

# MDCX & MDHC Connectors



# MDCX & MDHC

Smiths Interconnect's multipin MDCX and MDHC coax connectors have a constant 50 Ohm airline impedance interface and are 30% smaller than our SCX coaxial connectors. Each coax contact has a maximum overall diameter of 0.125" fitted into a low-profile metalized housing. They are RoHS compliant.

MDCX and MDHC coaxial contacts are compact in size allowing multiple high density connections in a Micro-D style shell for applications where space and weight savings are important. No cumbersome spring mounts are required. These connectors are also available with locking post mechanisms or blind-mate hardware attachment.

Insert arrangements are available in 2, 4, 6, 8 and 10 way coax assemblies as well as mixed signal, power, coax and high speed twinax contacts for hybrid arrangements.

MDHC high frequency coaxial contacts are a drop in replacement to Smiths Interconnect's MDCX RF contacts with an increased frequency range from 10 GHz to 40 GHz.

- MDCX VSWR of 1.25:1 (typ) up to 10 GHz (max mated pair).
- MDHC VSWR of 1.3:1 (typ) up to 30GHz (max mated pair).
- MDHC VSWR of 1.5:1 (typ) up to 40GHz (max mated pair).

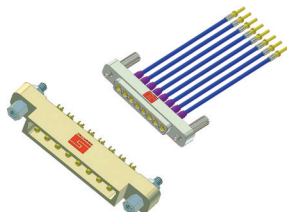
## MDCX Connectors



## MDHC Connectors



## Multipin Coax Connector with Locking Post



## Mechanical & Environmental Specifications

Temperature Rating	-65°C to + 165°C
Corrosion	MIL-STD-202 Method 101, Test Condition B
Shock	MIL-STD-202 Method 213, Test Condition B
Vibration	MIL-STD-202 Method 204, Test Condition B
Thermal Shock	MIL-STD-202 Method 107, Test Condition B
Durability	1,000 cycles min. 500 cycles min. signal contacts
Mating/Unmate Force	1 lb. min
Float Mount Constraints	0.010" full radial & 0.010" axial misalignment max.

## Specifications

Dielectric Withstanding Voltage	500 VDC @sea level with 70% relative humidity
Insulation Resistance	5000 mega-ohms min. @ 200 VDC
Contact Current Rating	5 Amps max. for 0.030" Signal Pins 2 Amps max. for 0.015" Signal Contacts
Characteristic Impedance	50 Ohm constant airline impedance
RF HI Potential Withstanding Voltage	125 VRMS @ 5 MHz
Corona Level @ 70,000 ft.	Center contact to intermediate contact: 125 VAC
Permeability	2.0 max.
Frequency Range	MDHC: DC-40 GHz MDCX: DC-10 GHz
VSWR	1.5:1 (typ) Mated Pair up to 40 GHz (MDHC) 1.3:1 (typ) Mated Pair up to 30 GHz (MDHC) 1.25:1 (typ) Mated Pair up to 10 GHz (MDCX)

## Materials and Finishes

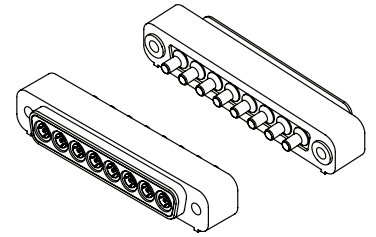
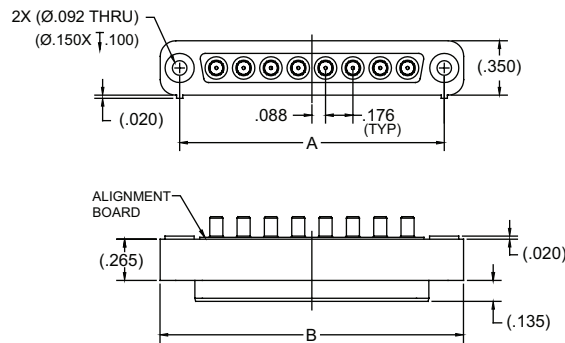
Center & Outer Spring Contacts	Brass per ASTM-B16, alloy UNS C36000 or BeCu per ASTM-B196, alloy UNS C17200, C17300 Gold Plate per MIL-DTL-45204, Type II, Class 1
Insulators	PTFE per ASTM D-1710
Connector Plug/ Receptacle Shells	Aluminum per ASTM-B211/221, 6061-T6 Electroless Nickel Plate per SAE-AMS-C-26074

All specifications subject to change without notice.

## Connector Plug for Cable Mount MDCX & MDHC Coax Socket Contacts

Part #	Contacts
017300-2003	2
017300-2004	4
017300-2006	6
017300-2008	8
017300-2010	10

\*Cable Mount Coaxial Contacts Sold Separately

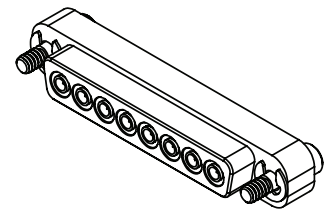
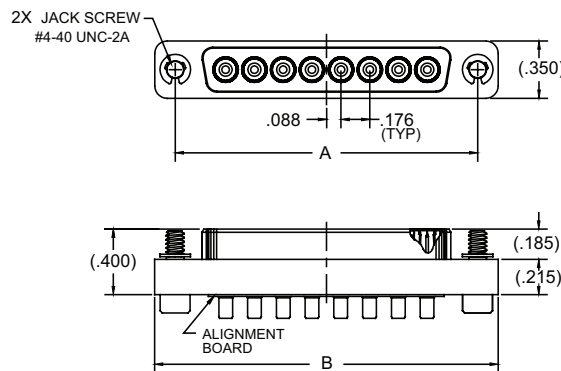


## Connector Plug for Cable Mount MDCX & MDHC Coax Socket Contacts

(w/Mounting Hardware)

Part #	Contacts
017300-2013	2
017300-2014	4
017300-2016	6
017300-2018	8
017300-2020	10

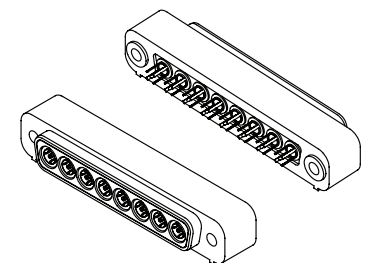
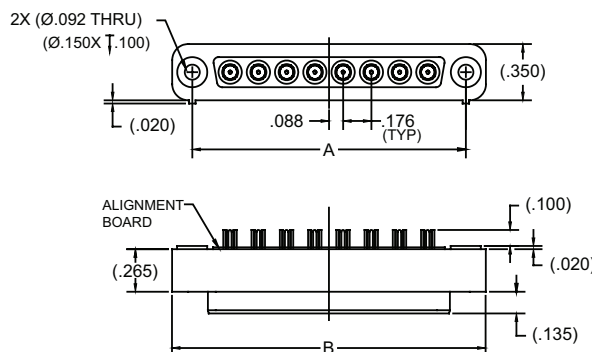
\*Cable Mount Coaxial Contacts Sold Separately



## Connector Plug for MDCX & MDHC with PC-Tail Coax Socket Contacts

MDCX	MDHC	Contacts
017317-2003	017317-2013	2
017317-2004	017317-2014	4
017317-2006	017317-2016	6
017317-2008	017317-2018	8
017317-2010	017317-2020	10

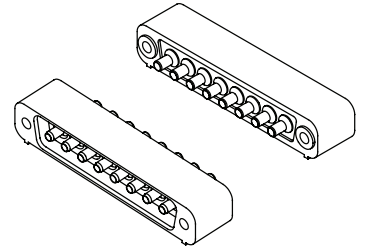
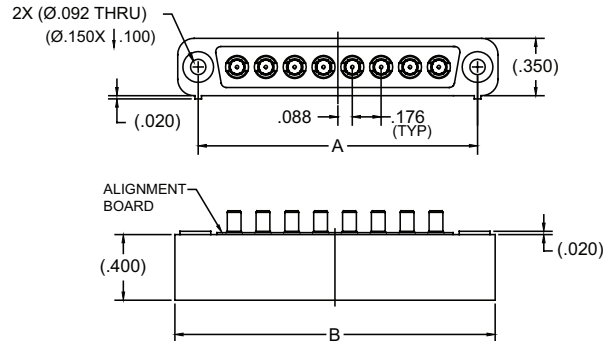
\*PC Tail Contacts included



## Connector Receptacle for Cable Mount MDCX & MDHC Coax Pin Contact

Part #	Contacts
017300-3003	2
017300-3004	4
017300-3006	6
017300-3008	8
017300-3010	10

\*Cable Mount Coaxial Contacts Sold Separately

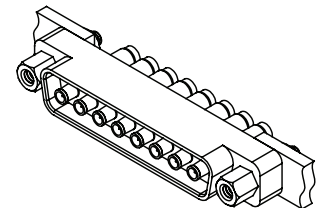
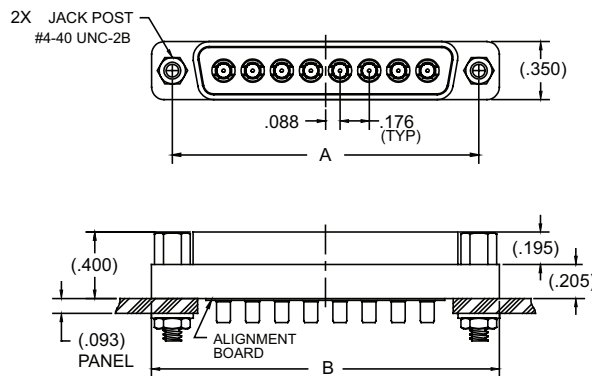


## Connector Receptacle for Cable Mount MDCX & MDHC Coax Pin Contact

(w/Mounting Hardware)

Part #	Contacts
017300-3013	2
017300-3014	4
017300-3016	6
017300-3018	8
017300-3020	10

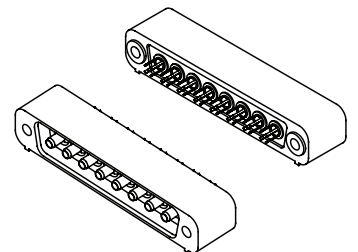
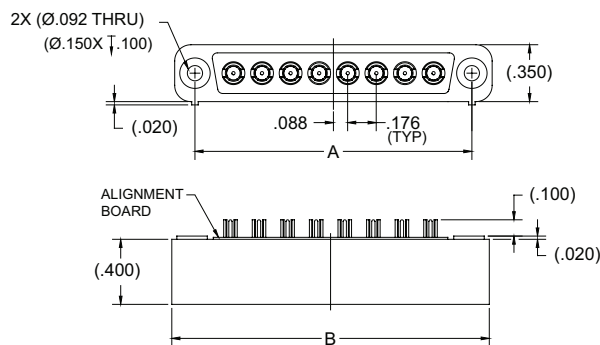
\*Cable Mount Coaxial Contacts Sold Separately



## Connector Receptacle for MDCX & MDHC with PC-Tail Coax Pin Contacts

MDCX	MCHC	Contacts
017317-3003	017317-3013	2
017317-3004	017317-3014	4
017317-3006	017317-3016	6
017317-3008	017317-3018	8
017317-3010	017317-3020	10

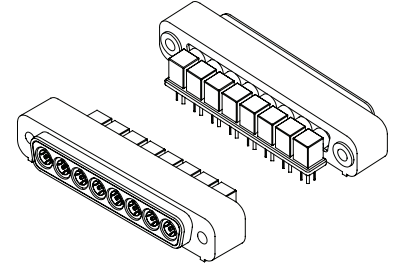
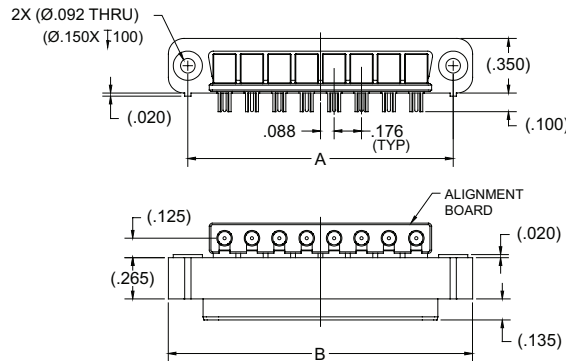
\*PC Tail Contacts included



## Connector Plug With MDCX Right Angle PC-Tail Coax Socket Contact

Part #	Contacts
017317-1103	2
017317-1104	4
017317-1106	6
017317-1108	8
017317-1110	10

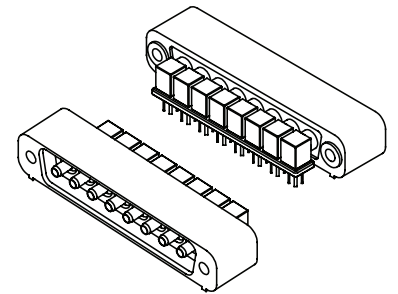
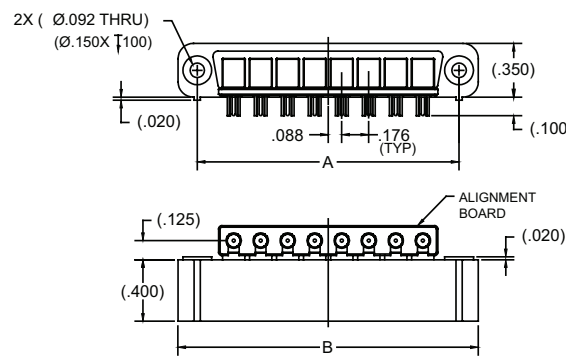
\*PC Tail Contacts included



## Connector Receptacle with MDCX Right Angle PC-Tail Coax Pin Contact

Part #	Contacts
017317-1003	2
017317-1004	4
017317-1006	6
017317-1008	8
017317-1010	10

\*PC Tail Contacts included

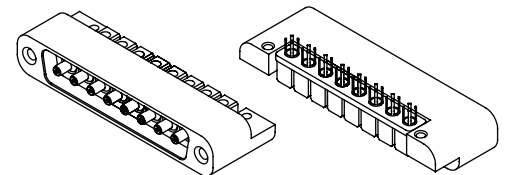
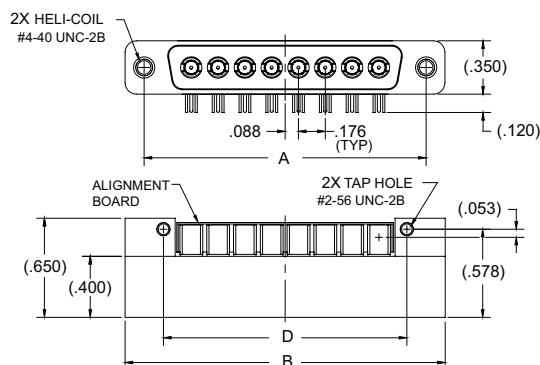


## Connector Receptacle with MDCX Right Angle PC-Tail Coax Pin Contact

(w/Mounting Hardware)

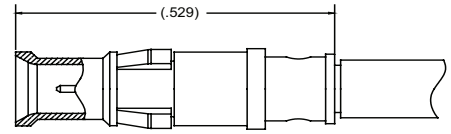
Part #	Contacts
017317-1203	2
017317-1204	4
017317-1206	6
017317-1208	8
017317-1210	10

\*PC Tail Contacts included



## MDHC Coax Socket Contact (DC-40 GHz)

Part Number	Cable Type	Cable
013109-2004	Flexible Coax	RG-405 Flex



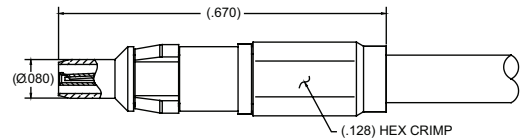
## MDHC Pin Contact (DC-40 GHz)

Part Number	Cable Type	Cable
013209-2004	Flexible Coax	RG-405 Flex



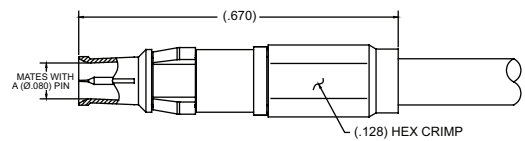
## Removable MDCX Coax Pin Contact (DC-10 GHz)

Part Number	Cable Type	Cable
013214-2005	Flexible Coax	RG-178
013214-2004	Flexible Coax	RG-316
013214-2003	Flexible Coax	RG-405 Flex



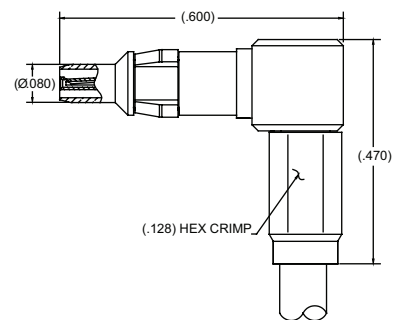
## Removable MDCX Coax Socket Contact (DC-10 GHz)

Part Number	Cable Type	Cable
013114-2005	Flexible Coax	RG-178
013114-2004	Flexible Coax	RG-316
013114-2003	Flexible Coax	RG-405 Flex



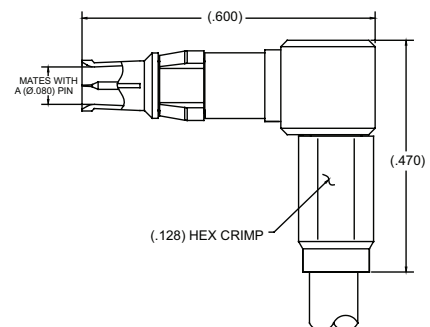
## Removable MDCX Right Angle Coax Pin Contact (DC-10 GHz)

Part Number	Cable Type	Cable
013214-1003	Flexible Coax	RG-178
013214-1002	Flexible Coax	RG-316
013214-1001	Flexible Coax	RG-405 Flex

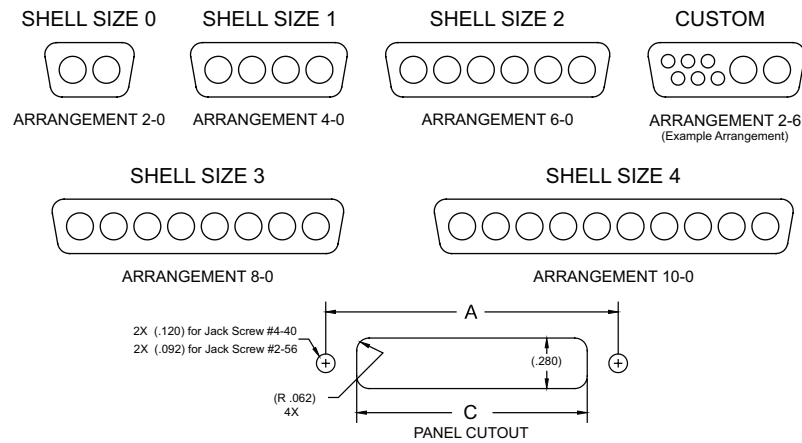


## Removable MDCX Right Angle Coax Socket Contact (DC-10 GHz)

Part Number	Cable Type	Cable
013114-1003	Flexible Coax	RG-178
013114-1002	Flexible Coax	RG-316
013114-1001	Flexible Coax	RG-405 Flex



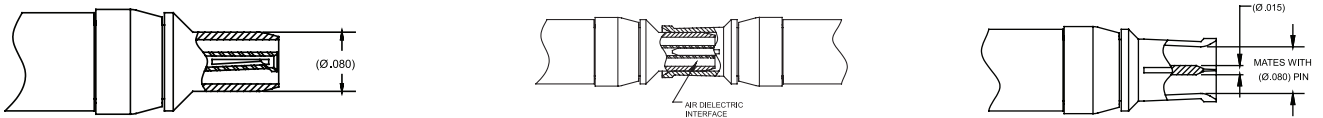
## Insert Arrangements



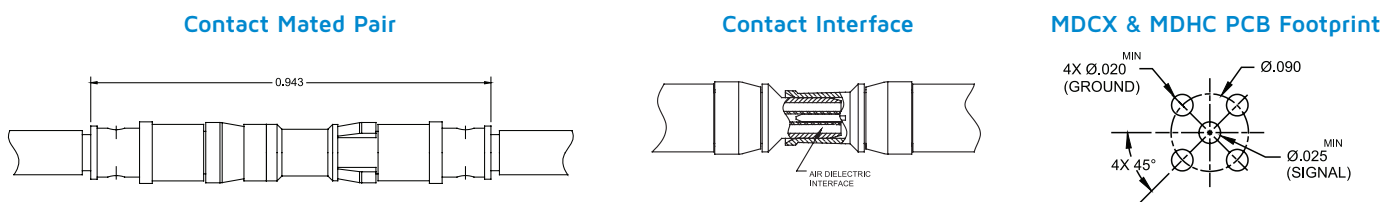
Shell Size	Contacts	A dim.	B dim.	C dim.	D dim.
0	2	0.800"	1.050"	0.525"	0.600"
1	4	1.150"	1.400"	0.875"	0.950"
2	6	1.500"	1.750"	1.225"	1.300"
3	8	1.850"	2.100"	1.575"	1.650"
4	10	2.200"	2.450"	1.925"	2.000"

\*Consult factory for Hybrid Arrangement Dimension Details

## MDCX Coaxial Contact Interface



## MDCX Coaxial Contact Interface



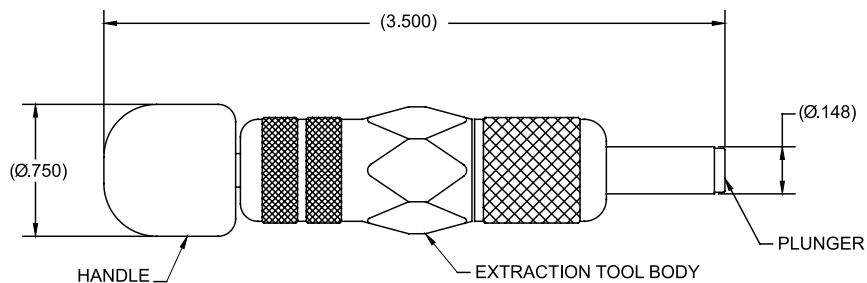
# How To Order



<b>1 Series</b>	MDCX or MDHC								
<b>2 Shell Size</b>	0, 1, 2, 3, 4								
<b>3 Arrangement</b>									
<b>4 Shell Style</b>	C Plug    R Receptacle								
<b>6 Contact Termination</b>	<table border="0"> <tr> <td>S C</td> <td>Straight Crimp</td> <td>R C</td> <td>Right Angle Crimp (MDCX Only)</td> </tr> <tr> <td>S P C</td> <td>Straight PC-Tail</td> <td>R P C</td> <td>Right Angle PC-Tail (MDCX Only)</td> </tr> </table>	S C	Straight Crimp	R C	Right Angle Crimp (MDCX Only)	S P C	Straight PC-Tail	R P C	Right Angle PC-Tail (MDCX Only)
S C	Straight Crimp	R C	Right Angle Crimp (MDCX Only)						
S P C	Straight PC-Tail	R P C	Right Angle PC-Tail (MDCX Only)						

#### Notes:

1. Coax contacts sold separately for crimp version.
2. Optional mounting hardware available, please specify panel thickness.
3. Removable coax contacts require removal tool SIR-029 (ordered separately).
4. Consult factory for mixed layouts.





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