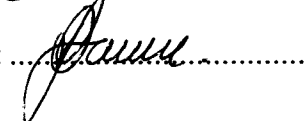


COMPONENT SPECIFICATION**MMCX COAX CONNECTORS**

SEPTEMBER 2001

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PREPARED BY: APPROVED BY: AUTHORISED BY: **ISSUE**

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C/NOTE

DATE

07.09.01

COMPONENT SPECIFICATION MMCX COAX CONNECTORS

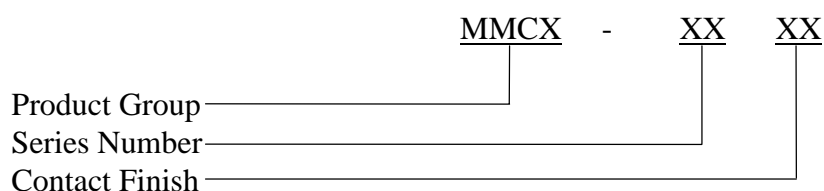
1. DESCRIPTION OF COMPONENT AND INTENDED APPLICATION.

MMCX Coax connectors are micro-miniature RF coaxial connectors designed to the smallest dimensions. Significant space savings for densely populated electronic packages are possible, with the connectors giving a 45% space saving over equivalent SMB coax connectors. RF leakage is minimised by the non-slotted design and positive snap-fit coupling. Cable-to-board and cable-to-cable applications are possible. Jack (female) connectors are available in pcb mounted and straight crimp styles. Plug (male) connectors are available as straight or right-angled crimp versions.

Jack connectors consist of beryllium copper inner contacts and brass bodies. Plug connectors comprise of brass inner contacts and bodies, with a beryllium copper spring latch for the snap-on coupling. Teflon is used for the insulating material. All metal components are gold plated.

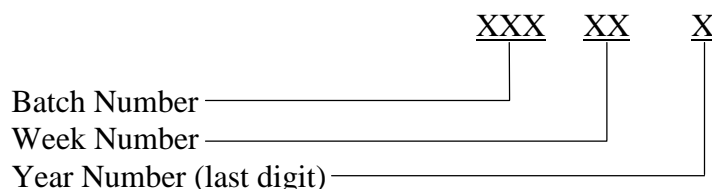
2. MARKING OF COMPONENT AND/OR PACKAGE (ORDER CODE).

The marking (order code) shall appear on the package and shall be of the following style:



Part Number	Description	Cable size	Finish
MMCX-3005	Vertical PC Tail Jack Socket	n/a	Gold
MMCX-3505	Horizontal PC Tail Jack Socket	n/a	Gold
MMCX-5005	Straight Crimp Jack	RG-178/U, RG-196/U	Gold
MMCX-5305	Straight Bulkhead Crimp Jack	RG-174/U, RG-188A/U, RG-316/U	Gold
MMCX-6005	Straight Crimp Plug	RG-178/U, RG-196/U	Gold
MMCX-6105	Straight Crimp Plug	RG-174/U, RG-188A/U, RG-316/U	Gold
MMCX-6505	Right Angle Crimp Plug	RG-178/U, RG-196/U	Gold
MMCX-6605	Right Angle Crimp Plug	RG-174/U, RG-188A/U, RG-316/U	Gold

Batch Code shall appear on the package, and shall be of the following style:



The Batch Number is 001 to 999 repeated each week.

COMPONENT SPECIFICATION
MMCX COAX CONNECTORS (continued)

3. RATINGS.**3.1. MATERIAL & FINISH.**

Materials:

Body, Sleeve, Plug centre contact, Cover (Right Angle crimp)	Brass
Jack centre contact, Plug Spring Latch	Beryllium Copper
Insulators	Teflon

Finish:

Body, Sleeve, Plug Spring Latch, Cover (Right Angle crimp)	0.10 μ min gold
Jack centre contact, Plug centre contact	0.75 μ min gold

3.2. ELECTRICAL CHARACTERISTICS.

Impedance	50 Ω
Frequency Range	0 to 6 GHz
VSWR (Voltage Standing-Wave Ratio):	
Straight Connectors	1.2 max
Right Angle Connectors	1.3 max
Insertion Loss @ 1GHz:	
Straight Connectors	0.2dB max
Right Angle Connectors	0.3dB max
Voltage Rating (at sea level)	170V AC
max	
Dielectric Withstanding Voltage (at sea level)	500V AC
Contact resistance:	
Centre contact	5.0m Ω max
Outer body	2.5m Ω max
Insulation resistance	1,000M Ω min

3.3. ENVIRONMENTAL CHARACTERISTICS.

Temperature Range	-65°C to +165°C
Vibration Test	MIL-STD-202 Method 204, Test Condition D
Salt Spray Test	MIL-STD-202 Method 101, Test Condition B
Thermal Shock Test	MIL-STD-202 Method 107, Test Condition F

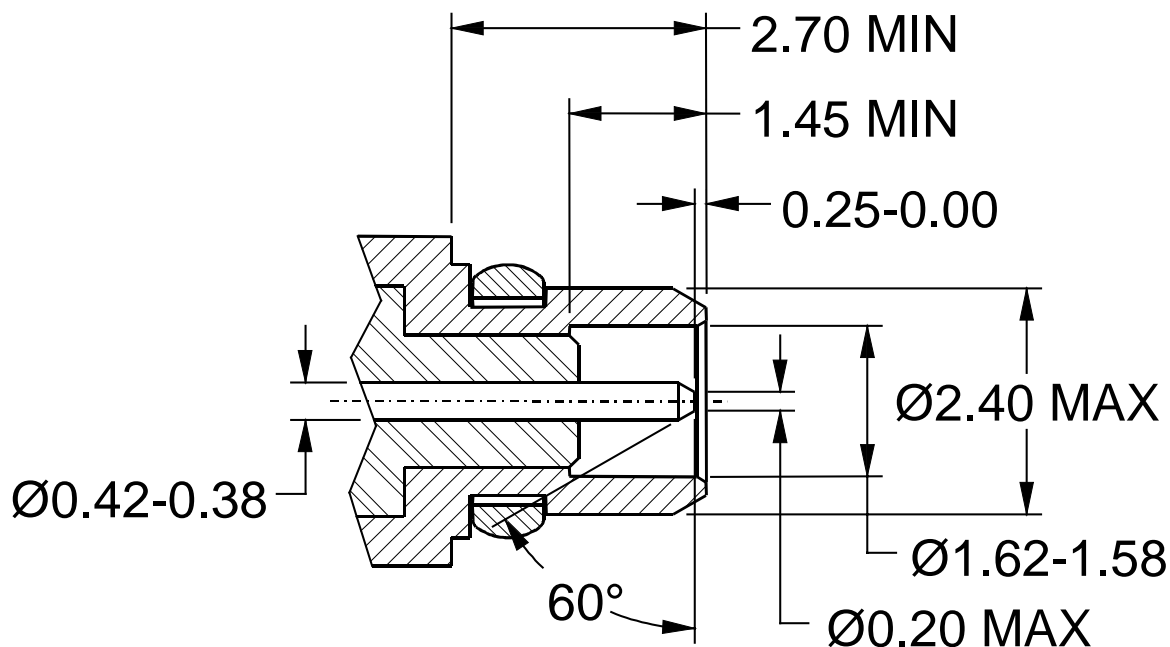
3.4. MECHANICAL CHARACTERISTICS.

Durability	500 operations
Cable Retention	89N min

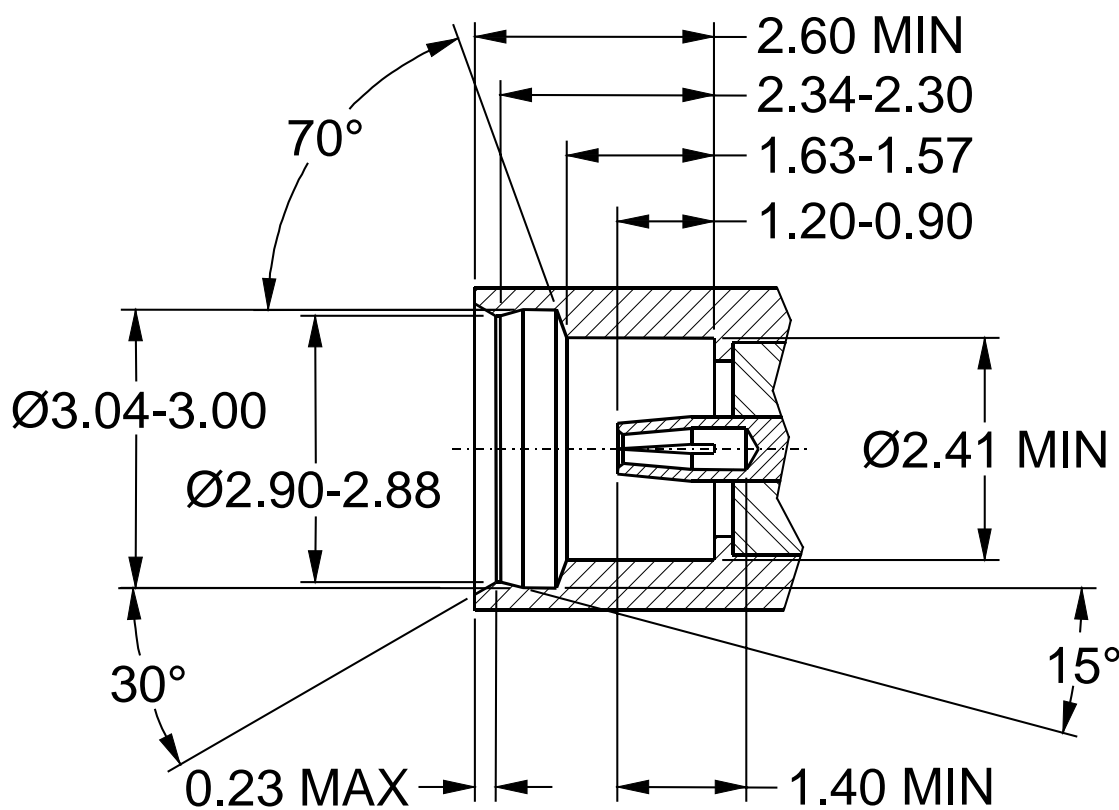
COMPONENT SPECIFICATION
MMCX COAX CONNECTORS (continued)

APPENDIX 1 – INTERFACE DIMENSIONS.

These interface dimensions are common to all MMCX coax connectors.



Plug Interface Dimensions



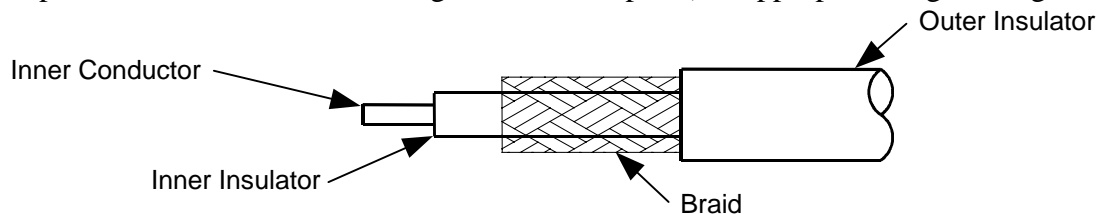
Jack Interface Dimensions

COMPONENT SPECIFICATION MMCX COAX CONNECTORS (continued)

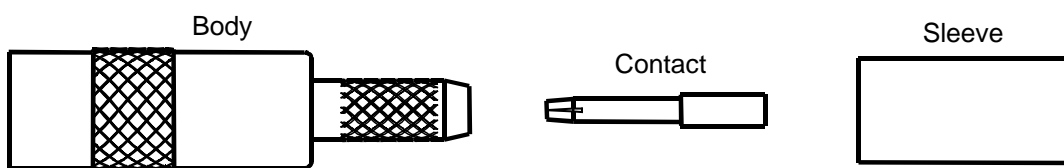
APPENDIX 2 – ASSEMBLY INSTRUCTIONS.

A2.1 ASSEMBLY INSTRUCTIONS FOR MMCX-5005, MMCX-5305, MMCX-6005 AND MMCX-6105

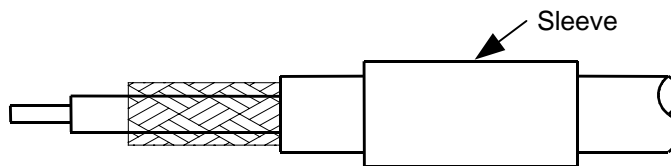
1) Strip cable to dimensions shown against relevant part (see appropriate engineering drawings).



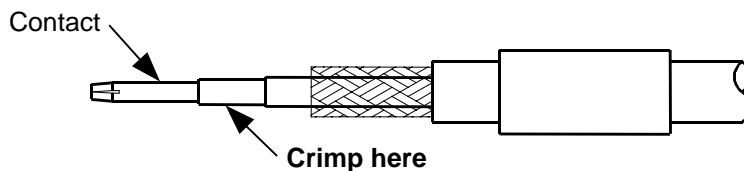
2) Identify pieces of coax connector to be assembled.



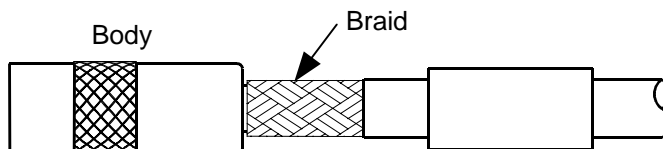
3) Slide sleeve onto cable past stripped area.



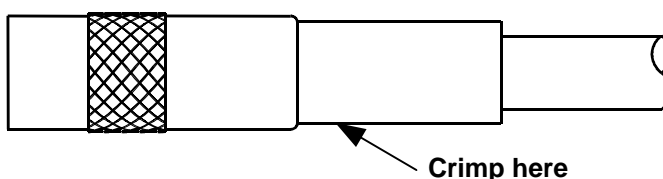
4) Crimp contact to end of cable inner conductor (see table below for appropriate crimp size).



5) Insert cable and contact into coax body from back end – make sure that the braid goes outside and over the end section.



6) Slide sleeve back over the end of the coax body and the braid. Crimp into place on the cable insulation.

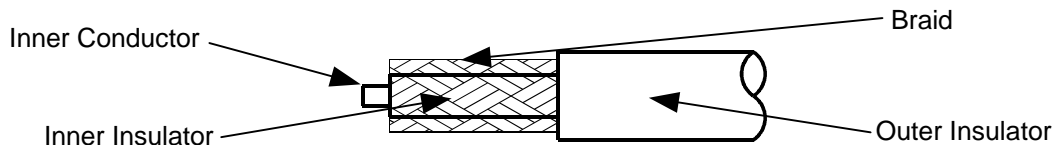


COMPONENT SPECIFICATION MMCX COAX CONNECTORS (continued)

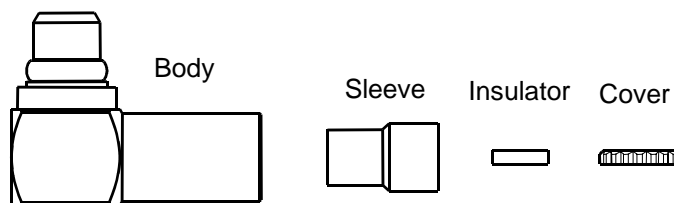
APPENDIX 2 – ASSEMBLY INSTRUCTIONS (continued).

A2.2 ASSEMBLY INSTRUCTIONS FOR MMCX-6505 AND MMCX-6605

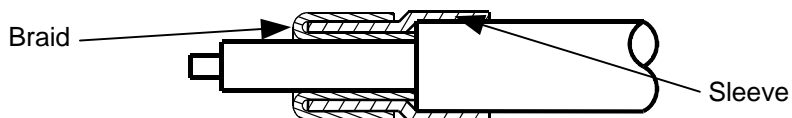
1) Strip cable to dimensions shown against relevant part (see appropriate engineering drawings).



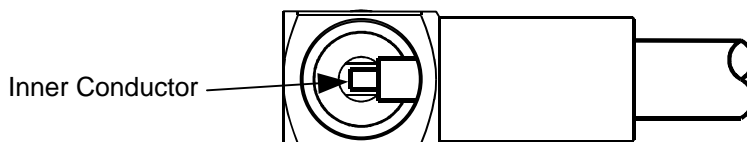
2) Identify pieces of coax connector to be assembled.



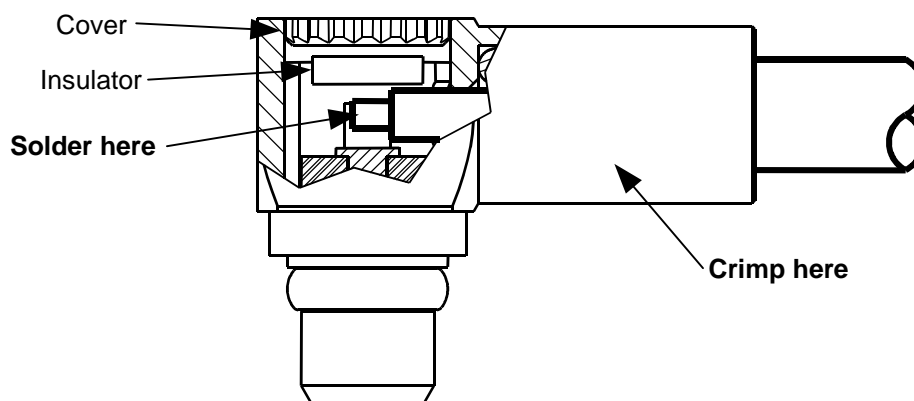
3) Slide sleeve onto cable until it stops against the outer insulation. Fold the braid over the sleeve.



4) Push the cable and sleeve into the body, as far as it will go. The cable inner conductor will be visible through the hole in the top of the coax body, and should go into the slot in the inner contact of the body.



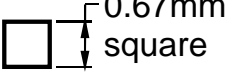
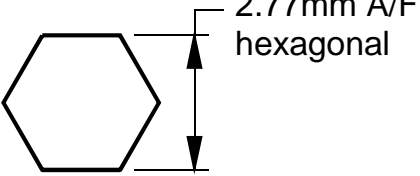
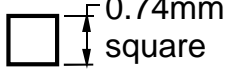
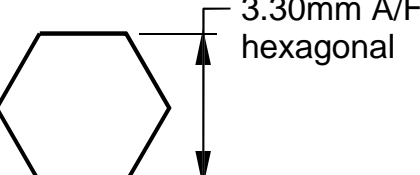
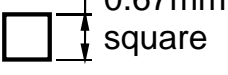
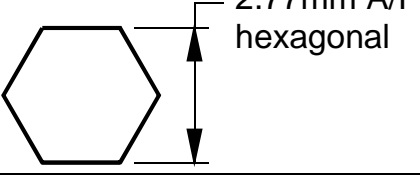
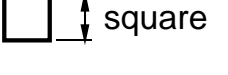
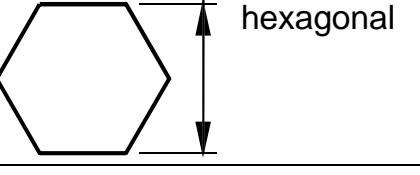
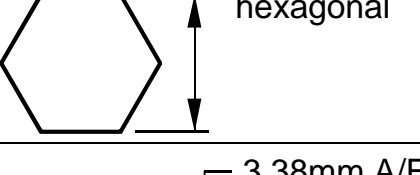
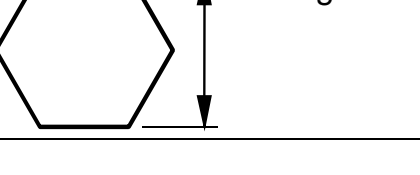
5) Solder the cable inner conductor to the body inner contact. When cool, place the insulator inside the top, and press the cover into place. Crimp the back end of the coax onto the insulation of the cable.



COMPONENT SPECIFICATION
MMCX COAX CONNECTORS (continued)

APPENDIX 3 – CRIMP TOOLING REQUIREMENTS

Standard Coax crimping tools are suitable. Crimps must achieve the following dimensions:

Connector	Size of Contact crimp	Size of Outer Crimp
MMCX-3005	n/a	n/a
MMCX-3505	n/a	n/a
MMCX-5005	 0.67mm square	 2.77mm A/F hexagonal
MMCX-5305	 0.74mm square	 3.30mm A/F hexagonal
MMCX-6005	 0.67mm square	 2.77mm A/F hexagonal
MMCX-6105	 0.67mm square	 3.30mm A/F hexagonal
MMCX-6505	n/a	 2.81mm A/F hexagonal
MMCX-6605	n/a	 3.38mm A/F hexagonal