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**RF COAXIAL ADAPTORS AND CONNECTING
PIECES, TYPE SMA 2.9, 50 OHMS**

ESCC Detail Specification No. 3402/023

| | |
|---------|---------------|
| Issue 5 | February 2016 |
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| DCR No. | CHANGE DESCRIPTION |
|---------|--|
| 959 | Specification upissued to incorporate editorial and technical changes per DCR. |

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1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for RF Coaxial Adaptors and Connecting Pieces, Type SMA 2.9, 50 Ohms. It shall be read in conjunction with ESCC 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 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 (1) |
|---------|-----------------------------------|
| 01 | Straight Male-Male Adaptor |
| 02 | Straight Female-Female Adaptor |
| 03 | Straight Male-Female Adaptor |
| 04 | Right Angle Male-Male Adaptor |
| 05 | Right Angle Female-Female Adaptor |
| 06 | Right Angle Male-Female Adaptor |

NOTES:

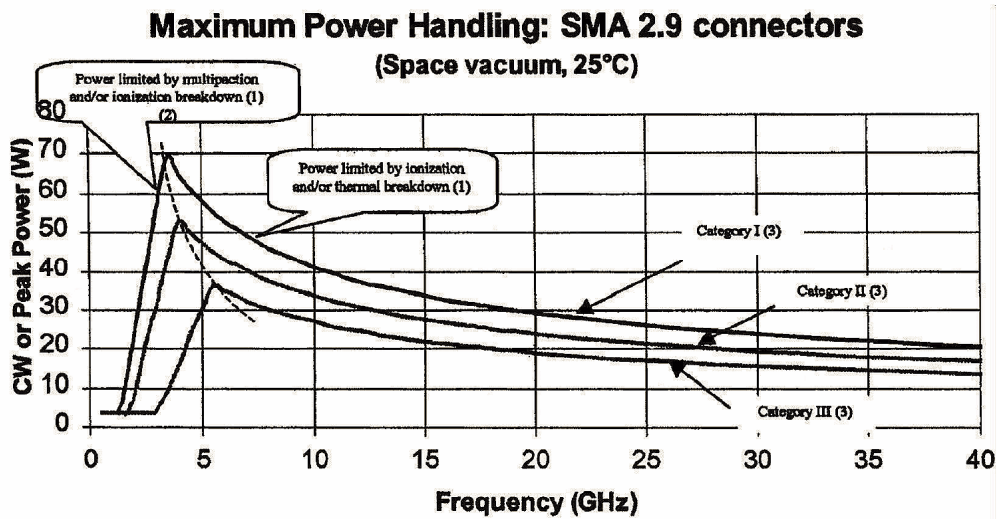
1. Each variant is detailed in Figure 2(b).

TABLE 1(b) – MAXIMUM RATINGS

| No. | Characteristics | Symbol | Maximum Ratings | Unit | Remarks |
|-----|---|-----------|------------------------------------|--------------------|----------------------------------|
| 1 | Power | P | See Figures 1(a) and 1(b) | W | For information |
| 2 | Nominal Impedance | Z | 50 | Ω | - |
| 3 | Frequency Range | f | See Figure 2(b) | GHz | - |
| 4 | Dielectric Withstanding Voltage at ambient pressure | V_{dw} | See Figure 2(b) | Vrms | Voltage Proof test. At sea level |
| 5 | Dielectric Withstanding Voltage at low pressure | V_{lp} | 10% of V_{dw} | Vrms | At 44mb |
| 6 | Rated Operating Voltage | V_{op} | 50% of V_{dw} | Vrms | - |
| 7 | Corona Level | V_{co} | 8.5% of V_{dw} | Vrms | - |
| 8 | Operating Temperature Range | T_{op} | See Figure 2(b) | $^{\circ}\text{C}$ | - |
| 9 | Storage Temperature Range | T_{stg} | As per Operating Temperature Range | $^{\circ}\text{C}$ | - |

FIGURE 1 – PARAMETER DERATING INFORMATION

FIGURE 1(a) – POWER VERSUS FREQUENCY



NOTES:

1. Load VSWR is better than 1.30:1.
2. The part of the curve limited by multiplication takes into account a 6dB margin.
3. See Figure 2(b) for applicability of power handling categories to the different variants.

FIGURE 1(b) – POWER VERSUS OPERATING TEMPERATURE

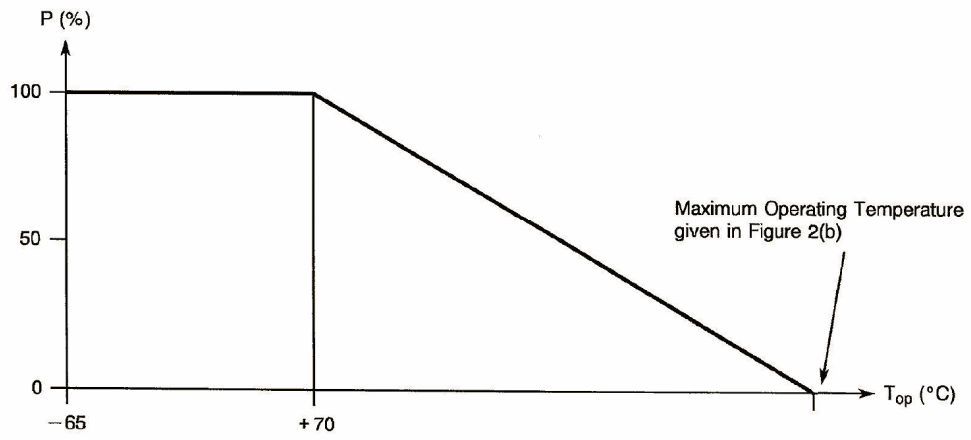
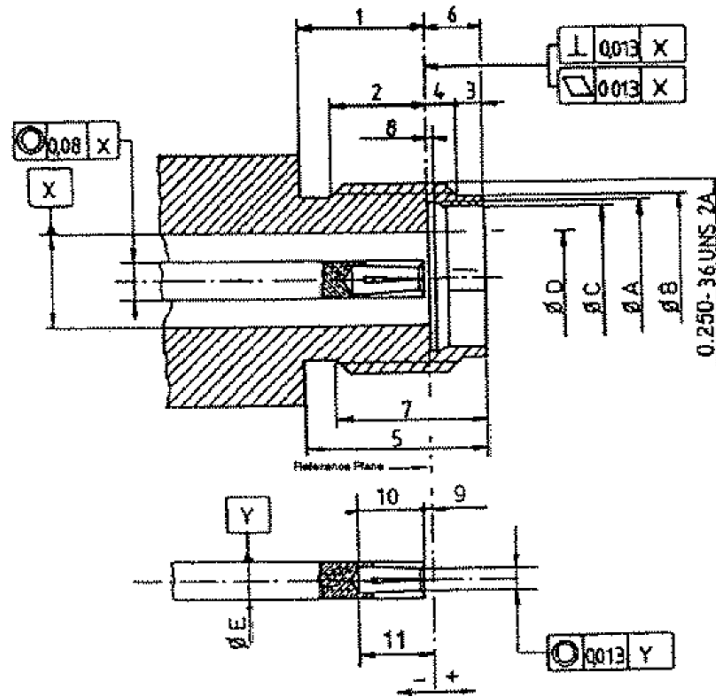


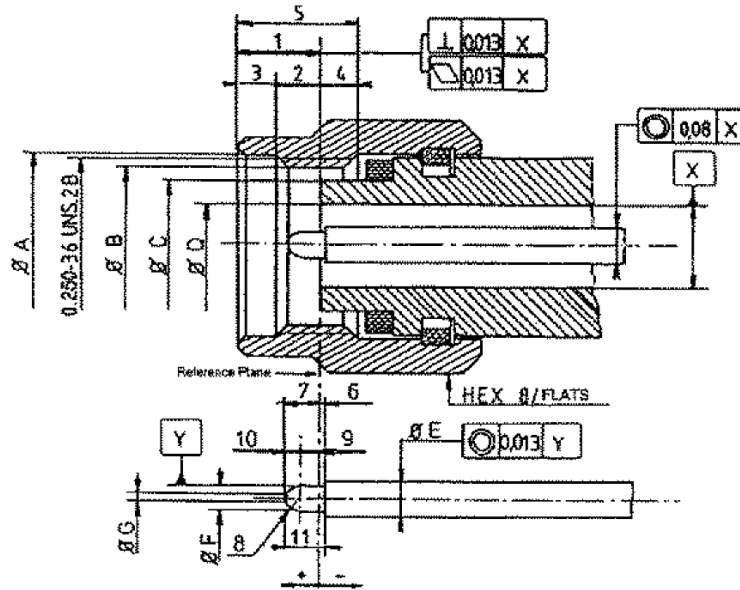
FIGURE 2 - PHYSICAL DIMENSIONS

FIGURE 2(a) – CONNECTOR INTERFACE - FEMALE CONTACT



| Symbol | Millimetres | | Notes |
|--------|-------------|-------|-------|
| | Min. | Max. | |
| 1 | 3.82 | 4.32 | |
| 2 | 2.87 | 3.27 | |
| 3 | 0.65 | 0.95 | |
| 4 | 0.93 | 1.33 | |
| 5 | 5.8 | 6.2 | |
| 6 | 1.88 | 1.98 | |
| 7 | 4.85 | 5.15 | |
| 8 | 0.3 | 0.5 | |
| 9 | 0 | 0.08 | |
| 10 | 2.8 | 3.2 | |
| 11 | 2.8 | 3.28 | |
| ØA | 4.8 | 5 | |
| ØB | 5.3 | 5.35 | |
| ØC | 4.6 | 4.63 | |
| ØD | 2.905 | 2.945 | |
| ØE | 1.26 | 1.28 | |

FIGURE 2(b) – CONNECTOR INTERFACE - MALE CONTACT



| Symbol | Millimetres | | Notes |
|--------|-------------|-------|--------|
| | Min. | Max. | |
| 1 | 2.63 | 3.25 | |
| 2 | 1.58 | 2.2 | |
| 3 | 0.75 | 1.15 | |
| 4 | 0.85 | 1.47 | |
| 5 | 3.8 | 4.2 | |
| 6 | 0 | 0.08 | |
| 7 | 1.42 | 1.6 | |
| 8 | 0.8 | 0.9 | Radius |
| 9 | 0.693 | 0.984 | |
| 10 | 0.616 | 0.727 | |
| 11 | 1.5 | 1.6 | |
| ØA | 6.6 | 6.7 | |
| ØB | 5.59 | - | |
| ØC | 4.55 | 4.58 | |
| ØD | 2.905 | 2.94 | |
| ØE | 1.26 | 1.28 | |
| ØF | 0.92 | 0.94 | |
| ØG | 0.2 | 0.34 | |

FIGURE 3 – STANDARD TEST CONNECTOR INTERFACE - MALE CONTACT AND FEMALE CONTACT

SEE FIGURE 2(a)

2 APPLICABLE DOCUMENTS

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

- (a) ESCC Generic Specification No. 3402 for RF Coaxial Connectors.
- (b) MIL-DTL-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 ESCC Basic Specification No. 21300 shall apply.

In addition the following shall apply:

| | |
|----------|---|
| V_{dw} | Dielectric Withstanding Voltage at ambient pressure (sea level) |
| V_{lp} | Dielectric Withstanding Voltage at low pressure (44mb) |
| V_{co} | Corona Level Voltage |
| R_i | Insulation Resistance |
| I_L | Leakage Current |

4 REQUIREMENTS

4.1 GENERAL

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

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 ESCC Generic Specification No. 3402 and they 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 ESCC Generic Specification No. 3402. The applied torque shall be 170N.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 ESCC Generic Specification No. 3402. The maximum torque during mating and unmating shall not exceed 23N.cm.

Whenever a test is performed on mated pairs of connectors, the pairs shall be torqued at 80-115N.cm.

4.3.6 Endurance

The applicable test requirements are specified in Section 9 of ESCC 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 ESCC Generic Specification No. 3402. Residual magnetism is not applicable to stainless steel connectors.

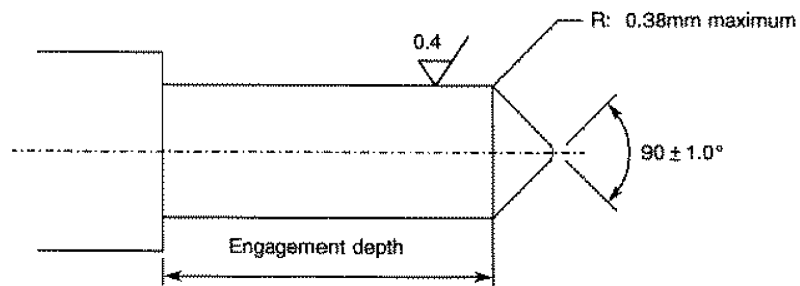
4.3.8 Contact Engagement and Separation Forces

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

- (a) Oversize Pin
Steel test pin diameter: 0.95/0.955 mm.
Insertion depth: 0.76/1.14 mm.
Number of insertions: 3.
- (b) Engagement Force Test (Maximum Diameter Test Pin)
Steel test pin diameter: 0.94/0.946 mm.
Engagement depth: 1.27/1.9 mm.
Engagement force: 1380g max.

- (c) Separation Force Test (Minimum Diameter Test Pin)
Steel test pin diameter: 0.89/0.902 mm.
Separation depth: 1.27/1.9 mm.
Separation force: 28g min.

FIGURE 4 – TEST PIN CONFIGURATION



4.3.9 Contact Retention

The requirements for this test are specified in Section 9 of ESCC 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 Passivated Amagnetic Stainless Steel Connectors

- (a) Shell, Coupling Nut
Material : Amagnetic stainless steel, electro-passivated.
- (b) Centre Contact
Material : Beryllium copper.
Underplate : Nickel, 2µm minimum.
Plating : Gold, 1.3µm minimum, Type II of MIL-DTL-45204.
- (c) Inserts
Material : ULTEM 1000.
- (d) Gaskets
Material : Silicone rubber.
- (e) Accessories
 - Crimping or soldering elements
Material : Brass or beryllium copper.
Underplate : Copper, 0.5µm minimum.
Plating : Silver, 5µm minimum.
 - Insert ring
Material : Brass.
Underplate : Nickel, 2µm minimum.
Plating : Gold, 1.3µm minimum.
 - Washers
Material : Beryllium copper.
Plating : Nickel, 2µm minimum.

4.5 MARKING

4.5.1 General

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

- (a) The ESCC Component Number.
- (b) Characteristics.
- (c) Traceability Information.

4.5.2 The ESCC Component Number

Each component shall bear the ESCC Component Number, which shall be constituted and marked as follows:

Example: 340202301B

- Detail Specification Number: 3402023
- Type Variant (See Table 1(a)): 01
- Testing Level: B

4.5.3 Characteristics

The characteristics cover the type of plating/material. Each component shall be marked in respect of:

- (a) Type of plating/material (shell).
- (b) Number.

The information shall be constituted as follows:

Example: 301

- Type of plating/material (See Para. 4.5.3.1): 3
- Number (shall always be 01)

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. |
|------|--------------------------------------|-------|
| 3 | Passivated amagnetic stainless steel | 4.4.1 |

NOTES:

1. Codes 1, 2 and 4 are not used.

4.5.4 Traceability Information

Each component shall be marked in respect of traceability information in accordance with the requirements of ESCC 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 these measurements shall be performed at $T_{amb} = +22 \pm 3^{\circ}C$.

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

Not applicable.

4.6.3 Circuits for Electrical Measurements (Figure 4)

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 | R_i | ESCC 3402, Para. 9.1 | 500 Vdc | 5000 | - | MΩ |
| 2 | Leakage Current | I_L | ESCC 3402, Para. 9.2 | Per Voltage Proof test voltage in Figure 2(b) | - | 2 | mA |

TABLES 3, 4 AND 5

Not applicable.

4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESCC 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. Unless otherwise specified, the measurements shall be performed at $T_{amb} = +22 \pm 3^\circ\text{C}$.

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. Unless otherwise specified, the measurements shall be performed at $T_{amb} = +22 \pm 3^\circ\text{C}$.

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

Not applicable.

4.8.5 Electrical Circuit for Operating Life Test

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 ESCC Generic Specification No. 3402. The conditions for high temperature storage testing shall be the maximum storage temperature specified in Table 1(b) of this specification.

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

| No. | ESCC 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 ESCC 3402 | - - | Figure 2(a) - - | | - - |
| 02 | Mating / Unmating Forces | Para. 9.5 | During Test Torque | Para. 4.3.5 of this spec. | - | - | 23 | N.cm |
| 03 | Seal Test | Para. 9.7 | Hermeticity Leakage | Not applicable As applicable | - - | - | - No Bubbles | - - |
| 04 | External Visual Inspection | Para. 9.8 | External Visual Inspection | Para. 9.8 of ESCC 3402 | - | - | - | - |
| 05 | Contact Resistance | Para. 9.9 | During Test Contact Resistance | Para. 9.9 of ESCC 3402 Centre Contact Shell | - - | - | 3 2 | 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 Para. 9.9 of ESCC 3402 Centre Contact | - - - - | - | - - 3 | - - mΩ |
| 07 | Shock or Bump | Para. 9.11 Full Engagement | Final Measurements Interface Dimensions Visual Examination Contact Resistance | - No evidence of damage Para. 9.9 of ESCC 3402 Centre Contact | - - - | Figure 2(a) - - 3 | | - - mΩ |
| 08 | Rapid Change of Temperature | Para. 9.12 | Final Measurements Contact Resistance Leakage Current Visual Examination | After a recovery period of 24±2 hrs Para. 9.9 of ESCC 3402 Centre Contact Table 2 Item 2 - | - I _L - | - | 3 2 - | mΩ mA - |

| No. | ESCC Generic Spec. No. 3402 | | Measurements and Inspections | | Symbol | Limits | | Unit | | | | | |
|-----|---------------------------------------|-------------------------------------|--|--|----------|---------------------------|------|------------|--|---|---|---|------------|
| | Environmental and Endurance Tests (1) | Test Method and Conditions | Identification | Conditions | | Min. | Max. | | | | | | |
| 09 | Climatic Sequence | Para. 9.13 | During Test | Table 1(b) Item 5 | V_{ip} | No flashover or breakdown | | - | | | | | |
| | | | Dielectric Withstanding Voltage at low pressure (44mb) | | | | | | | | | | |
| | | | Final Measurements | | | | | | After final Damp Heat cycle (within 1 to 24 hrs recovery) | | | | |
| | | | External Visual Inspection | | | | | | Para. 9.8 of ESCC 3402 | - | - | - | |
| | | | Insulation Resistance | Table 2 Item 1 | R_i | 200 | - | M Ω | | | | | |
| | | | Leakage Current | Table 2 Item 2 | I_L | - | 2 | mA | | | | | |
| 10 | Cable Retention Force | Paras. 9.14 and 4.3.4 of this spec. | During Test Continuity | - | - | - | - | - | | | | | |
| 11 | Cabling and Crimping Capability | Para. 9.15 | Visual Examination | Para. 9.15 of ESCC 3402 | - | - | - | - | | | | | |
| | | | Dimensions | Para. 9.15 of ESCC 3402 | - | Figs. 2(a) & 2(b) | | - | | | | | |
| | | | Insulation Resistance | Table 2 Item 1 | R_i | 5000 | - | M Ω | | | | | |
| | | | Leakage Current | Table 2 Item 2 | I_L | - | 2 | mA | | | | | |
| 12 | VSWR or Reflection Coefficient | Para. 9.16 | VSWR | Para. 9.16 of ESCC 3402 | - | Figure 2(b) | | - | | | | | |
| 13 | Corona Level | Para. 9.17 | Corona | Para. 9.17 of ESCC 3402 | - | Table 1 Item 7 | | - | | | | | |
| 14 | Endurance | Paras. 9.18 & 4.3.6 of this spec. | Final Measurements | Para. 4.3.5 of this spec. Para. 9.9 of ESCC 3402 | - | - | 23 | N.cm | | | | | |
| | | | Mating/Unmating Forces | | | | | | | | | | |
| | | | Contact Resistance | | | | | | Centre Contact | - | - | 4 | m Ω |
| | | | | | | | | | Shell | - | - | 3 | m Ω |
| | Visual Examination | Para. 9.18 of ESCC 3402 | - | - | - | - | - | | | | | | |
| 15 | RF Insertion Loss | Para. 9.19 | Insertion Loss | Para. 9.19 of ESCC 3402 | - | Figure 2(b) | | dB | | | | | |
| 16 | Corrosion | Para. 9.20 | Visual Examination | Para. 9.20 of ESCC 3402 No exposure of base metal | - | - | - | - | | | | | |
| 17 | Residual Magnetism | Para. 9.21 | Magnetism | Not applicable | - | - | - | - | | | | | |

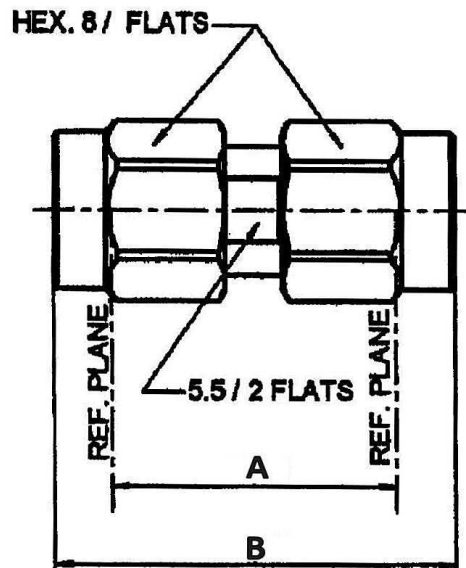
| No. | ESCC Generic Spec. No. 3402 | | Measurements and Inspections | | Symbol | Limits | | Unit |
|-----|---|-----------------------------------|--|--|--|---|--|---|
| | Environmental and Endurance Tests (1) | Test Method and Conditions | Identification | Conditions | | Min. | Max. | |
| 18 | Soldering Proof | Para. 9.22 | Final Measurements Interface Dimensions Mating/Unmating Forces Insulation Resistance Leakage Current Contact Resistance External Visual Inspection | - Para. 4.3.5 of this spec. Table 2 Item 1 Table 2 Item 2 Para. 9.9 of ESCC 3402 Centre Contact Shell Para. 9.8 of ESCC 3402 | - - R _i I _L - - - | - - 200 - - - - | Figure 2(a) - 23 - 2 3 2 - | - N.cm MΩ mA mΩ mΩ - |
| 19 | RF Leakage | Para. 9.23 | Leakage | Para. 9.23 of ESCC 3402 | - | Figure 2(b) | | dB |
| 20 | High Temperature Storage | Paras. 9.24 & 4.8.6 of this spec. | Final Measurements Mating/Unmating Forces Insulation Resistance Leakage Current Contact Retention Visual Examination Contact Resistance External Visual Inspection | Para. 4.3.5 of this spec. Table 2 Item 1 Table 2 Item 2 Para. 4.3.9 of this spec. - Para. 9.9 of ESCC 3402 Centre Contact Shell Para. 9.8 of ESCC 3402 | - R _i I _L - - - - - | - 5000 - - - - - - | 23 - 2 Para. 4.3.9 - - 8 7.5 - | N.cm MΩ mA - - mΩ mΩ - |
| 21 | Permanence of Marking | Para. 9.27 | Marking Permanence | Para. 9.27 of ESCC 3402 | - | - | - | - |
| 22 | Plating Thickness (Hermetic Types Only) | Para. 9.8 | Plating Thickness | Not applicable | - | - | - | - |

NOTES

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

FIGURE 2(b) – TYPE VARIANTS

VARIANT 01 – STRAIGHT MALE-MALE ADAPTOR



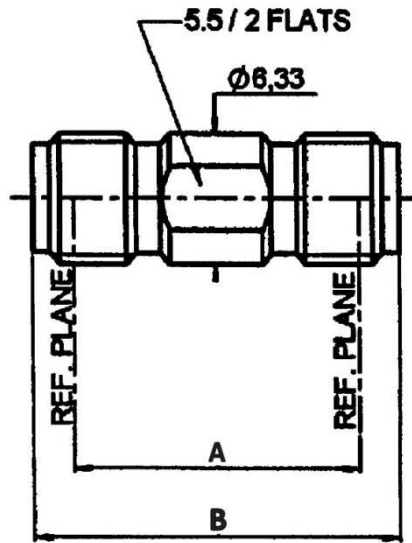
| Symbol | Millimetres | | Notes |
|--------|-------------|-------|-------|
| | Min. | Max. | |
| A | 14.03 | 14.09 | |
| B | 19.7 | 20 | |

NOTES:

- All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|-------------------------------|-------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | $1.05 + 0.003 \times f$ (GHz) | - |
| Maximum Insertion Loss | $0.03 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(90 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | Vrms |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum Cable Retention Torque Value | Not applicable | N.cm |
| Maximum Weight | 5.5 | g |
| Other Characteristics | Values | Units |
| Rapid Change of Temperature - peak value | 165 | °C |
| Operating Temperature Range | -65 to +165 | °C |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |

VARIANT 02 – STRAIGHT FEMALE-FEMALE ADAPTOR



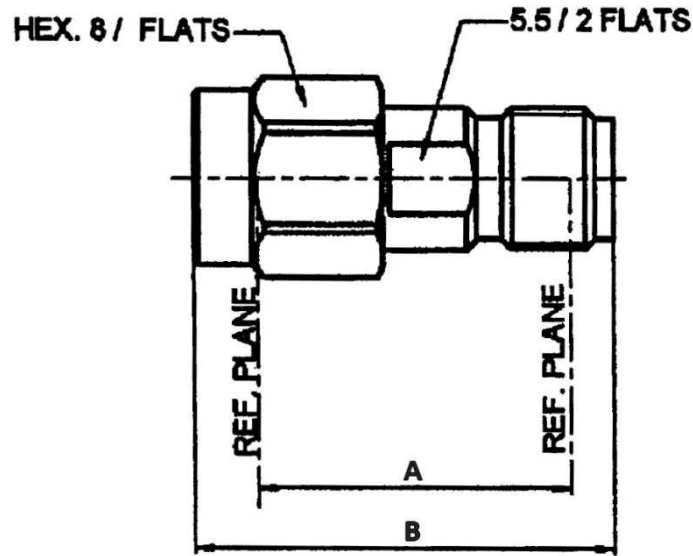
| Symbol | Millimetres | | Notes |
|--------|-------------|-------|-------|
| | Min. | Max. | |
| A | 14.03 | 14.09 | |
| B | 17.82 | 18.01 | |

NOTES:

- All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|-------------------------------|-------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | $1.05 + 0.003 \times f$ (GHz) | - |
| Maximum Insertion Loss | $0.03 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(90 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | Vrms |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum Cable Retention Torque Value | Not applicable | N.cm |
| Maximum Weight | 3 | g |
| Other Characteristics | Values | Units |
| Rapid Change of Temperature - peak value | 165 | °C |
| Operating Temperature Range | -65 to +165 | °C |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |

VARIANT 03 – STRAIGHT MALE-FEMALE ADAPTOR



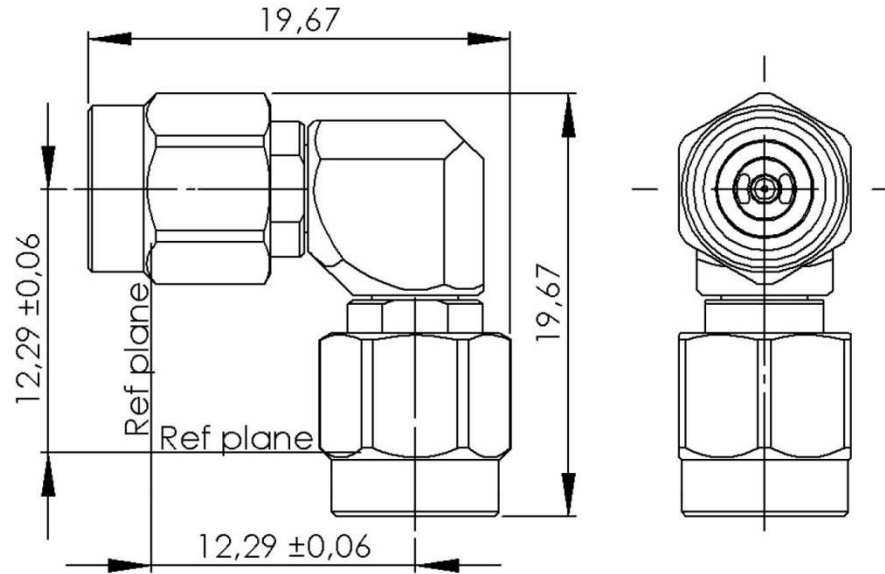
| Symbol | Millimetres | | Notes |
|--------|-------------|-------|-------|
| | Min. | Max. | |
| A | 14.03 | 14.09 | |
| B | 18.82 | 18.97 | |

NOTES:

- All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|-------------------------------|-------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | $1.05 + 0.003 \times f$ (GHz) | - |
| Maximum Insertion Loss | $0.03 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(90 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | Vrms |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum Cable Retention Torque Value | Not applicable | N.cm |
| Maximum Weight | 4.1 | g |
| Other Characteristics | Values | Units |
| Rapid Change of Temperature - peak value | 165 | °C |
| Operating Temperature Range | -65 to +165 | °C |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |

VARIANT 04 – RIGHT ANGLE MALE-MALE ADAPTOR

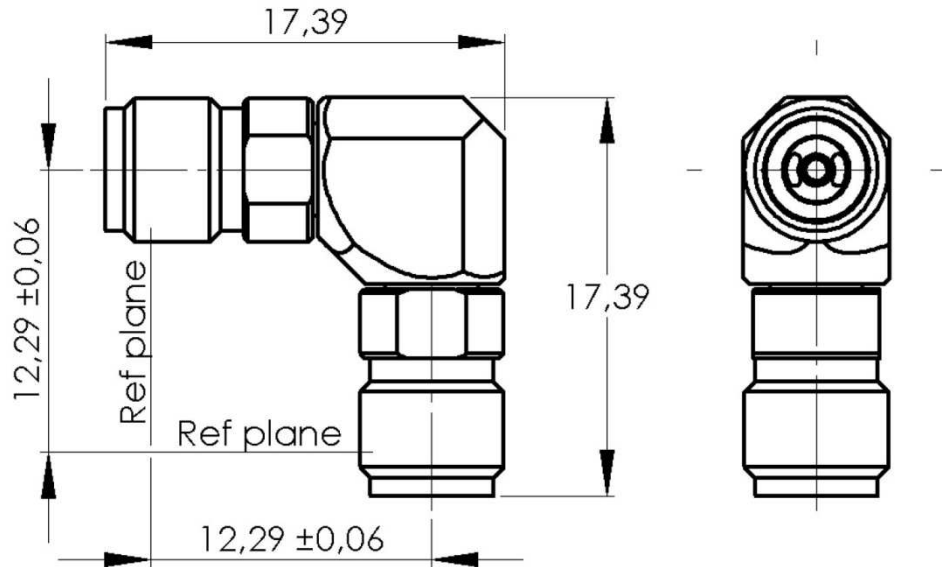


NOTES:

1. All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|--|------------------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | DC to 32 GHz: 1.20 32 to 40 GHz: 1.50 | - |
| Maximum Insertion Loss | DC to 32 GHz: $0.07 \times \sqrt{f}$ (GHz) 32 to 40 GHz: $0.09 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(120 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | V _{rms} |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum 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 |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |

VARIANT 05 – RIGHT ANGLE FEMALE-FEMALE ADAPTOR

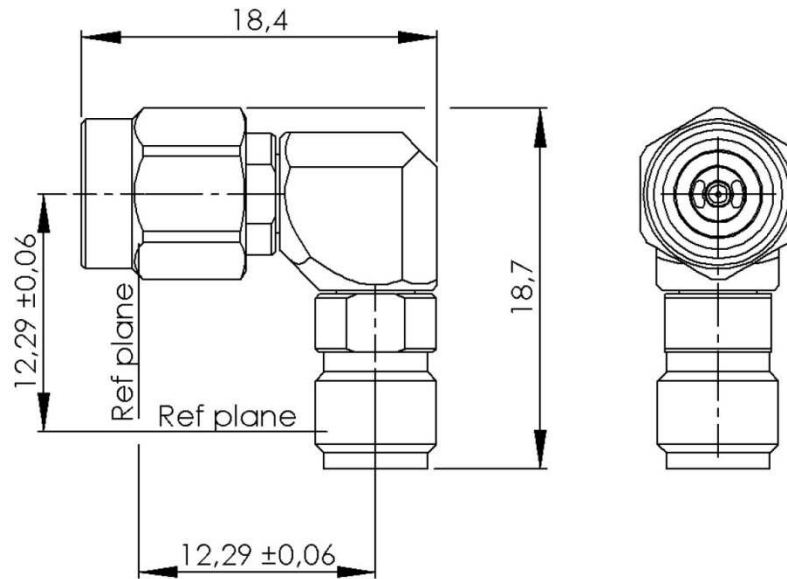


NOTES:

1. All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|--|------------------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | DC to 32 GHz: 1.20 32 to 40 GHz: 1.50 | - |
| Maximum Insertion Loss | DC to 32 GHz: $0.07 \times \sqrt{f}$ (GHz) 32 to 40 GHz: $0.09 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(120 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | V _{rms} |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum Cable Retention Torque Value | Not applicable | N.cm |
| Maximum Weight | 5.5 | g |
| Other Characteristics | Values | Units |
| Rapid Change of Temperature - peak value | 165 | °C |
| Operating Temperature Range | -65 to +165 | °C |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |

VARIANT 06 – RIGHT ANGLE MALE-FEMALE ADAPTOR



NOTES:

1. All dimensions are in mm.

| Electrical Characteristics | Values | Units |
|---|--|-------|
| Frequency Range | 0-40 | GHz |
| Maximum VSWR | DC to 32 GHz: 1.20 32 to 40GHz: 1.50 | - |
| Maximum Insertion Loss | DC to 32 GHz: $0.07 \times \sqrt{f}$ (GHz) 32 to 40 GHz: $0.09 \times \sqrt{f}$ (GHz) | dB |
| RF Leakage | $-(120 - f)$ (GHz) | dB |
| Dielectric Withstanding Voltage (Sea Level) (Voltage Proof Test) | 750 | Vrms |
| Power Handling Category (Figure 1(a)) | Category I | - |
| Mechanical Characteristics | Values | Units |
| Minimum Centre Contact Retention Force (axial) | 27 | N |
| Minimum Centre Contact Retention Torque | Not applicable | N.cm |
| Minimum Cable Retention Force | Not applicable | N |
| Minimum Cable Retention Torque Value | Not applicable | N.cm |
| Maximum Weight | 4.8 | g |
| Other Characteristics | Values | Units |
| Rapid Change of Temperature - peak value | 165 | °C |
| Operating Temperature Range | -65 to +165 | °C |
| Maximum Leakage (panel sealed connectors) | Not applicable | - |
| Maximum Leakage (hermetically sealed connectors) | Not applicable | - |
| Solderability | Not applicable | - |
| Soldering Proof | Not applicable | - |
| Cables Used | Not applicable | - |