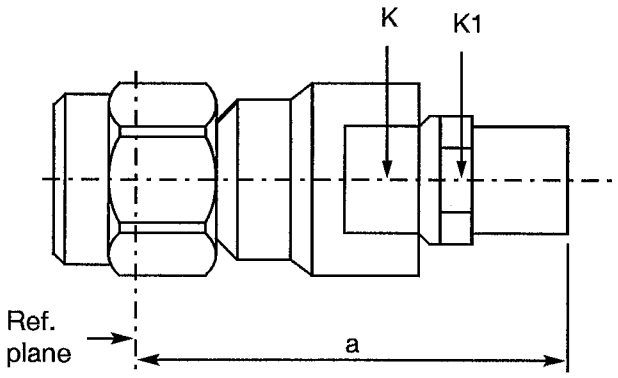
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 17	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	30	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	3.8	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 165	°C
Operating temperature range	−65 to + 165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-143	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 38 - STRAIGHT PLUG, SOLDER TYPE, FOR SHF 8 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	34.80	35.40	
K	-	13.00	2 flats
K1	-	12.00	2 flats

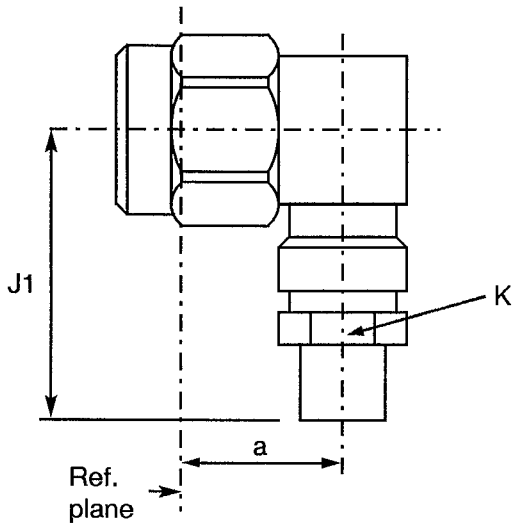
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	50	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	24	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 165	°C
Operating temperature range	−65 to + 165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-148	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 39 - RIGHT ANGLE PLUG, SOLDER TYPE, FOR SHF 3 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	8.65	10.00	
J1	23.30	23.65	
K	-	5.00	2 flats

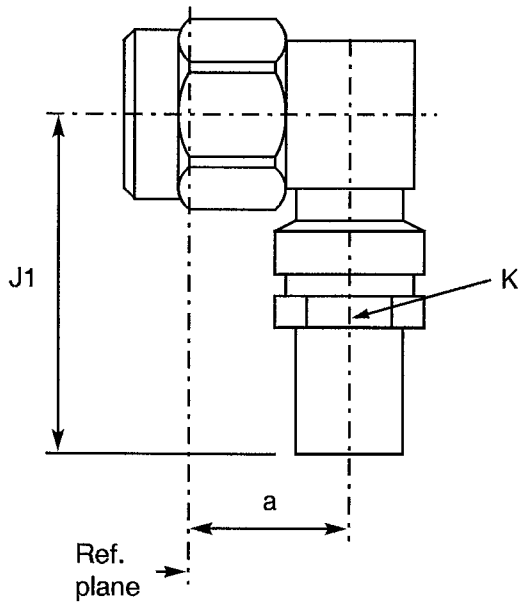
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 17	GHz
Maximum voltage standing wave ratio (VSWR)	1.3 from 0 to 14.5 GHz 1.4 from 14.5 to 17 GHz	
Maximum reflection coefficient	0.166	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	30	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	7.5	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+165	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-143	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 40 - RIGHT ANGLE PLUG, SOLDER TYPE, FOR SHF 5 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	8.65	10.00	
J1	25.25	25.70	
K	-	8.00	2 flats

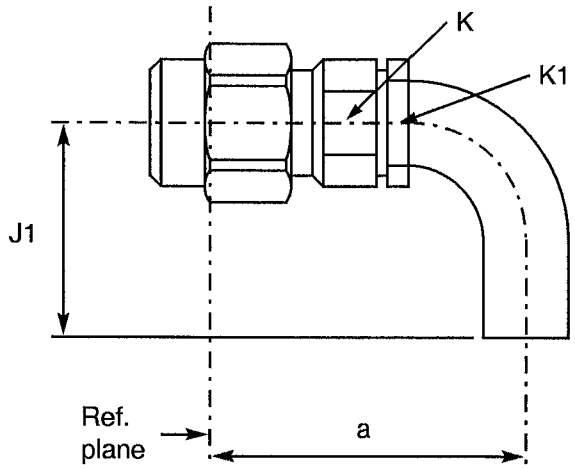
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.3 from 0 to 14.5 GHz 1.4 from 14.5 to 18 GHz	
Maximum reflection coefficient	0.166	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	40	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	10.3	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+165	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-145	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 41 - ELBOW PLUG, SOLDER TYPE, FOR SHF 3 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	21.20	23.50	
J1	19.75	22.00	
K	-	6.50	2 flats
K1	-	5.00	2 flats

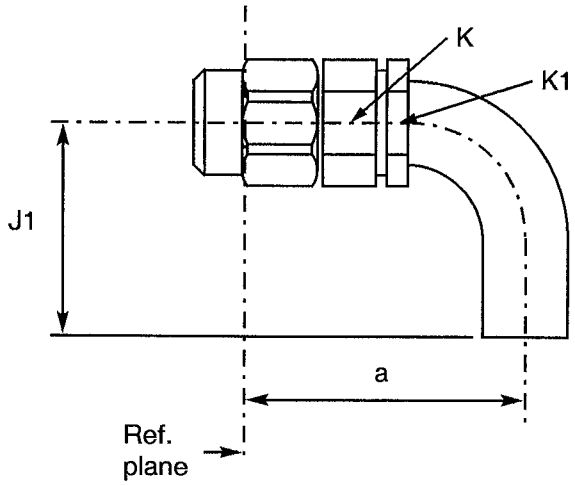
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 17	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	30	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	4.5	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 165	°C
Operating temperature range	− 65 to + 165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-143	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 42 - ELBOW PLUG, SOLDER TYPE, FOR SHF 5 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	21.80	27.10	
J1	23.45	25.75	
K	-	8.50	2 flats
K1	-	8.00	2 flats

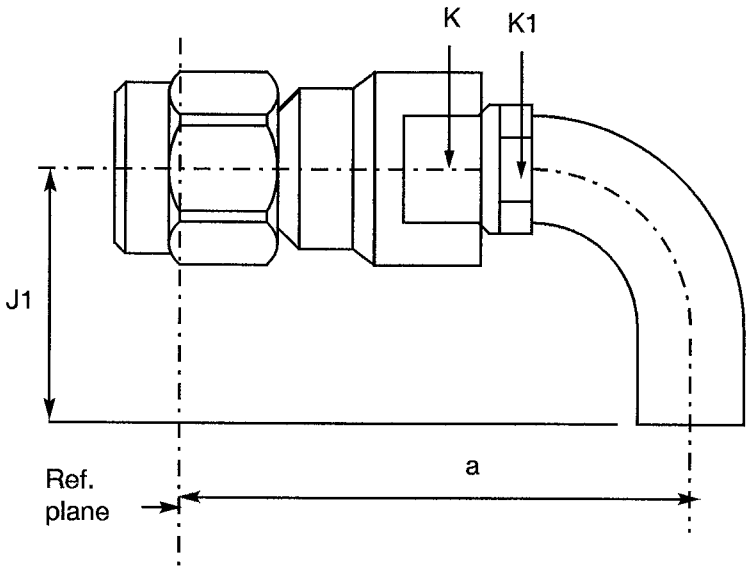
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	40	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	7.5	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+165	°C
Operating temperature range	−65 to +165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-145	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 43 - ELBOW PLUG, SOLDER TYPE, FOR SHF 8 CABLE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	38.35	40.60	
J1	35.00	37.00	
K	-	13.00	2 flats
K1	-	12.00	2 flats

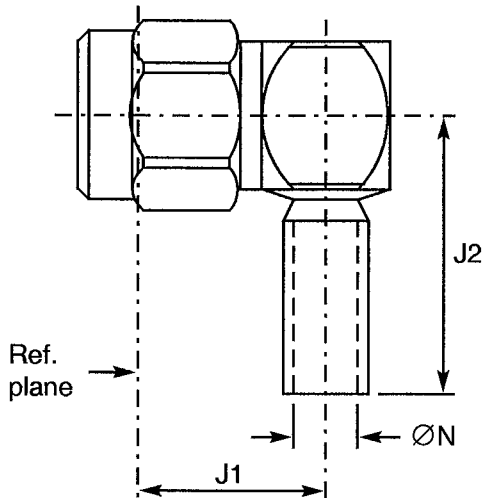
ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	1.15	
Maximum reflection coefficient	0.069	
Maximum insertion loss	$0.06\sqrt{f\ (GHz)}$	dB
RF leakage	$-[95 - f\ (GHz)]$	dB
Voltage proof	1000	Vrms
Corona level	250	Vrms

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	Not applicable	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	50	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	30.4	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 165	°C
Operating temperature range	− 65 to + 165	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	1703-148	

FIGURE 2(b) - VARIANTS (CONTINUED)

VARIANT 44 - RIGHT ANGLE PLUG, CRIMP TYPE



SYMBOL	MILLIMETRES	
	MIN.	MAX.
J1	10.00	10.40
J2	-	16.80
ØN	2.00	2.20

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 12.4	GHz
Maximum voltage standing wave ratio (VSWR)	1.10 + 0.025 f (GHz)	
Maximum reflection coefficient	0.047 + 0.009 f (GHz)	
Maximum insertion loss	$0.03\sqrt{f\ (GHz)}$	dB
RF leakage (1)	−[95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	190	Vrms

NOTES

1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	27	N
Mini centre contact retention torque	2.8	N.cm
Mini cable retention force	80	N
Mini cable retention torque value	2×180° applic. point 50×ØN	N.cm
Maximum weight	4.8	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+115 (see cables used)	°C
Operating temperature range	−65 to +105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Applicable	
Soldering proof	Applicable	
Cables used	50 CIS	