



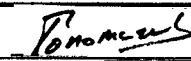
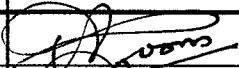
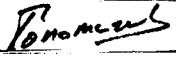
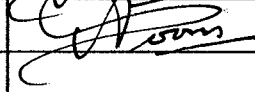
**european space agency
agence spatiale européenne**

Pages 1 to 25

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



**space components
coordination group**

| Issue/Rev. | Date | Approved by | |
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| | | SCCG Chairman | ESA Director General or his Deputy |
| Issue 3 | August 1995 |  |  |
| Revision 'A' | November 1995 |  |  |
| | | | |
| | | | |



DOCUMENTATION CHANGE NOTICE

| Rev. Letter | Rev. Date | Reference | CHANGE Item | Approved DCR No. |
|-------------|-----------|--|-------------|---|
| | | <p>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" : "Connector Durability" amended to "Endurance" Figure 2(b) : 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"</p> | | <p>None None 23761 23761 23761 23761 23761 23556 23556 23556 23761 23761 23761 23761 23556 23556 23761 23740 221278</p> |
| 'A' | Nov. '95 | <p>P1. Cover page P2. DCN P6. Table 1(b) : No. 7, Maximum Ratings amended P19. Para. 4.8.6 : Second sentence amended</p> | | <p>None None 23776 23776</p> |



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APPENDICES (Applicable to specific Manufacturers only)

None.

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ISSUE 3

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.



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 _{max} | 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 _R | See Figure 2(b) (Voltage Proof) | V _{rms} | See Figure 1(c) |
| 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

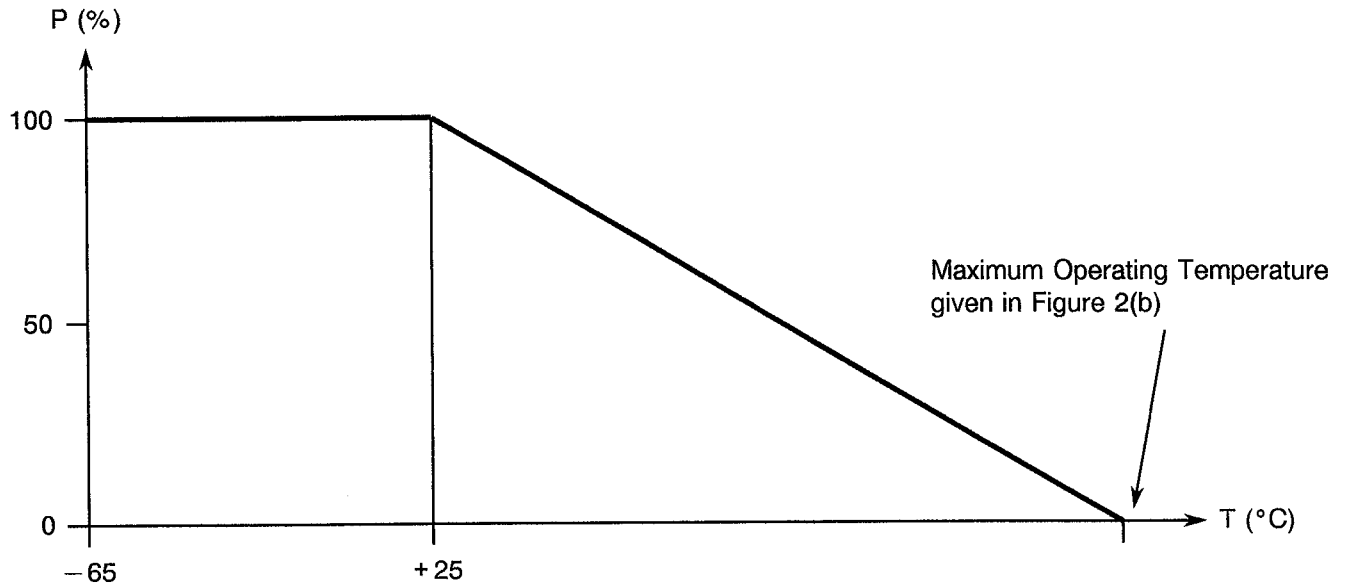
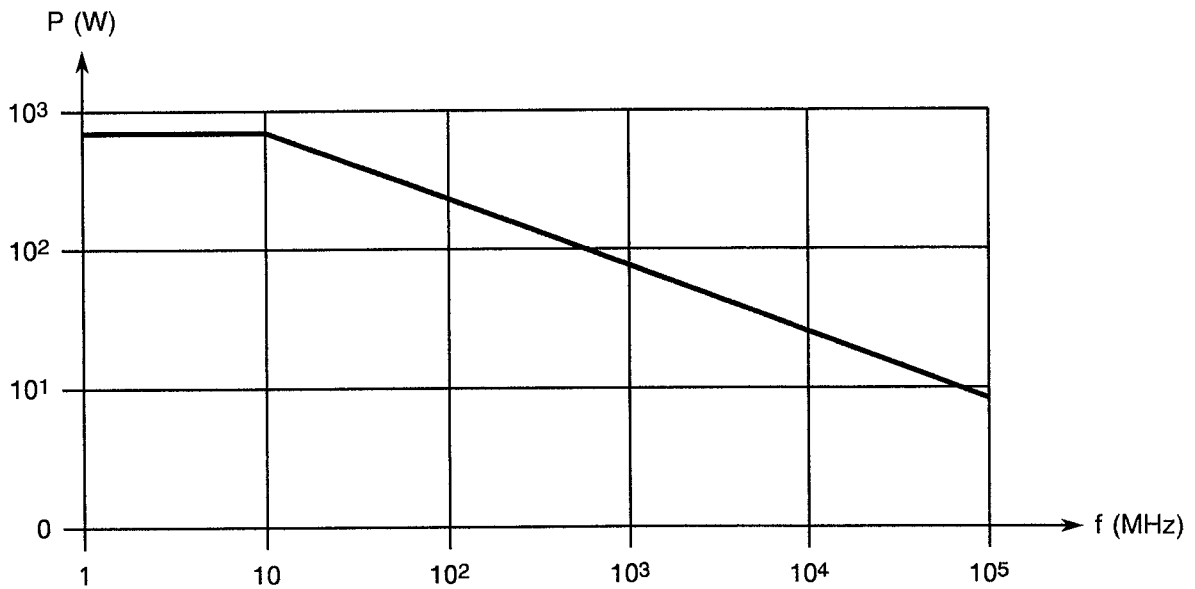


FIGURE 1(b) - POWER VERSUS FREQUENCY



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



FIGURE 1 - PARAMETER DERATING INFORMATION (CONTINUED)

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

Equivalent
Altitude

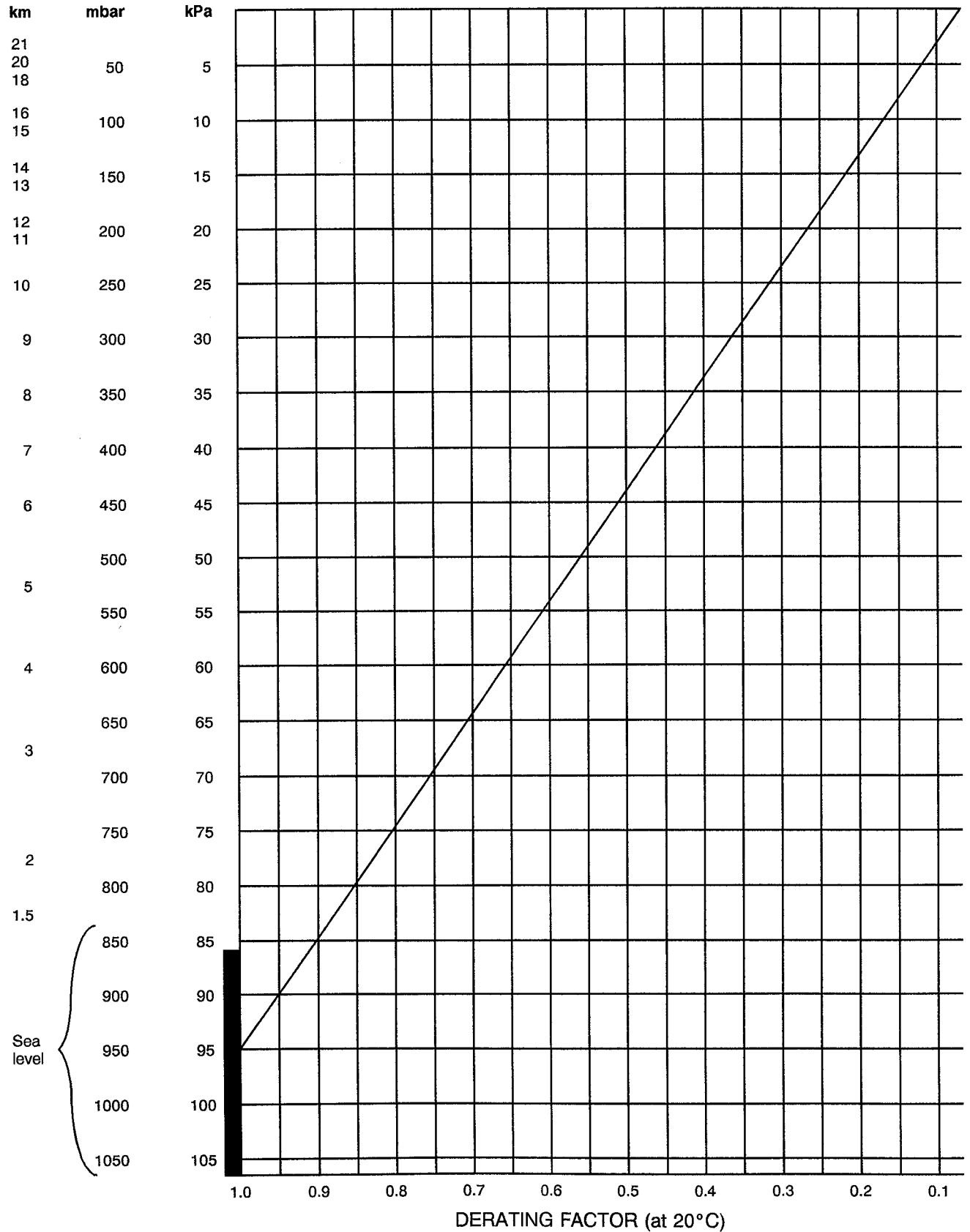
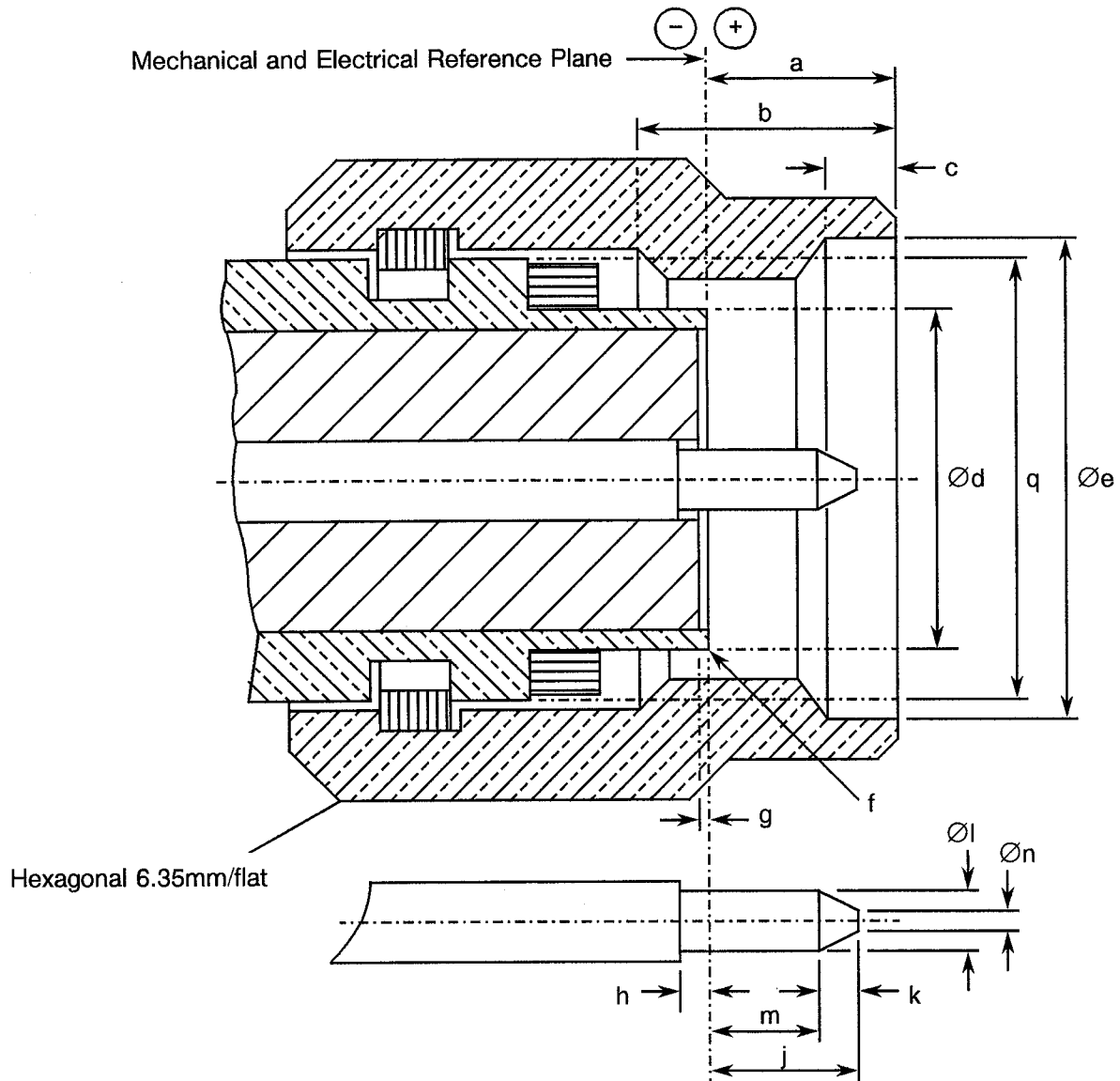




FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) - CONNECTOR INTERFACE, MALE CONTACT



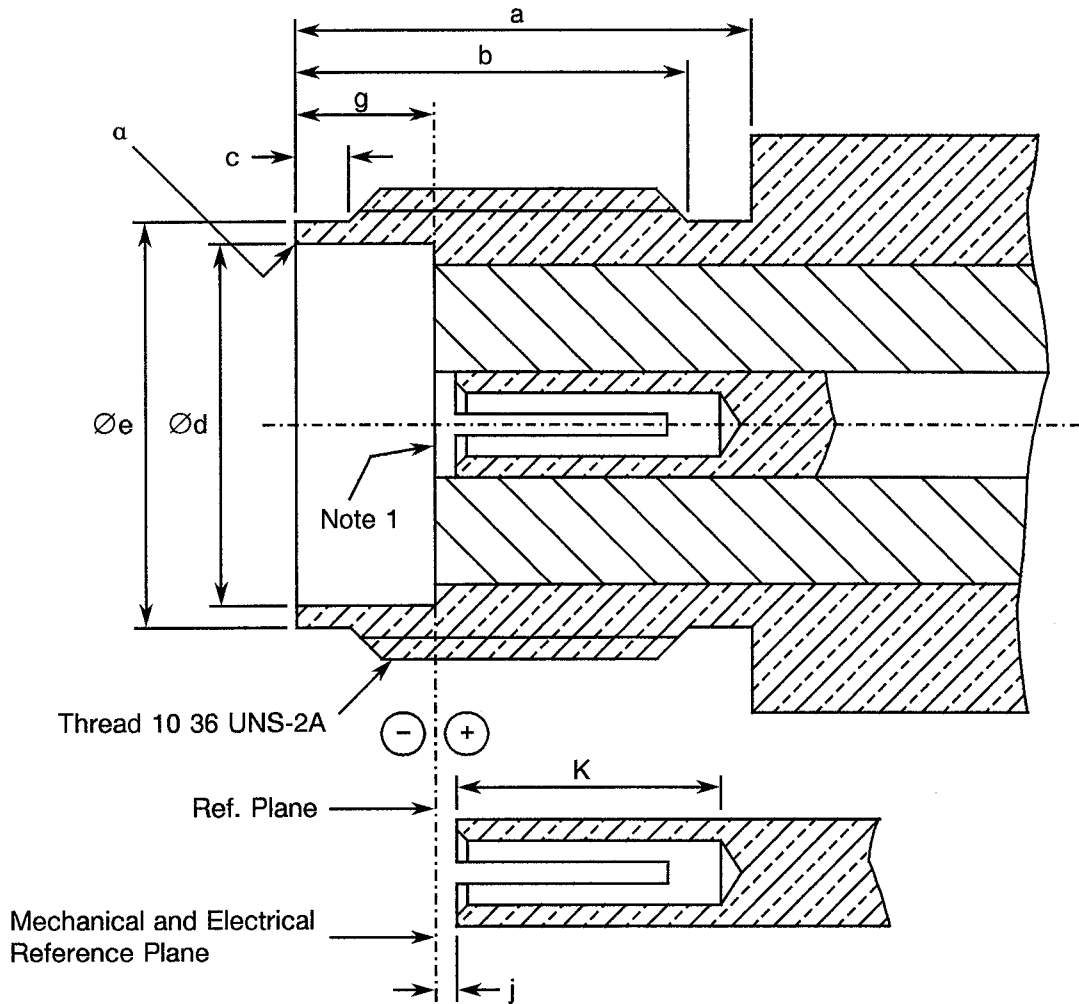
| SYMBOL | MILLIMETRES | | NOTES |
|--------|-------------|-------|-----------------------|
| | MIN. | MAX. | |
| a | - | 3.43 | |
| b | 2.54 | - | |
| c | 0.38 | 1.14 | |
| Ød | - | 3.22 | |
| Øe | 4.98 | - | |
| f | - | 0.08 | Radius or 45° chamfer |
| g | +0.00 | -0.18 | |

| 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)



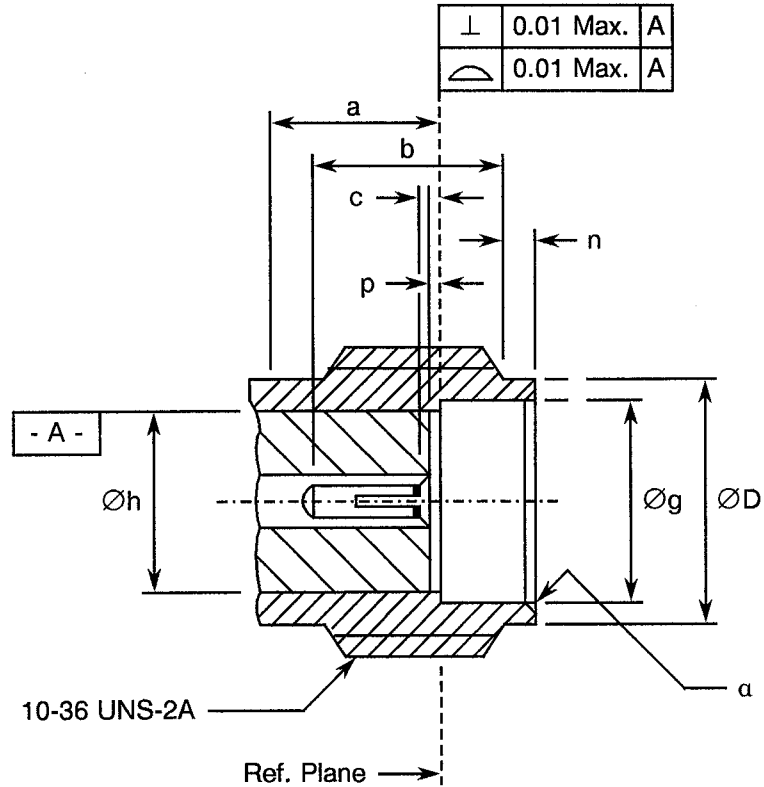
| SYMBOL | MILLIMETRES | | NOTES |
|--------|-------------|------|-------|
| | MIN. | MAX. | |
| a | 3.56 | - | |
| b | 4.32 | - | |
| c | 0.38 | 1.14 | |
| Ød | 3.23 | 3.30 | |
| Øe | 3.89 | 4.06 | |
| g | 1.88 | 1.98 | |
| j | 0.00 | 0.41 | |
| K | 2.92 | - | |
| a | - | 0.13 | |

NOTES

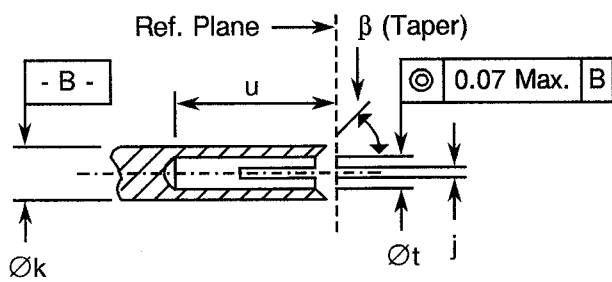
1. Face position relative to reference plane shall be within the limits of +0.00mm to -0.18mm.



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



DETAIL OF INNER CONTACT



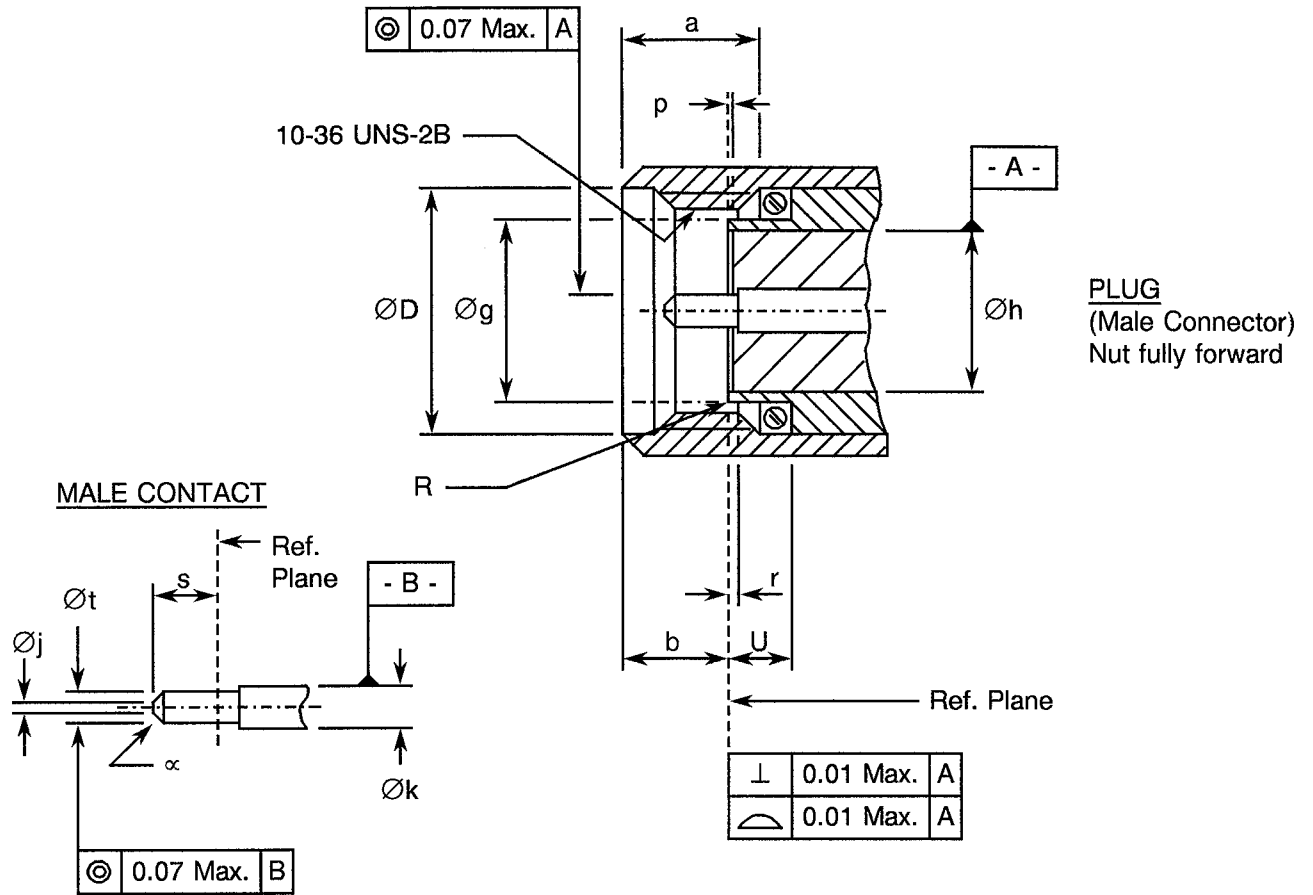
| SYMBOL | MILLIMETRES | | NOTES |
|--------|-------------|-------|---|
| | MIN. | MAX. | |
| a | 3.89 | - | Contact recess |
| b | 3.81 | - | |
| c | 0.00 | 0.076 | |
| ØD | 3.89 | 4.04 | |
| Øg | 3.23 | 3.28 | Insert recess |
| Øh | 2.79 NOM. | | |
| j | 0.15 | 0.20 | 4 slots Note 1 |
| Øk | - | -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

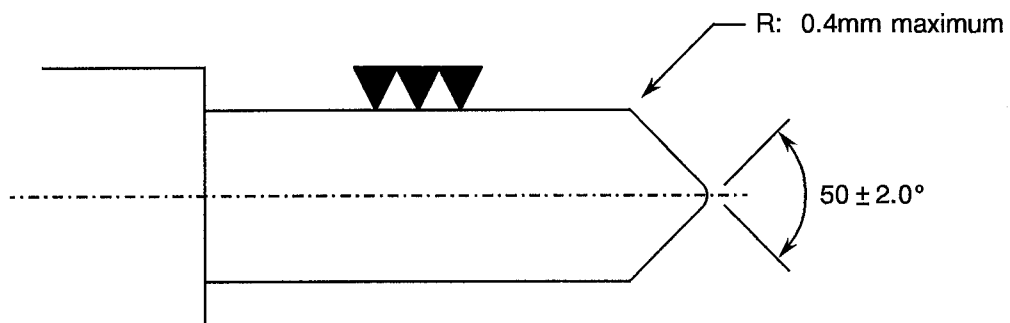
(a) Oversize Pin

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.

| | | | | |
|---|---|--|--|----------------------------|
|  |  | <p style="text-align: center;">ESA/SCC Detail Specification No. 3402/006</p> | | <p>PAGE 16 ISSUE 3</p> |
|---|---|--|--|----------------------------|

(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.

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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).

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 | - | - | 12 | N.cm |
| 03 | Seal Test | Para. 9.7 | Hermeticity Leakage | If applicable As applicable | - - | - | 1.10 ⁻⁸ No Bubbles | cm ³ /s - |
| 04 | Contact Resistance | Para. 9.9 6V 10mA | During Test Contact Resistance | Centre Contact Shell Hermetic Centre Contact | - - | - | 6.5 2.0 N/A | mΩ mΩ mΩ |
| 05 | Vibration | Para. 9.10 Full Engagement | During Test Final Measurements Contact Resistance Visual Examination | Last cycle in each direction 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 | Final Measurements Contact Resistance Visual Examination | Centre Contact 6V 10mA No evidence of damage | - - | - | 6.5 - | mΩ - |
| 07 | Rapid Change of Temperature | Para. 9.12 | Final Measurements Contact Resistance Voltage Proof Visual Examination | After a recovery period of 24 ± 2 hrs Centre Contact 6V 10mA Table 2 Item 2 - | - Vp - | - | 6.5 Figure 2(b) - | mΩ - - |
| 08 | Climatic Sequence | Para. 9.13 | During Test Voltage Proof Final Measurements Insulation Resistance Voltage Proof External Visual Inspection | At Low Air Pressure No flashover/breakdown After final Damp Heat cycle (within 1 to 24 hrs recovery) 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.

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 | Final Measurements 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 | Final Measurements 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 - |

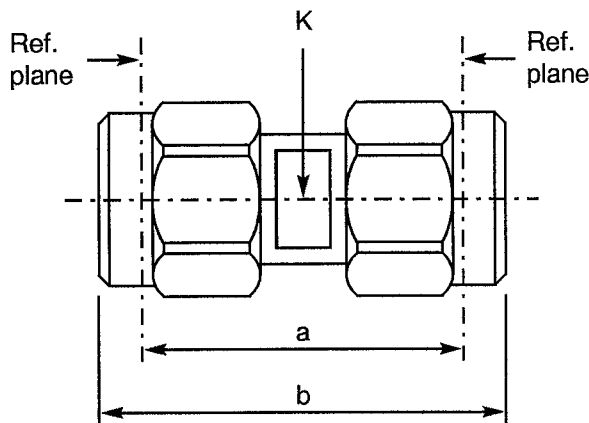
NOTES

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 | Vrms |
| Corona level | Not applicable | Vrms |

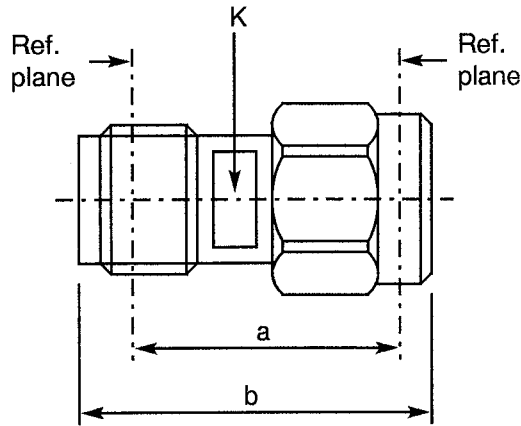
| MECHANICAL CHARACTERISTICS | VALUES | UNITS |
|---|----------------|-------|
| Mini centre contact retention force (axial) | 22 | N |
| Mini centre contact retention torque | Not applicable | N.cm |
| Mini cable retention force | Not applicable | N |
| Mini cable retention torque value | Not applicable | N.cm |
| Maximum weight | 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. | | |
| b | 18.00 NOM. | | |
| K | - | - | 4 flats |

| 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 _{rms} |
| Corona level | Not applicable | V _{rms} |

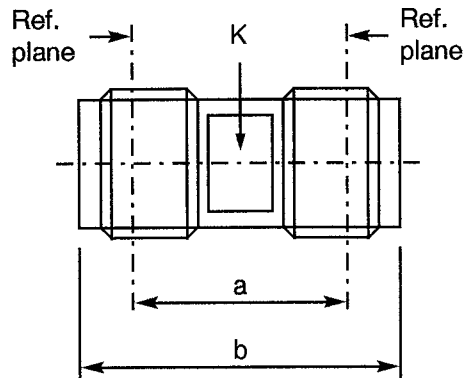
| MECHANICAL CHARACTERISTICS | VALUES | UNITS |
|---|----------------|-------|
| Mini centre contact retention force (axial) | 22 | N |
| Mini centre contact retention torque | Not applicable | N.cm |
| Mini cable retention force | Not applicable | N |
| Mini cable retention torque value | Not applicable | 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 |

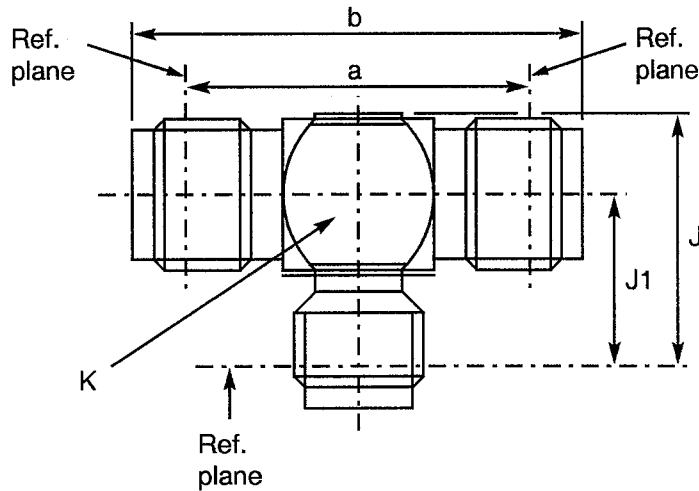
| MECHANICAL CHARACTERISTICS | VALUES | UNITS |
|---|----------------|-------|
| Mini centre contact retention force (axial) | 22 | N |
| Mini centre contact retention torque | Not applicable | N.cm |
| Mini cable retention force | Not applicable | N |
| Mini cable retention torque value | Not applicable | 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 | |