

SMC Connectors

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ELECTRICAL RATINGS

Impedance: 50 ohms
Frequency Range: 0-10 GHz
VSWR: (f = GHz)

	Straight Cabled	Right Angle Cabled
RG-178 cable	1.25 + .04f	1.40 + .06f
RG-316 and .086 semi-rigid cable	1.20 + .04f	1.30 + .04f
Uncabled receptacles	N/A	
Adapters	1.20 + .04f	

Working Voltage: (Vrms maximum)[†]

Connectors for Cable Type	Sea Level	70K Feet
RG-178	250	60
RG-316, .086 semi-rigid uncabled receptacles, adapters	335	85

Dielectric Withstanding Voltage: (VRMS minimum at sea level)[†]

Connectors for RG-178	750
Connectors for RG-316, .086 semi-rigid uncabled receptacles, adapters	1000

Corona Level: (Volts minimum at 70,000 feet)[†]

Connectors for RG-178	185
Connectors for RG-316, .086 semi-rigid	250
Uncabled receptacles and adapters	N/A

Insertion Loss: (dB maximum, tested at 4 GHz)

Straight cable connectors	0.25 dB
Right angle cable connectors	0.50 dB
Uncabled receptacles and adapters	N/A

Insulation Resistance: 1000 megohms minimum
Contact Resistance: (milliohms maximum)

	Initial	After Environmental
Center contact (straight cabled connectors and uncabled receptacles)	6.0	8.0
Center contact (right angle cabled connectors and adapters)	12.0	16.0
Outer contact (gold plated connectors)	1.0	N/A
Outer contact (nickel plated connectors)	2.5	N/A
Braid to body (gold plated connectors)	1.0	N/A
Braid to body (nickel plated connectors)	2.5	N/A

RF Leakage: (dB minimum tested at 2.5 GHz)

Cable connectors	-55 dB
Uncabled receptacles and adapters	N/A

** All gold plated parts include a .00005" min. nickel underplate barrier layer.

† Avoid user injury due to misapplication. See safety advisory definitions on page 2.

RF High Potential Withstanding Voltage: (Vrms minimum, tested at 4 and 7 MHz)[†]

Connectors for RG-178	500
Connectors for RG-316	700
Uncabled receptacles and adapters	600

MECHANICAL RATINGS

Engagement Design: MIL-C-39012, Series SMC
Engagement/Disengagement Force: 16 inch-ounce maximum torque
Mating Torque: 35 to 50 inch-ounce
Coupling Proof Torque: 100 inch-ounce minimum
Coupling Nut Retention: 35 pounds minimum
Contact Retention: 4 lbs. minimum axial force (captivated contacts)
1 inch-ounce minimum torque (uncabled receptacles)

Cable Retention:	Axial Force* (pounds)	Torque (in-oz)
Connectors for RG-178	10	N/A
Connectors for RG-316	20	N/A
Connectors for .086 semi-rigid	30	16

* or cable breaking strength whichever is less

Durability: 500 cycles minimum

ENVIRONMENTAL RATINGS (Meets or exceeds the applicable paragraph of MIL-C-39012)

Temperature Range: - 65°C to + 165°C

Thermal Shock: MIL-STD-202, Method 107, Condition B

Corrosion: MIL-STD-202, Method 101, Condition B

Shock: MIL-STD-210, Method 213, Condition C

Vibration: MIL-STD-202, Method 204, Condition D

MATERIAL SPECIFICATIONS

Bodies: Brass per QQ-B-626, gold plated** per MIL-G-45204 .00001" min or nickel plated per QQ-N-290

Contacts: Male - brass per QQ-B-626, gold plated per MIL-G-45204 .00003" min.

Female - beryllium copper per QQ-C-530, gold plated per MIL-G-45204 .00003" min.

Nut Retention Spring: Beryllium copper per QQ-C-533, unplated

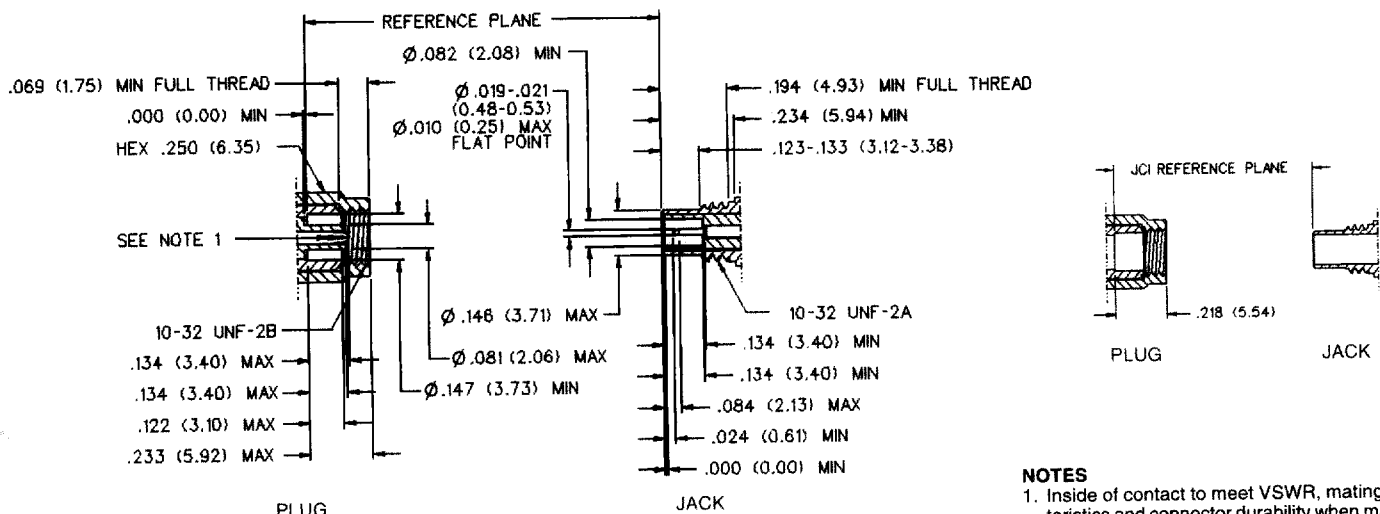
Insulators: PTFE fluorocarbon per ASTM D 1710 and ASTM D 1457

Expansion Caps: Brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

Crimp Sleeves: Copper per WW-T-799, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

Mounting Hardware: Brass (nuts) per QQ-B-626 or phosphor bronze (lockwashers) per QQ-B-750, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

MATING ENGAGEMENT FOR SMC SERIES PER MIL-C-39012



NOTES

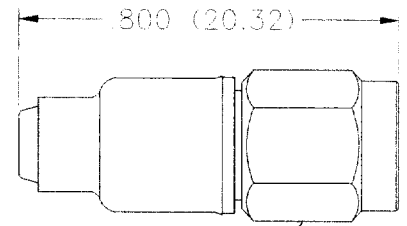
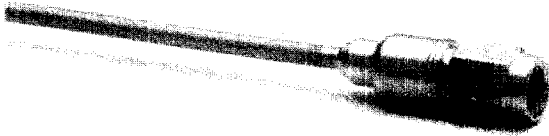
1. Inside of contact to meet VSWR, mating characteristics and connector durability when mated with a dia .019/.021 (0.48/0.53) male contact.

SMC Connectors

For Semi-Rigid Cable

INCHES (MILLIMETERS)
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

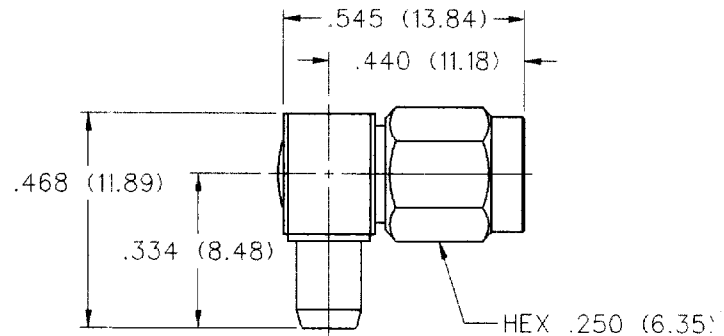
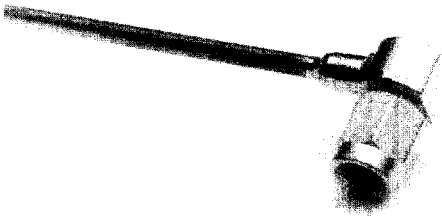
Straight Solder Type Plug - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-6693-001	131-6693-006

Assembly instructions page 154.

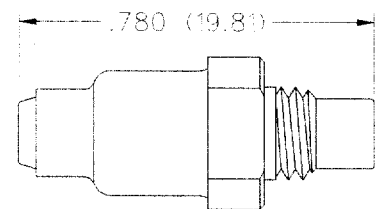
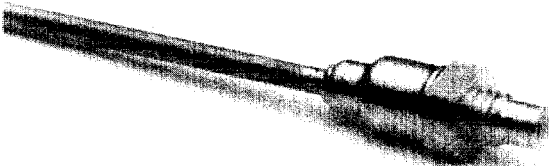
Right Angle Solder Type Plug - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-6693-101	131-6693-106

Assembly instructions page 155.

Straight Solder Type Jack - Captivated Contact

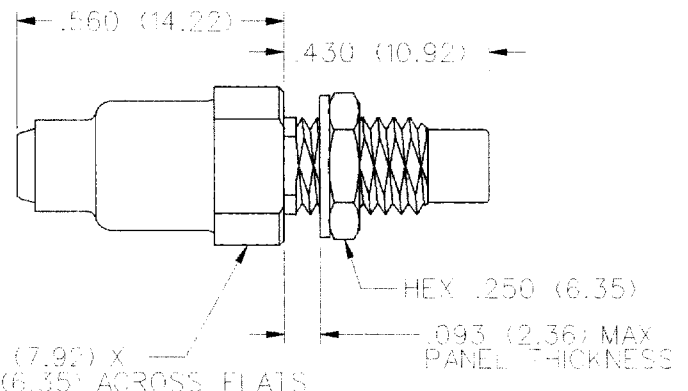
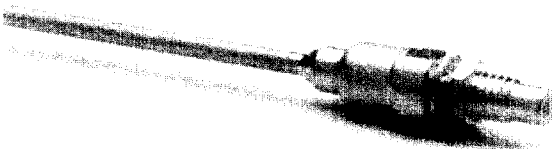


CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-6593-001	131-6593-006

Assembly instructions page 154.

Ø.312 (7.92) X
.250 (6.35) ACROSS FLATS

Straight Solder Type Bulkhead Jack - Captivated Contact

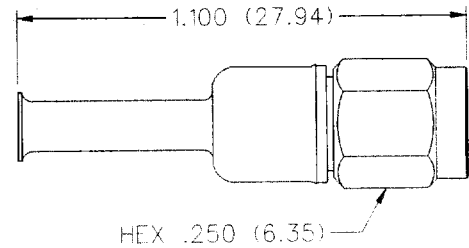
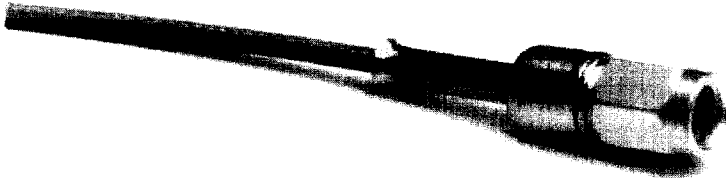


CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-6593-401	131-6593-406

Assembly instructions page 154.

Mounting hole layout figure 5 page 163

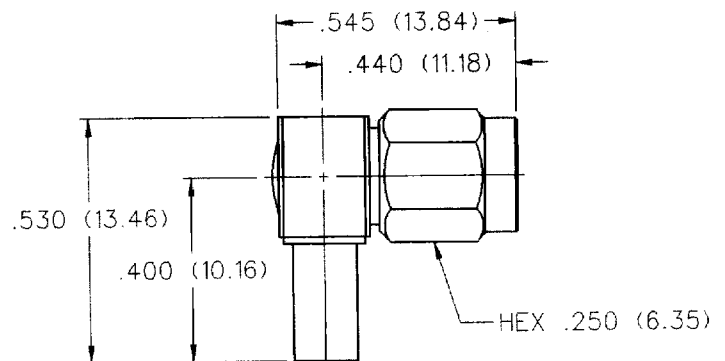
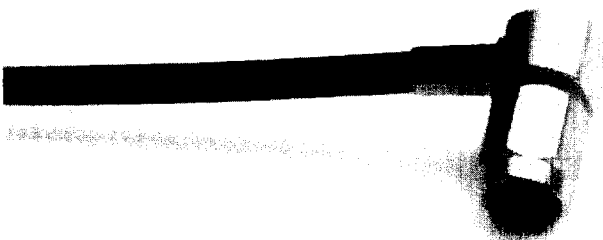
Straight Crimp Type Plug - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-6402-001	131-6402-006
RG-161/U, 174, 188, 316	131-6403-001	131-6403-006
RG-316 DS, 188 DS	131-6404-001	131-6404-006
RG-179/U, 187	131-6433-001	131-6433-006

Assembly instructions page 156.
See page 126 for Cable Assembly Tools.

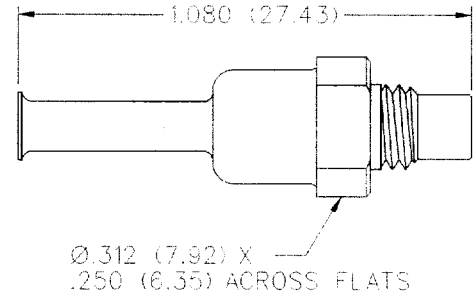
Right Angle Crimp Type Plug - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-6402-101	131-6402-106
RG-161/U, 174, 188, 316	131-6403-101	131-6403-106
RG-316 DS, 188 DS	131-6404-101	131-6404-106
RG-179/U, 187	131-6433-101	131-6433-106

Assembly instructions page 157.
See page 126 for Cable Assembly Tools.

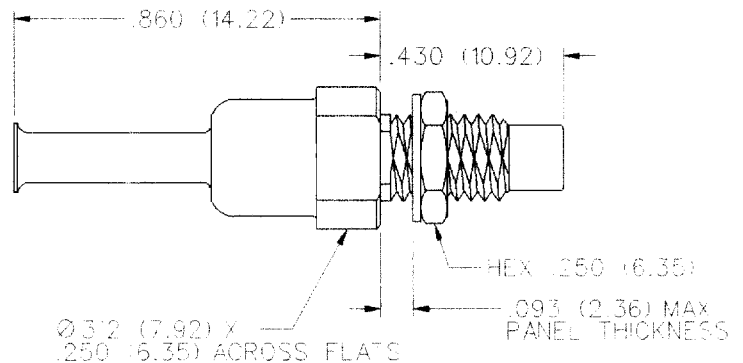
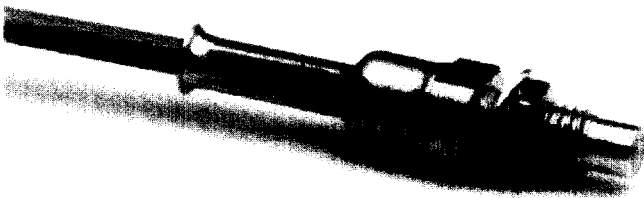
Straight Crimp Type Jack - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-6302-001	131-6302-006
RG-161/U, 174, 188, 316	131-6303-001	131-6303-006
RG-316 DS, 188 DS	131-6304-001	131-6304-006
RG-179/U, 187	131-6333-001	131-6333-006

Assembly instructions page 156.
See page 126 for Cable Assembly Tools.

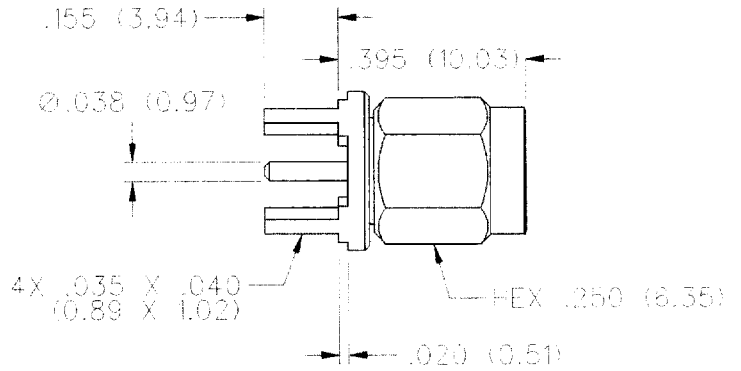
Straight Crimp Type Bulkhead Jack - Captivated Contact



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-6302-401	131-6302-406
RG-161/U, 174, 188, 316	131-6303-401	131-6303-406
RG-316 DS, 188 DS	131-6304-401	131-6304-406
RG-179/U, 187	131-6333-401	131-6333-406

Assembly instructions page 156.
See page 126 for Cable Assembly Tools.
Mounting hole layout figure 5 page 163.

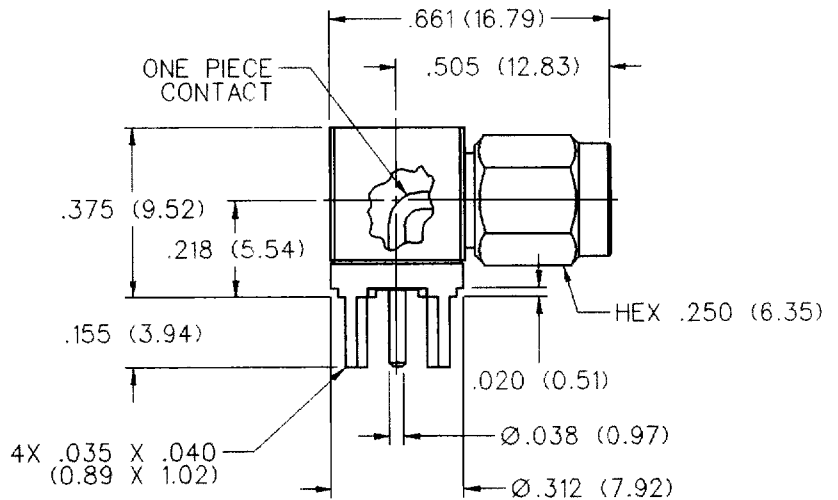
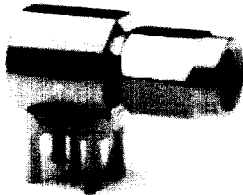
Straight Plug Receptacle



GOLD PLATED	NICKEL PLATED
131-6801-201	131-6801-206

Mounting hole layout figure 4 page 163.

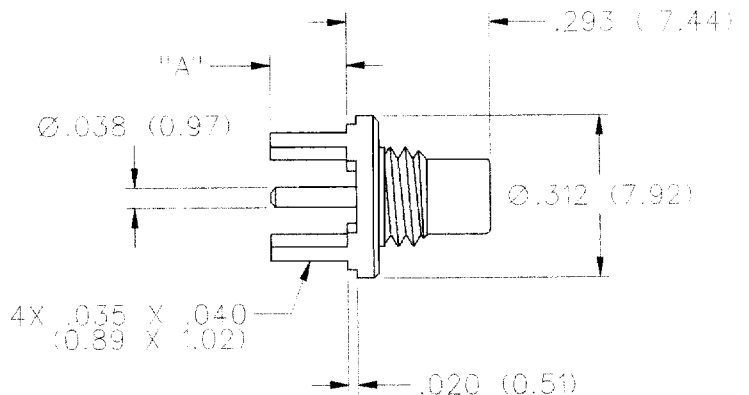
Right Angle Plug Receptacle



GOLD PLATED	NICKEL PLATED
131-6801-301	131-6801-306

Mounting hole layout figure 4 page 163.

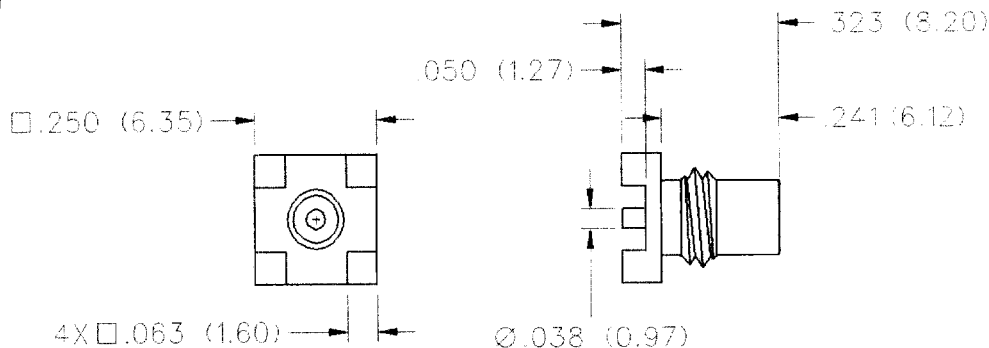
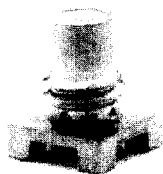
Straight Jack Receptacle



DIMENSION "A"	GOLD PLATED	NICKEL PLATED	IR COMPATIBLE*
.155 (3.94)	131-6701-201	131-6701-206	
.110 (2.79)	131-6701-211	131-6701-216	131-6701-215*

*Tin/Lead Solder dipped legs for IR Reflow Compatibility.
Mounting hole layout figure 4 page 163.

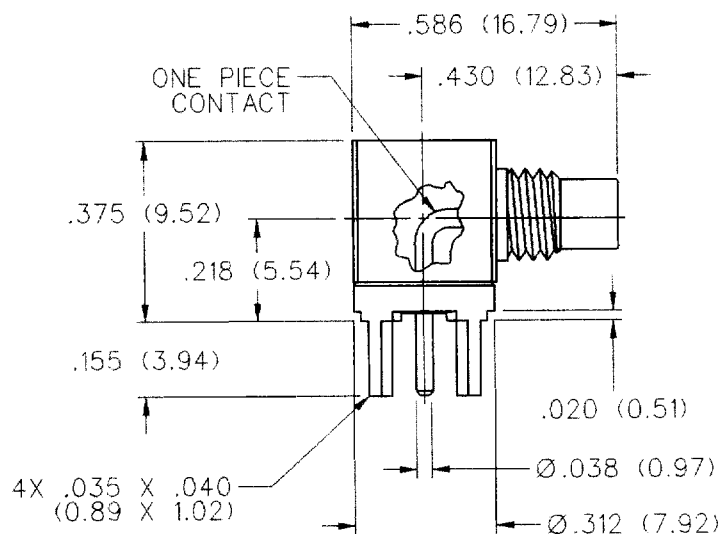
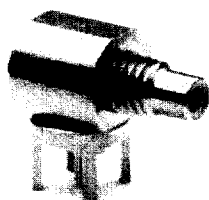
Straight Jack Receptacle - Surface Mount



GOLD PLATED	NICKEL PLATED
131-6711-201	131-6711-205 Δ

Δ Connector Mounting Pads 60%/40% Tin/Lead Coated (Solder Plated)
Recommended Land Pattern figure 9 page 163.

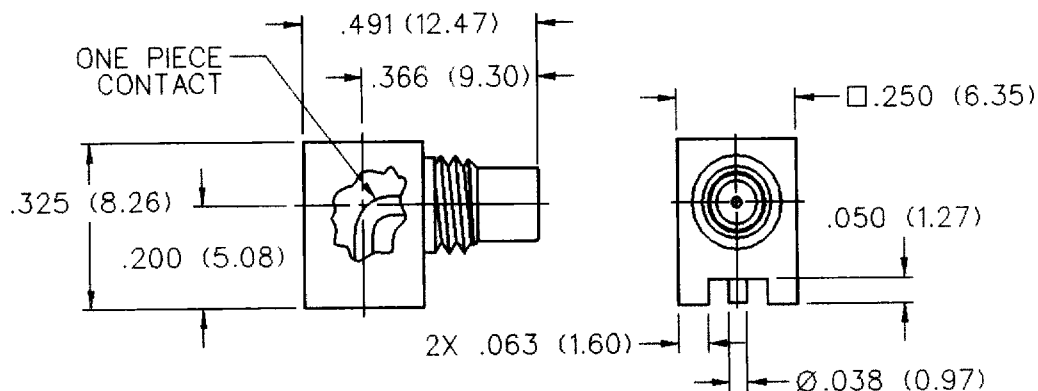
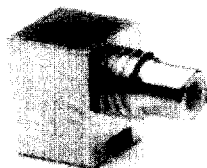
Right Angle Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-6701-301	131-6701-306

Mounting hole layout figure 4 page 163.

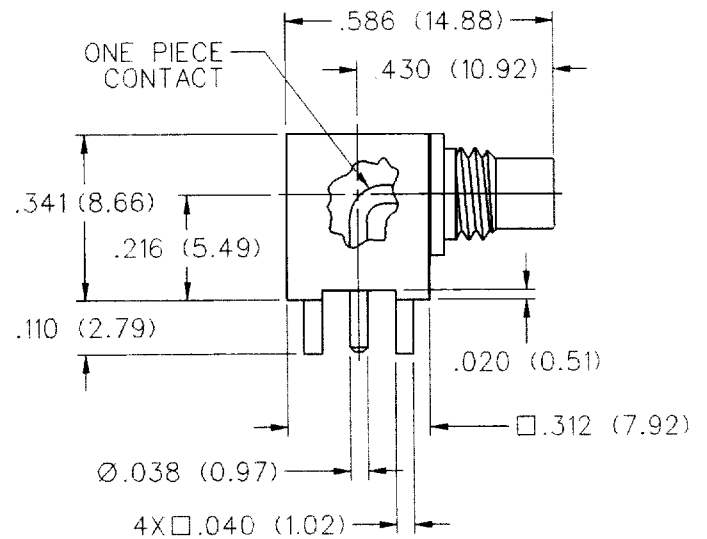
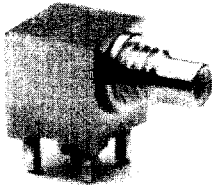
Right Angle Jack Receptacle - Surface Mount



GOLD PLATED	NICKEL PLATED
131-6711-301	131-6711-305 Δ

Δ Connector Mounting Rails 60%/40% Tin/Lead Coated (Solder Plated)
Recommended Land Pattern figure 9 page 163.

Right Angle Jack Receptacle - Moisture Seal*

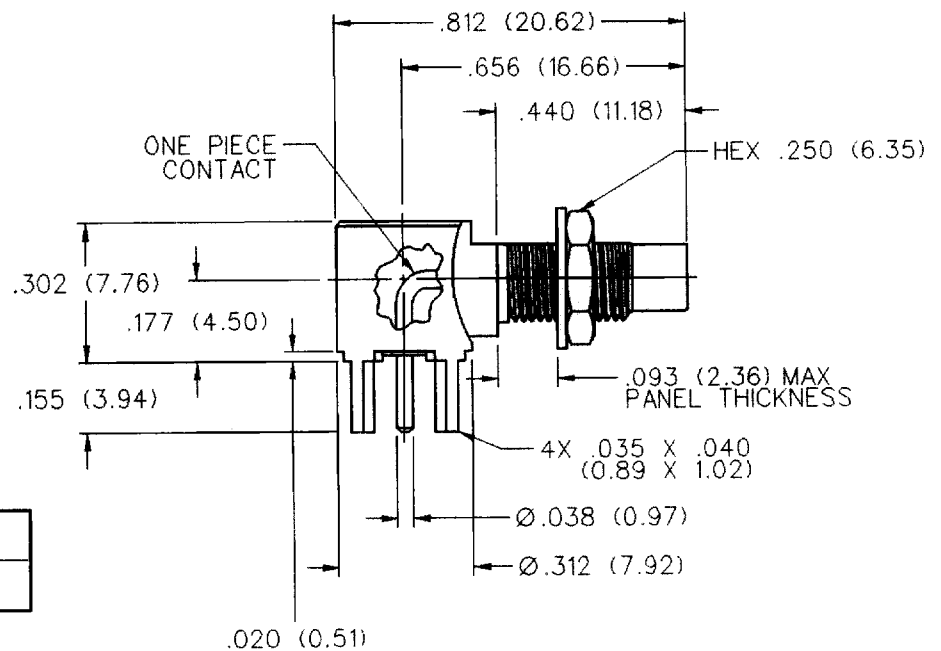
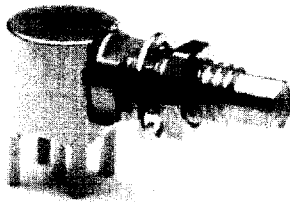


**NICKEL BODY, GOLD INTERFACE,
IR COMPATIBLE***

131-6701-315*

*Tin/Lead Solder dipped legs and Moisture Sealed for IR reflow compatibility.
Mounting hole layout figure 4 page 163.

Right Angle Bulkhead Jack Receptacle



GOLD PLATED

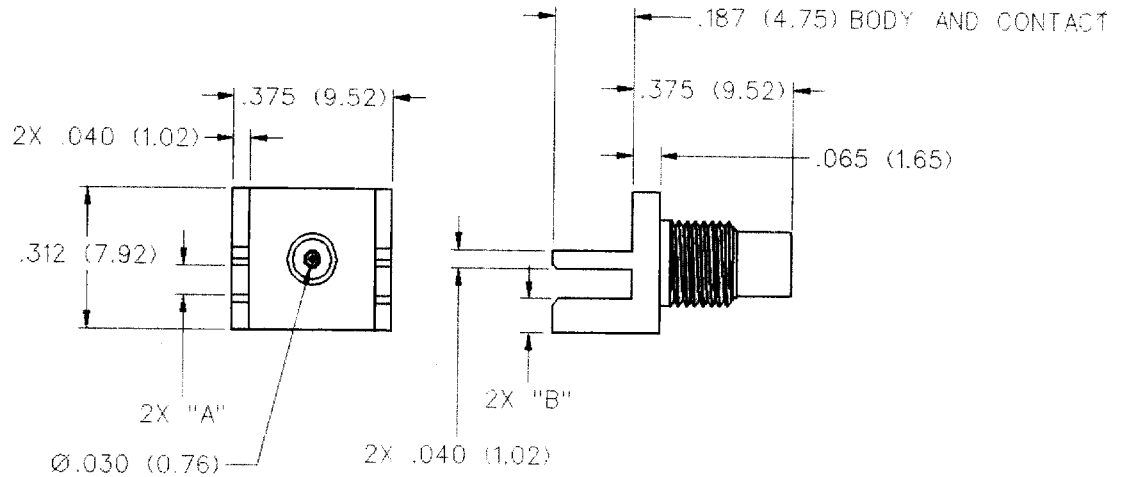
NICKEL PLATED

131-6701-341

131-6701-346

Mounting hole layout figures 4 and 5 page 163.

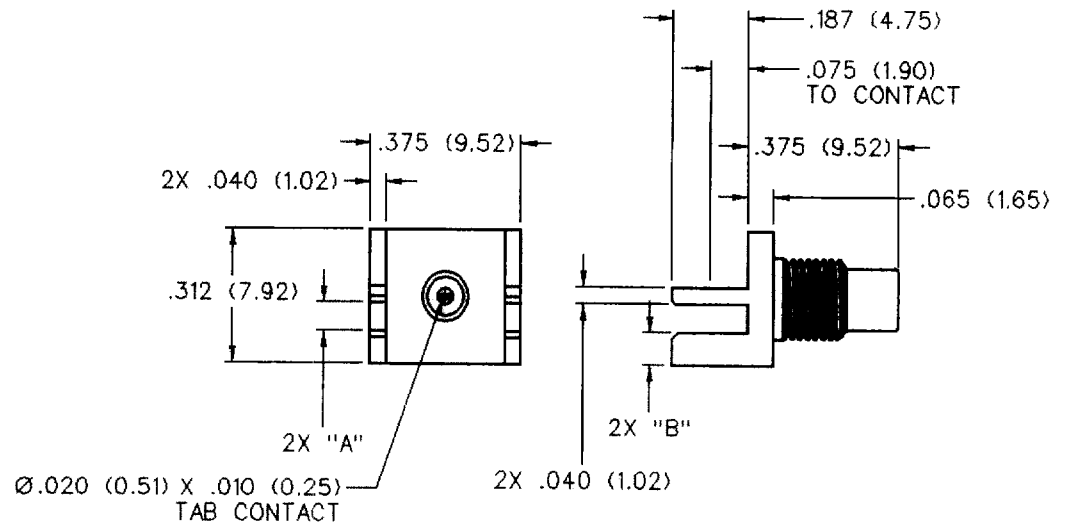
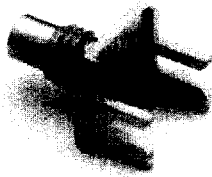
End Launch Jack Receptacle - Round Contact



BOARD THICKNESS	GOLD PLATED	NICKEL PLATED	DIMENSION "A"	DIMENSION "B"
.062 (1.57)	131-6701-801	131-6701-806	.068 (1.73)	.073 (1.85)
.042 (1.07)	131-6701-821	131-6701-826	.048 (1.22)	.093 (2.36)

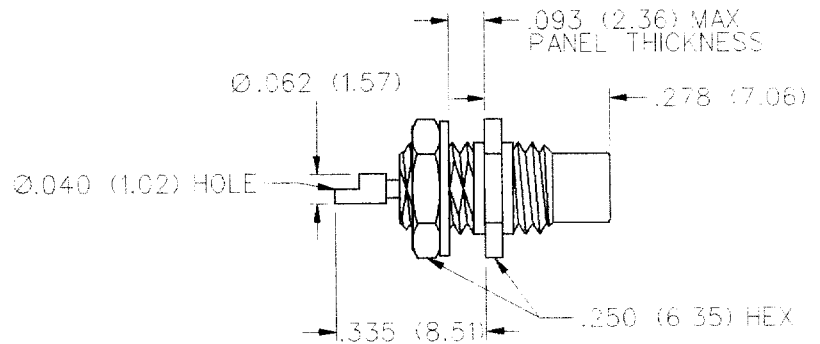


End Launch Jack Receptacle - Tab Contact



BOARD THICKNESS	GOLD PLATED	NICKEL PLATED	DIMENSION "A"	DIMENSION "B"
.062 (1.57)	131-6701-831	131-6701-836	.068 (1.73)	.083 (2.11)
.042 (1.07)	131-6701-841	131-6701-846	.048 (1.22)	.103 (2.62)

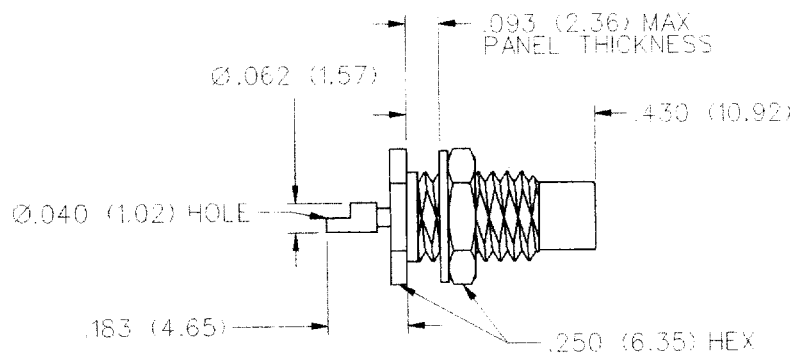
Front Mount Bulkhead Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-6701-411	131-6701-416

Mounting hole layout figure 5 page 163.

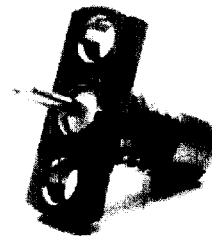
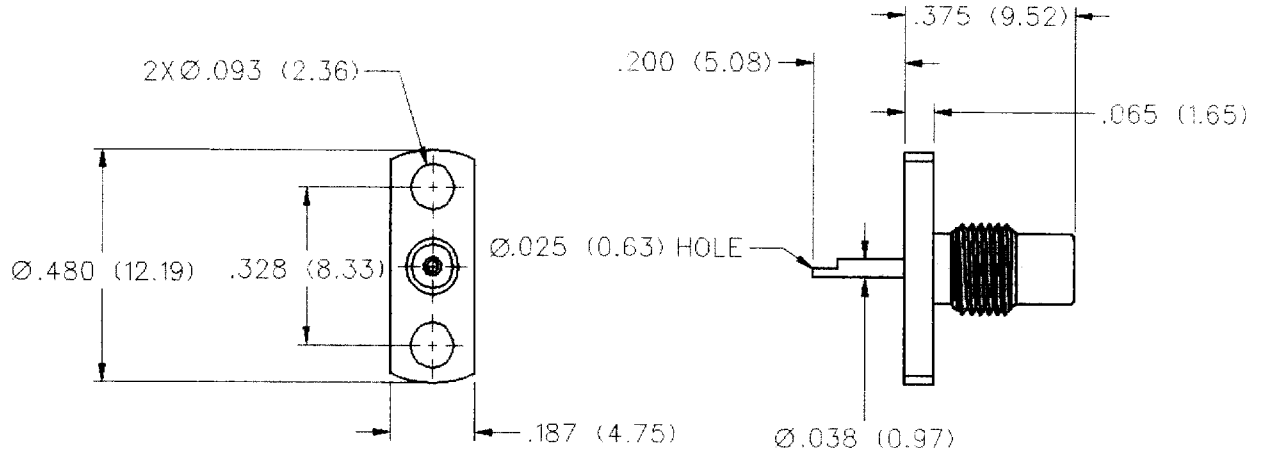
Rear Mount Bulkhead Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-6701-401	131-6701-406

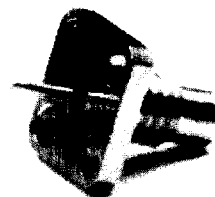
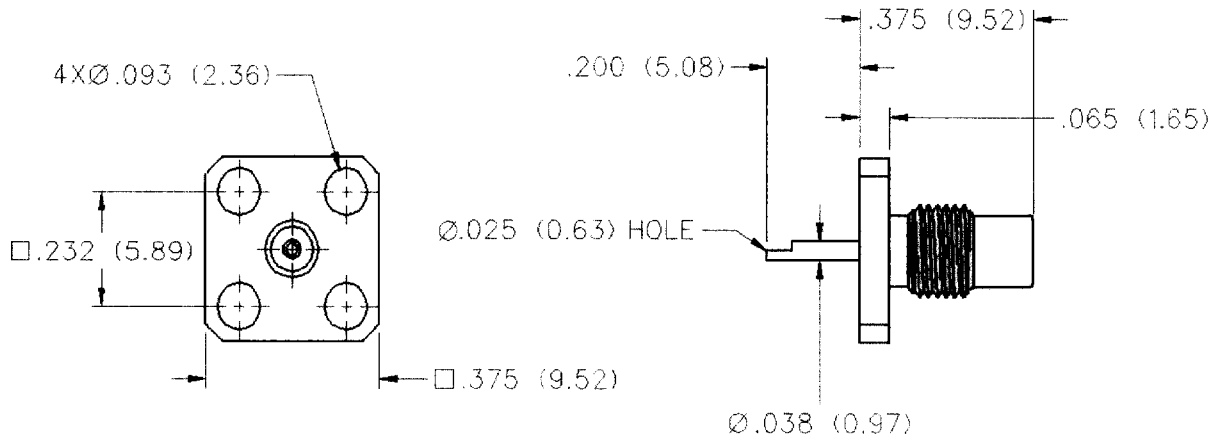
Mounting hole layout figure 5 page 163.

2-Hole Flange Mount Jack Receptacle



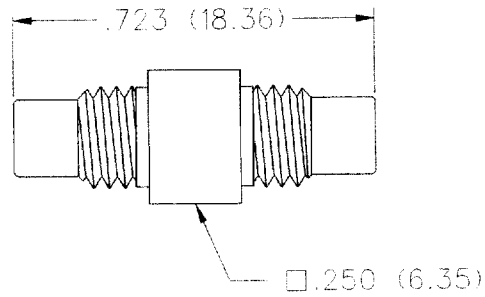
GOLD PLATED	NICKEL PLATED
131-6701-621	131-6701-626

4-Hole Flange Mount Jack Receptacle



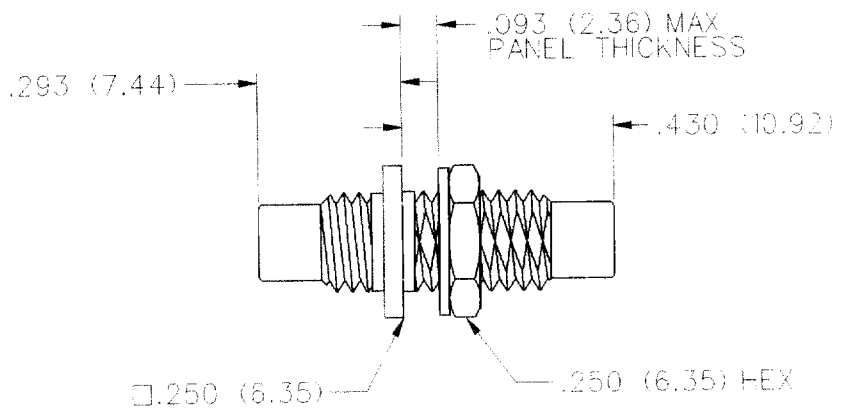
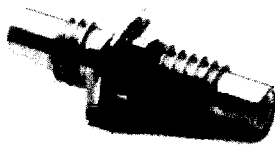
GOLD PLATED	NICKEL PLATED
131-6701-631	131-6701-636

Jack to Jack



GOLD PLATED	NICKEL PLATED
131-6901-801	131-6901-806

Jack to Bulkhead Jack



GOLD PLATED	NICKEL PLATED
131-6901-401	131-6901-406

Mounting hole layout figure 5 page 163.