



**RF COAXIAL CONNECTORS, TYPE SSMA  
ADAPTORS AND CONNECTING PIECES  
ESCC Detail Specification No. 3402/006**

**ISSUE 1  
October 2002**



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**RF COAXIAL CONNECTORS, TYPE SSMA**

**ADAPTORS AND CONNECTING PIECES**

**ESA/SCC Detail Specification No. 3402/006**



**space components  
coordination group**

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		SCCG Chairman	ESA Director General or his Deputy
Issue 3	August 1995	<i>P. Monmuel</i>	<i>[Signature]</i>
Revision 'A'	November 1995	<i>P. Monmuel</i>	<i>[Signature]</i>



**DOCUMENTATION CHANGE NOTICE**

Rev. Letter	Rev. Date	Reference	CHANGE Item	Approved DCR No.
		This Issue supersedes Issue 2 and incorporates the changes agreed in the following DCR's:- Cover page DCN Table 1(a) : Type Variant added Table 1(b) : Renumbered from old Table 1 Figure 2(a) : Redrawn and Table added Figure 3(b) : Redrawn and Table added Para. 4.2.3 : Heading revised Para. 4.3.5 : Heading amended to "Mating and Unmating Forces" Para. 4.3.6 : Heading amended to "Endurance" Para. 4.3.8 : Heading amended to "Contact Engagement and Separation Forces" Para. 4.5.1 : First paragraph rewritten Para. 4.5.5 : Deleted in toto Para. 4.8 : Section rewritten Table 6 : Restructured : "Engage/Separation Forces" amended to "Mating and Unmating Forces" Figure 2(b) : "Connector Durability" amended to "Endurance" : Drawings redrawn and associated dimension tables added : Variants 01 and 02, Maximum weight changed : Variants 01, 02 and 03, Rapid change of temperature - peak value changed to read "115°C". Operating temperature range changed to read "-65°C to +105°C"		None None 23761 23761 23761 23761 23761 23556 23556 23556  23761 23761 23761 23761 23556  23556 23761  23740 221278
'A'	Nov. '95	P1. Cover page P2. DCN P6. Table 1(b) : No. 7, Maximum Ratings amended P19. Para. 4.8.6 : Second sentence amended		None None 23776 23776



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**APPENDICES (Applicable to specific Manufacturers only)**

None.

**1. GENERAL****1.1 SCOPE**

This specification details the ratings, physical and electrical characteristics, test and inspection data for RF Coaxial Connectors, Type SSMA, Adaptors and Connecting Pieces. 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.

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**TABLE 1(a) - TYPE VARIANTS**

VARIANT	DESCRIPTION
01	Straight Adaptor, Male - Male
02	Straight Adaptor, Male - Female
03	Straight Adaptor, Female - Female
08	T-Adaptor, Female - Female/Female

**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	P <sub>max</sub>	1.0	kW	1.0μs max.
2	Power	P	0.8	kW	See Figures 1(a) and 1(b)
3	Nominal Impedance	Z	50	Ω	-
4	Frequency Range	f	See Figure 2(b)	GHz	-
5	Voltage Rating	U <sub>R</sub>	See Figure 2(b) (Voltage Proof)	V <sub>rms</sub>	See Figure 1(c)
6	Operating Temperature Range	T <sub>op</sub>	See Figure 2(b)	°C	-
7	Storage Temperature Range	T <sub>stg</sub>	As per Operating Temperature Range	°C	





**FIGURE 1 - PARAMETER DERATING INFORMATION**

FIGURE 1(a) - POWER VERSUS TEMPERATURE

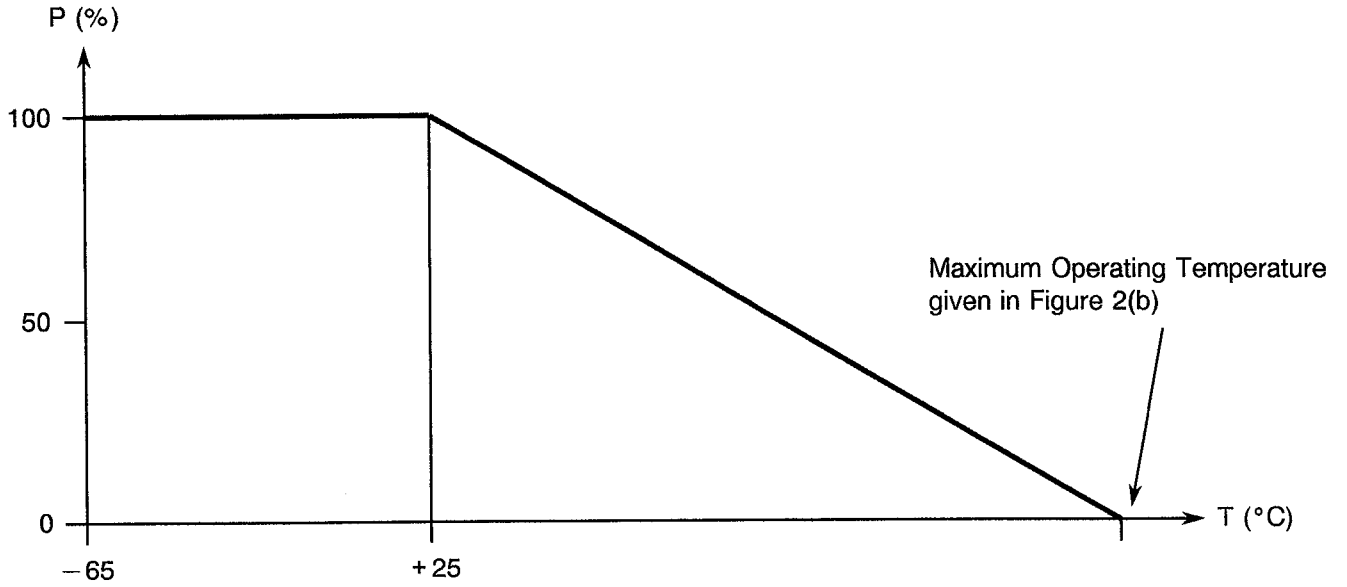
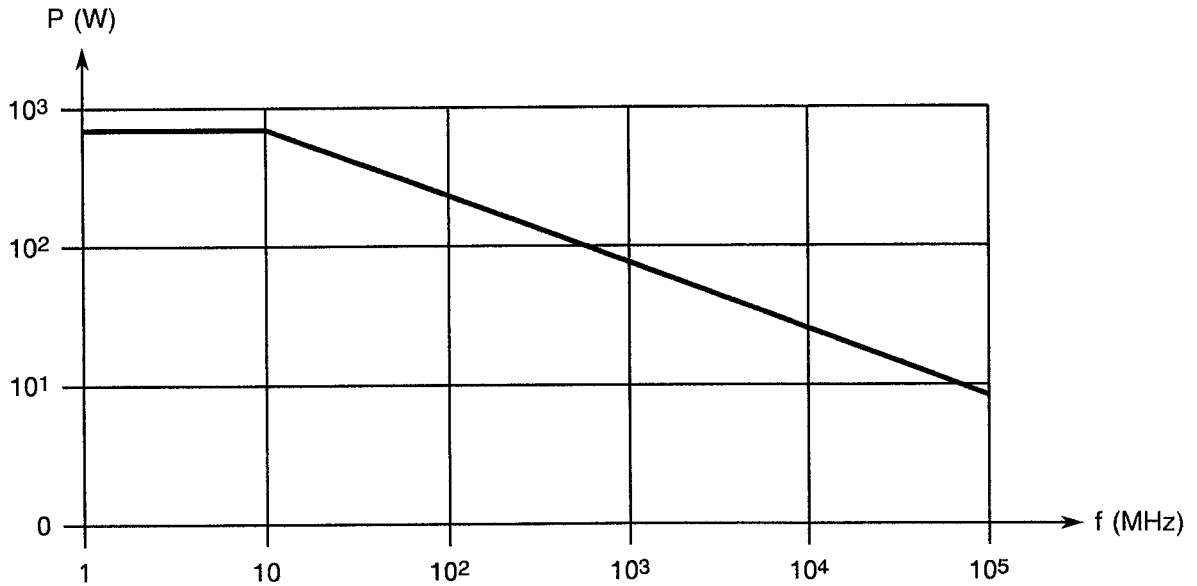


FIGURE 1(b) - POWER VERSUS FREQUENCY



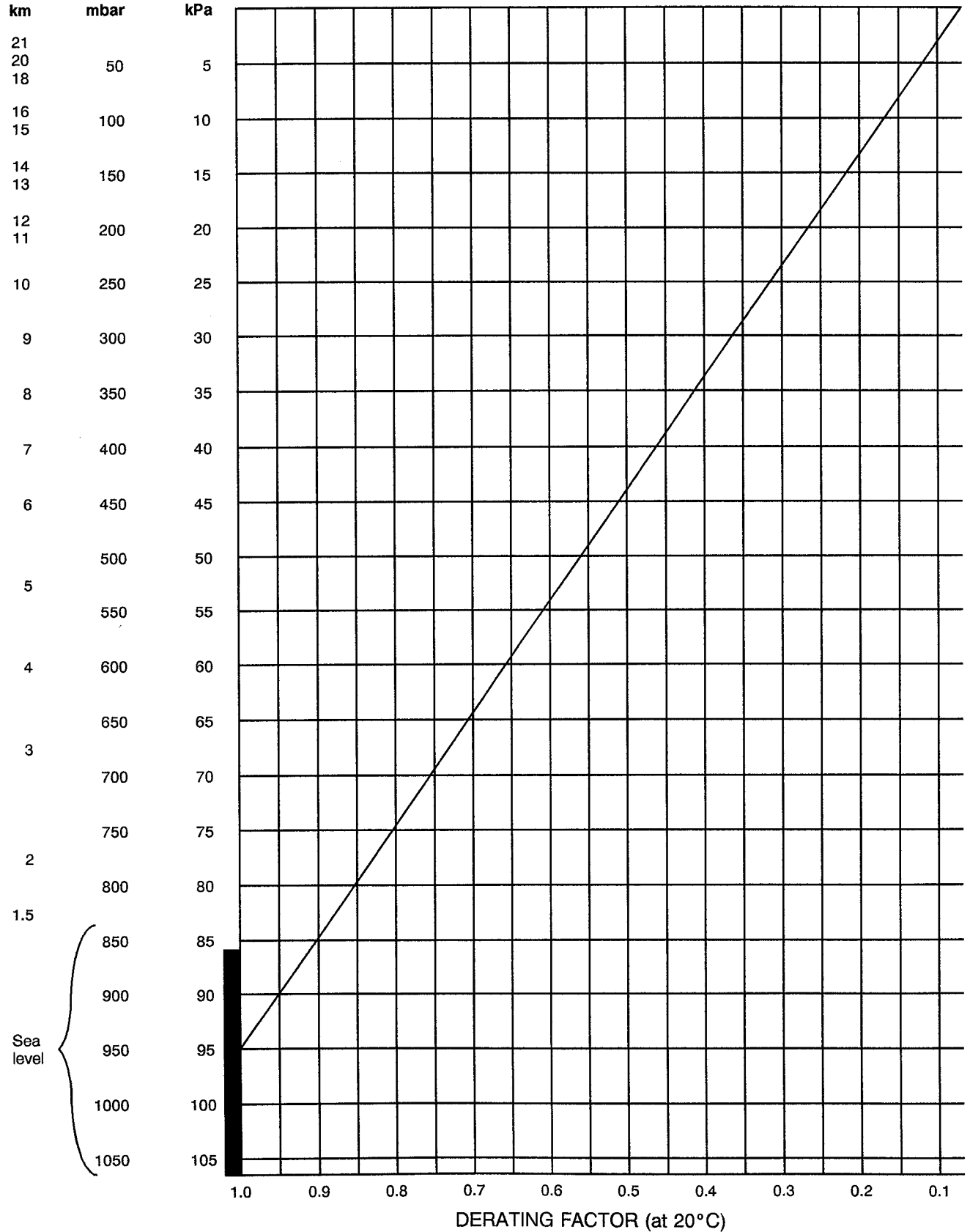
POWER (VSWR in line 1) at  $T_{amb} = +40^{\circ}C$ .



**FIGURE 1 - PARAMETER DERATING INFORMATION (CONTINUED)**

**FIGURE 1(c) - VOLTAGE DERATING AT LOW AIR PRESSURE**

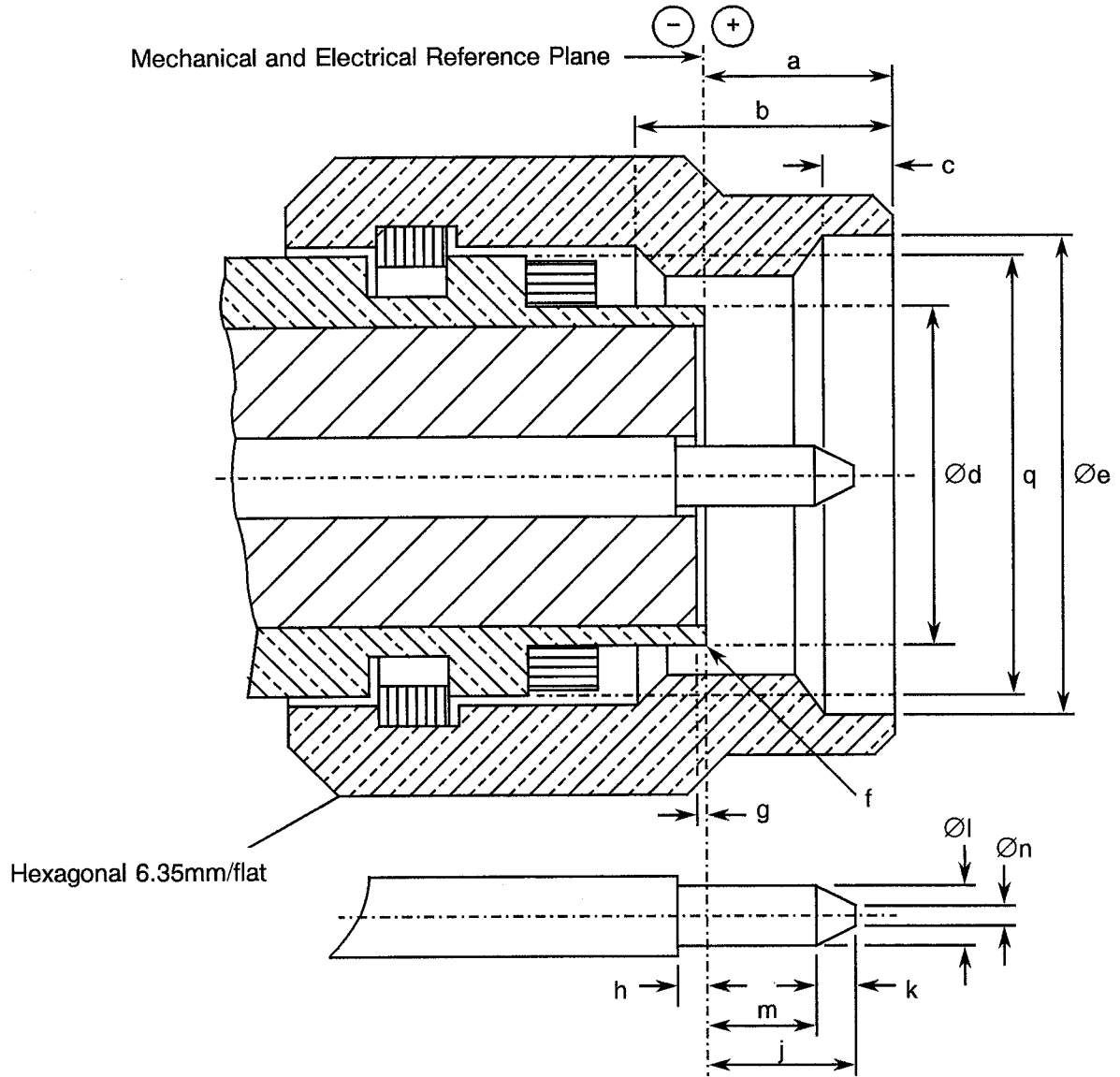
Equivalent  
Altitude





**FIGURE 2 - PHYSICAL DIMENSIONS**

**FIGURE 2(a) - CONNECTOR INTERFACE, MALE CONTACT**



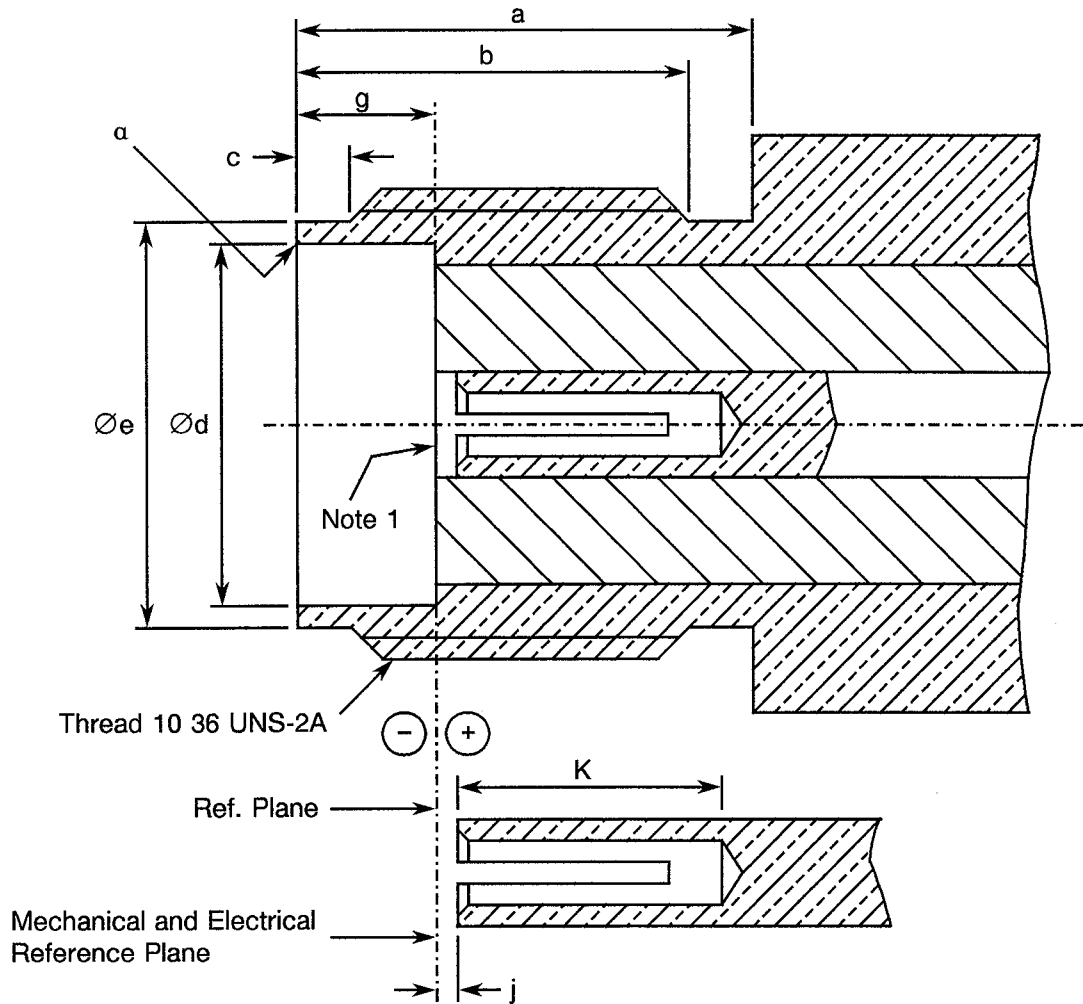
SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	-	3.43	
b	2.54	-	
c	0.38	1.14	
Ød	-	3.22	
Øe	4.98	-	
f	-	0.08	Radius or 45° chamfer
g	+0.00	-0.18	

SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
h	0.00	-	
j	-	1.65	
k	0.20	-	
Øl	0.495	0.528	
m	1.00	-	
Øn	-	0.25	
q	10-36 UNS 2 B		Thread



**FIGURE 2 - PHYSICAL DIMENSIONS (CONTINUED)**

**FIGURE 2(a) - CONNECTOR INTERFACE, FEMALE CONTACT (CONTINUED)**



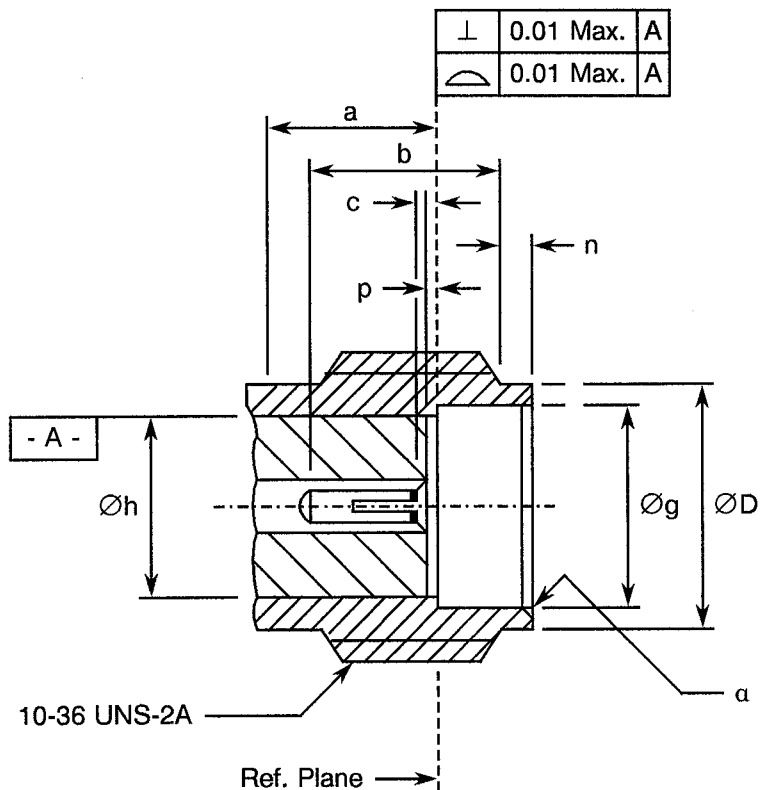
SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	3.56	-	
b	4.32	-	
c	0.38	1.14	
Ød	3.23	3.30	
Øe	3.89	4.06	
g	1.88	1.98	
j	0.00	0.41	
K	2.92	-	
a	-	0.13	

**NOTES**

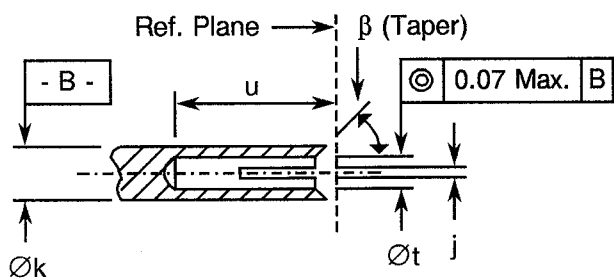
1. Face position relative to reference plane shall be within the limits of +0.00mm to -0.18mm.



**FIGURE 3 - STANDARD TEST CONNECTOR INTERFACE  
FEMALE CONTACT**



**DETAIL OF INNER CONTACT**



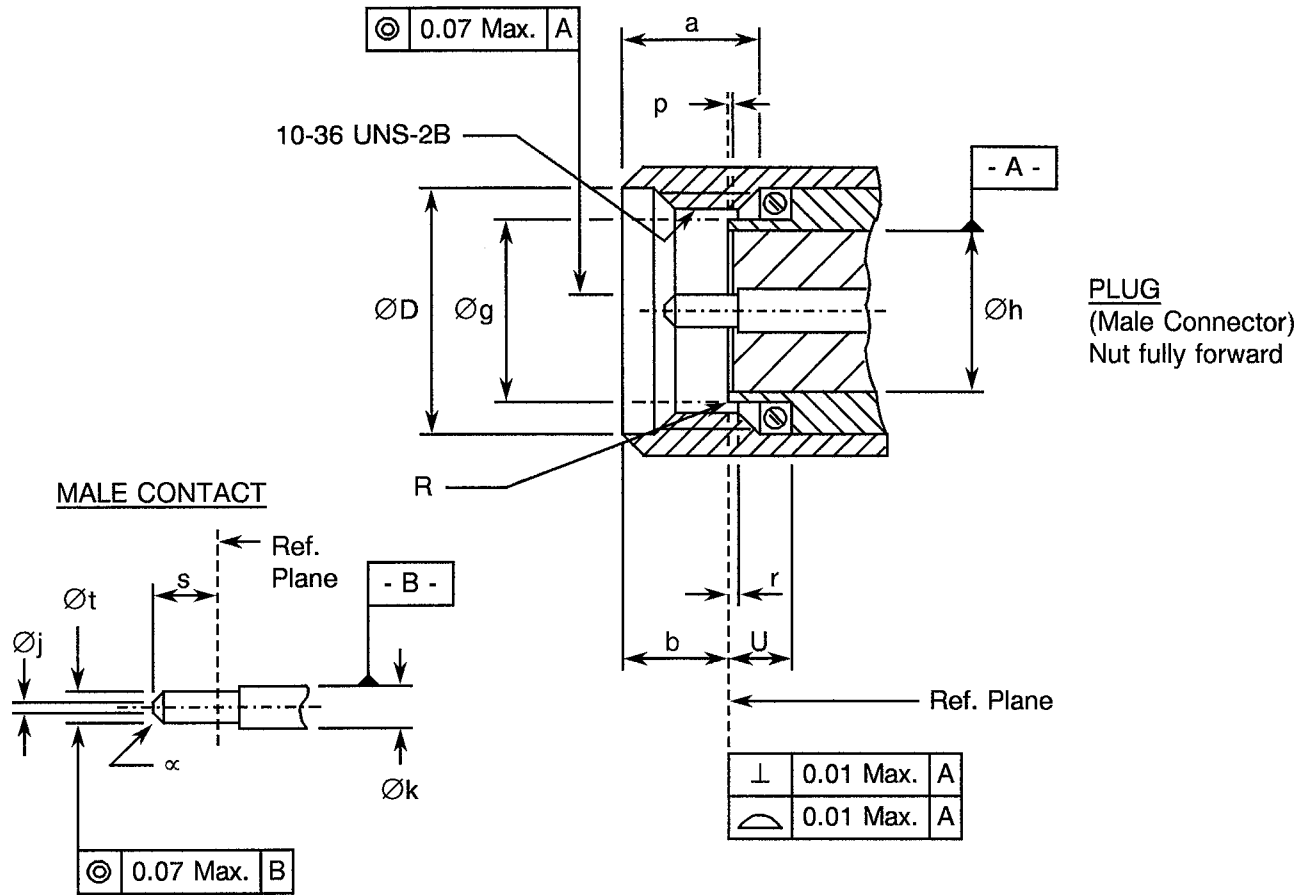
SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	3.89	-	Contact recess
b	3.81	-	
c	0.00	0.076	
ØD	3.89	4.04	
Øg	3.23	3.28	4 slots Note 1
Øh	2.79 NOM.		
j	0.15	0.20	Insert recess
Øk	0.38	1.14	
n	0.00	0.05	Note 2 45° Chamfer
u	3.03	3.30	
Øt	-	0.13	42/45° Chamfer
α	-	0.13	
β	-	-	

**NOTES**

1. Choose to give required performance.
2. Dimension to meet reflection factor requirement mating characteristics and conductor durability when mated with a 0.498/0.518Ø pin.



**FIGURE 3 - STANDARD TEST CONNECTOR INTERFACE (CONTINUED)**  
**MALE CONTACT**



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	2.54	4.32	
b	2.59	3.35	
ØD	5.05	5.21	
Øg	3.17	3.22	
Øh	2.79 NOM.		
Øj	-	0.25	Flat
Øk	-	-	Note 1
p	0.00	0.05	Insert recess
r	0.00	0.076	Contact recessed
R	-	0.08	Radius or chamfer
s	1.40	1.65	
Øt	0.498	0.518	
U	2.03	-	
α	-	-	45 ± 3° Chamfer

**NOTES**

1. Choose to give required performance.

**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)**

None.

**4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)**

Not applicable.

**4.2.4 Deviations from Qualification Tests (Chart IV)**

- (a) Para. 9.14, Cable Retention Force: Not applicable.
- (b) Para. 9.15, Cabling and Crimping Capability: Not applicable.
- (c) Para. 9.22, Soldering Proof: Not applicable.

**4.2.5 Deviations from Lot Acceptance Tests (Chart V)**

- (a) Para. 9.14, Cable Retention Force: Not applicable.
- (b) Para. 9.15, Cabling and Crimping Capability: Not applicable.



### 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 110N.cm.

#### 4.3.4 Cable Retention Force

Not applicable.

#### 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 12N.cm.

Whenever a test is performed on mated pairs of connectors, the pairs shall be torqued at 60-80N.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 Insertion and Withdrawal Forces

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

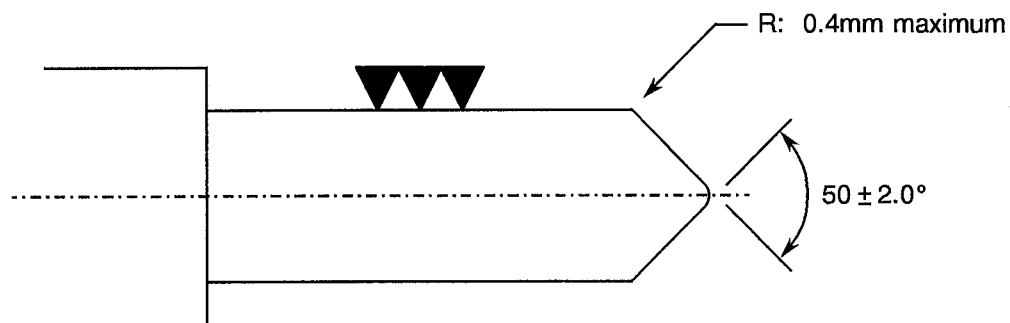
##### (a) Oversize Pin

Steel test pin diameter : 0.528/0.533 mm.  
Insertion depth : 1.35 mm max.  
Number of insertions : 3.

##### (b) Withdrawal Force Test (Minimum Diameter Test Pin)

Steel test pin diameter : 0.492/0.495 mm.  
Insertion depth : 1.25 mm min.  
Withdrawal force : 25g 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 Gold-plated Versions

###### 4.4.1.1 Normal Types

###### (a) Shell, Coupling Nut, Centre Contact

Material : Beryllium copper.  
Underplate : Nickel, 2.0µm minimum, or copper, 2.5µm minimum.  
Plating : Gold, 2.5µm minimum, Class 2, Type 2 of MIL-G-45204.

(b) Inserts

Material : PTFE.  
 Baking conditions : 10 cycles (–10, +55 °C). 1 cycle = 15 minutes minimum at each temperature with 5 minutes maximum transfer time.

(c) Gaskets

Material : Silicone rubber.

(d) Accessories (ferrule, crimping sleeve and nut)

Material : Brass.  
 Underplate : Nickel, 2.0µm minimum, or copper, 2.5µm minimum.  
 Plating : Gold, 2.5µm minimum, Class 2, Type 2 of MIL-G-45204.

4.4.1.2 Hermetic Types

Not applicable.

4.4.2 Stainless Steel Versions

Not applicable.

4.5 MARKING

4.5.1 General

The marking of components delivered to this specification shall be in accordance with the requirements of ESA/SCC 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 SCC Component Number.
- (b) Electrical Characteristics and Ratings.
- (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:-

340200603B

Detail Specification Number \_\_\_\_\_

Type Variant (see Table 1(a)) \_\_\_\_\_

Testing Level (B or C, as applicable) \_\_\_\_\_



4.5.3 Characteristics

Each component shall be marked in respect of:-

- (a) Type of plating/material.
- (b) Subvariant.

The information shall be constituted and marked as follows:-

Plating/Material Type \_\_\_\_\_  
Subvariant \_\_\_\_\_

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4.5.3.1 Type of Plating/Material

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

CODE	TYPE OF PLATING/MATERIAL	PARA.
1	Gold plate, copper underplate	4.4.1
2	Gold plate, nickel underplate	4.4.1

4.5.3.2 Subvariants

Subvariants are identified by 2 digits and are specified where applicable in Figure 2(b). When no subvariant is shown, the 2 digits shall be '01'.

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.

4.6 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  $T_{amb} = +22 \pm 3$  °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	Vp	ESA/SCC 3402, Para. 9.2	-	See Figure 2(b)		

**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 and inspections to be performed on completion of environmental tests are scheduled in Table 6 of this specification. Unless otherwise stated, the measurements shall be performed at  $T_{amb} = +22 \pm 3 \text{ }^\circ\text{C}$ .
- 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 and inspections to be performed on completion of endurance tests are scheduled in Table 6 of this specification. Unless otherwise stated, the measurements shall be performed at  $T_{amb} = +22 \pm 3 \text{ }^\circ\text{C}$ .
- 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).



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**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	<b>Final Measurements</b> Interface Dimensions Visual Examination	- Para. 9.4 of ESA/SCC 3402	- -	Figure 2(a)		- -
02	Mating and Unmating Forces	Para. 9.5	<b>During Test</b> Torque	Para. 4.3.5	-	-	12	N.cm
03	Seal Test	Para. 9.7	Hermeticity Leakage	If applicable As applicable	- -	-	1.10 <sup>-8</sup> No Bubbles	cm <sup>3</sup> /s -
04	Contact Resistance	Para. 9.9 6V 10mA	<b>During Test</b> Contact Resistance	Centre Contact Shell Hermetic Centre Contact	- - -	-	6.5 2.0 N/A	mΩ mΩ mΩ
05	Vibration	Para. 9.10 Full Engagement	<b>During Test</b> Electrical Measurements <b>Final Measurements</b> Contact Resistance Visual Examination	<b>Last cycle in each direction</b> No open or short circuits Centre Contact 6V 10mA No evidence of damage	- - -	-	- 6.5 -	- mΩ -
06	Shock or Bump	Para. 9.11 Full Engagement	<b>Final Measurements</b> Contact Resistance Visual Examination	Centre Contact 6V 10mA No evidence of damage	- -	-	6.5 -	mΩ -
07	Rapid Change of Temperature	Para. 9.12	<b>Final Measurements</b> Contact Resistance Voltage Proof Visual Examination	<b>After a recovery period of 24 ± 2 hrs</b> Centre Contact 6V 10mA Table 2 Item 2 -	- Vp -	-	6.5 Figure 2(b) -	mΩ - -
08	Climatic Sequence	Para. 9.13	<b>During Test</b> Voltage Proof <b>Final Measurements</b> Insulation Resistance Voltage Proof External Visual Inspection	<b>At Low Air Pressure</b> No flashover/breakdown <b>After final Damp Heat cycle (within 1 to 24 hrs recovery)</b> Table 2 Item 1 Table 2 Item 2 Para. 9.8 of ESA/SCC 3402	- - Ri Vp -	-	- 200 Figure 2(b) -	- - MΩ -
09	Cable Retention Force	Para's. 9.14 and this spec 4.3.4	Not applicable	-	-	-	-	-
10	Cabling and Crimping Capability	Para. 9.15	Not applicable	-	-	-	-	-

**NOTES**

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



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**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.	
11	VSWR or Reflection Coefficient	Para. 9.16	VSWR	Para. 9.16 of ESA/SCC 3402	-	Figure 2(b)		-
12	Corona Level	Para. 9.17	Corona	Para. 9.17 of ESA/SCC 3402	-	Figure 2(b)		-
13	Endurance	Para's. 9.18 and this spec 4.3.6	<b>Final Measurements</b> Mating/Unmating Forces Contact Res. (6V 10mA)  Visual Examination	Para. 4.3.5 Centre Contact Shell Hermetic Centre Contact Para. 9.18 of ESA/SCC 3402	- - - -	- - - -	12 9.0 3.0 N/A	N.cm mΩ mΩ mΩ
14	RF Insertion Loss	Para. 9.19	Insertion Loss	Para. 9.19 of ESA/SCC 3402	-	Figure 2(b)		-
15	Corrosion	Para. 9.20	Visual Examination	Para. 9.20 of ESA/SCC 3402 No exposure of base metal	-	-	-	-
16	Residual Magnetism	Para. 9.21	Magnetism	-	-	Para. 4.3.7		-
17	Soldering Proof	Para. 9.22	Not applicable	-	-	-	-	-
18	RF Leakage	Para. 9.23	Leakage	-	-	Figure 2(b)		-
19	High Temperature Storage	Para's. 9.24 and this spec 4.8.6	<b>Final Measurements</b> Mating/Unmating Forces Insulation Resistance Voltage Proof Contact Retention Visual Examination Contact Resistance  External Visual Inspection	Para. 4.3.5 Table 2 Item 1 Table 2 Item 2 Para. 4.3.9 - Centre Contact Shell Hermetic Centre Contact Para. 9.8 of ESA/SCC 3402	- Ri Vp - - - - -	- 5000 Figure 2(b) Para. 4.3.9 - - - -	12 - - - - 18 7.5 N/A	N.cm MΩ - - - mΩ mΩ mΩ

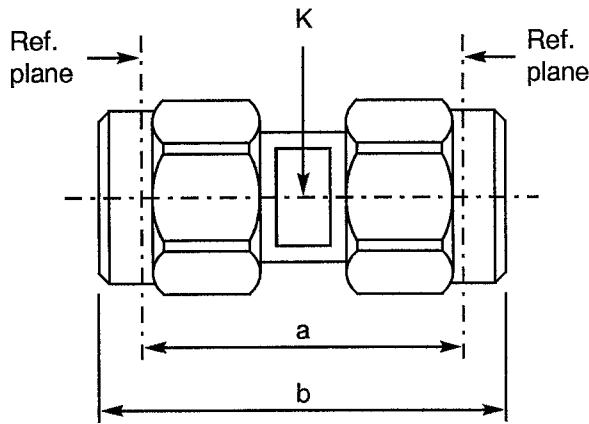
**NOTES**

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 ADAPTOR, MALE - MALE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	16.30 NOM.		4 flats
b	21.70 NOM.		
K	-	-	

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	$1.05 + 0.03 f$ (GHz)	
Maximum reflection coefficient	$0.024 + 0.011 f$ (GHz)	
Maximum insertion loss	$0.03 \sqrt{f}$ (GHz)	dB
RF leakage	$- [95 - f]$ (GHz)	dB
Voltage proof	750	V <sub>rms</sub>
Corona level	Not applicable	V <sub>rms</sub>

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	22	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	3.2	g

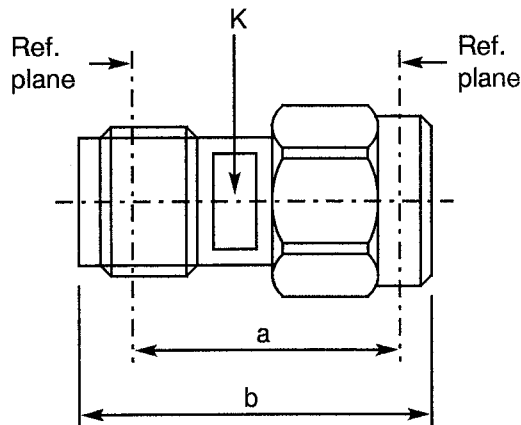
OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 115	°C
Operating temperature range	- 65 to + 105	°C
Maxi leakage (panel sealed connectors)	Not applicable	
Maxi leakage (hermetic sealed connector)	Not applicable	
Solderability	Not applicable	
Soldering proof	Not applicable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





**FIGURE 2(b) - VARIANTS (CONTINUED)**

VARIANT 02 - STRAIGHT ADAPTOR, MALE - FEMALE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	13.30 NOM.		4 flats
b	18.00 NOM.		
K	-	-	

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	$1.05 + 0.03 f$ (GHz)	
Maximum reflection coefficient	$0.024 + 0.011 f$ (GHz)	
Maximum insertion loss	$0.03 \sqrt{f}$ (GHz)	dB
RF leakage	$- [95 - f]$ (GHz)	dB
Voltage proof	750	Vrms
Corona level	Not applicable	Vrms

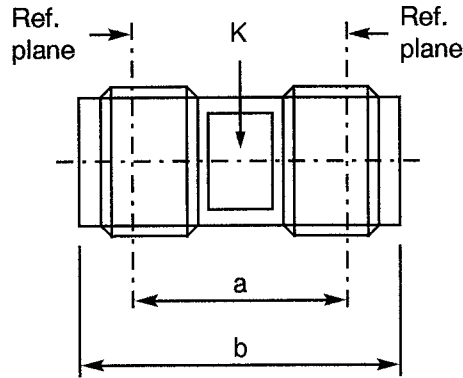
MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	22	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	2.5	g

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 03 - STRAIGHT ADAPTOR, FEMALE - FEMALE



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	11.70 NOM.		4 flats
b	15.50 NOM.		
K	-	-	

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	$1.05 + 0.03 f$ (GHz)	
Maximum reflection coefficient	$0.024 + 0.011 f$ (GHz)	
Maximum insertion loss	$0.03 \sqrt{f}$ (GHz)	dB
RF leakage	- [95 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	Not applicable	Vrms

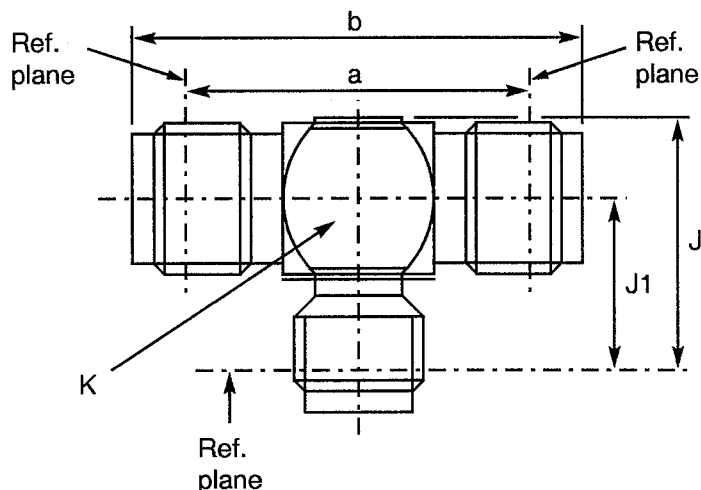
MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	22	N
Mini centre contact retention torque	Not applicable	N.cm
Mini cable retention force	Not applicable	N
Mini cable retention torque value	Not applicable	N.cm
Maximum weight	1.1	g

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	Not applicable	
Soldering proof	Not applicable	
Cables used	Not applicable	



**FIGURE 2(b) - VARIANTS (CONTINUED)**

**VARIANT 08 - T-ADAPTOR, FEMALE - FEMALE/FEMALE**



SYMBOL	MILLIMETRES		NOTES
	MIN.	MAX.	
a	13.20 NOM.		4 flats, cube shape
b	17.00 NOM.		
J	9.00 NOM.		
J1	6.60 NOM.		
K	-	-	

ELECTRICAL CHARACTERISTICS	VALUES	UNITS
Frequency range	0 to 18	GHz
Maximum voltage standing wave ratio (VSWR)	Not applicable	
Maximum reflection coefficient	Not applicable	
Maximum insertion loss	Not applicable	dB
RF leakage (1)	- [100 - f (GHz)]	dB
Voltage proof	750	Vrms
Corona level	Not applicable	Vrms

**NOTES**

1. For information only.

MECHANICAL CHARACTERISTICS	VALUES	UNITS
Mini centre contact retention force (axial)	22	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	2.0	g

OTHER CHARACTERISTICS	VALUES	UNITS
Rapid change of temperature - peak value	+ 200	°C
Operating temperature range	- 55 to + 155	°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	