

SMB

SPECIFICATIONS

ELECTRICAL RATINGS

Impedance: 50 ohms

Frequency Range: 0-4 GHz

VSWR: (f = GHz)

	Straight Cabled Connectors	Right Angle Cabled Connectors
RG-178 cable	1.30 + .04f	1.45 + .06f
RG-316 and .086 semi-rigid cable	1.25 + .04f	1.35 + .04f
Adapters		1.20 + .04f
Uncabled receptacles		N/A

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 1.5 GHz)

Straight cable connectors	0.30 dB
Right angle cable connectors	0.60 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	1.5
Outer contact (nickel plated connectors)	2.5	3.5
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

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 SMB

Engagement/Disengagement Force: 2 pounds minimum to 14 pounds
maximum axial forceContact 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-202, Method 213, Condition B

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

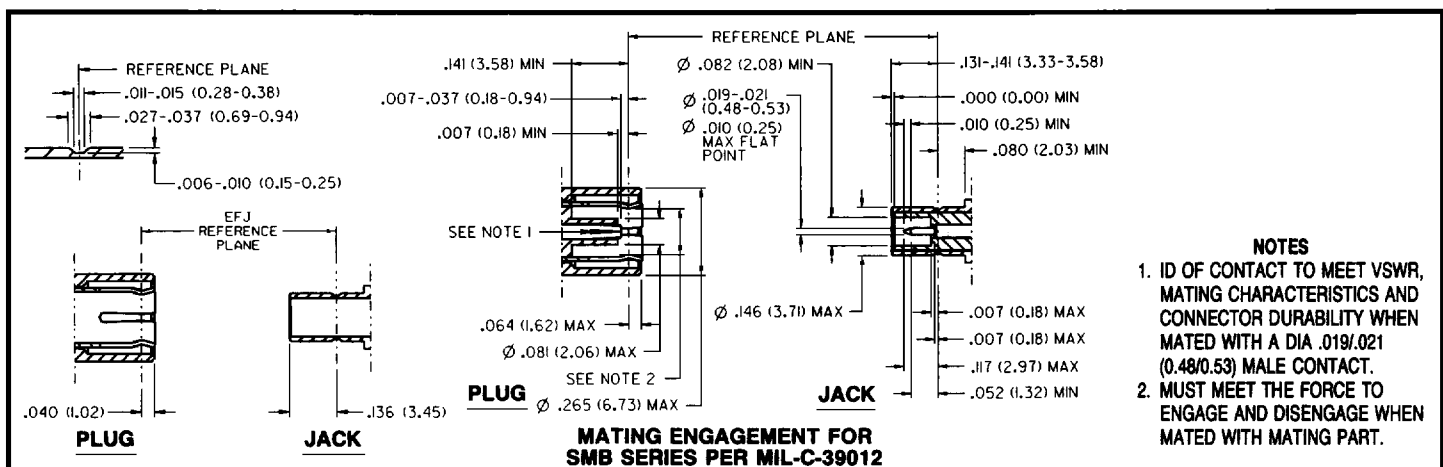
MATERIAL SPECIFICATIONS

Bodies: Brass per QQ-B-626 or zinc per ASTM B86-71, gold plated** per
MIL-G-45204 .00001 min or nickel plated per QQ-N-290Contacts: 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.

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-290Crimp Sleeves: Copper per WW-T-799, gold plated per MIL-G-45204
.00001" min. or nickel plated per QQ-N-290Mounting Hardware: Brass (nuts) per QQ-B-626 or phosphor bronze
(lockwashers) QQ-B-750, gold plated per MIL-G-45204 .00001" min. or
nickel plated per QQ-N-290Cover Rings: Phosphor Bronze per QQ-B-750, gold plated per MIL-G-45204
.00001 min. or nickel plated per QQ-N-290.

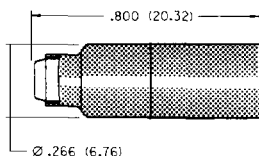
** All gold plated parts include a .00005" min. nickel underplate barrier layer.


E.F. JOHNSON COMPANY • Component Products • 1-800-247-8256, ext. 6281

299 Johnson Avenue, P.O. Box 1249, Waseca, MN 56093-0514 Phone: (507) 835-6281 Fax: (507) 835-6287, or 1-800-247-8256, ext. 6287

Straight Plug

Inches (millimeters)
 customer drawings available upon request



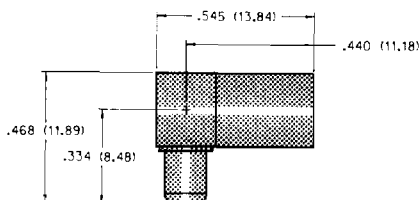
CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-3693-001	131-3693-016

Assembly instructions Page 73.

Right Angle Plug

CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-3693-101	131-3693-116

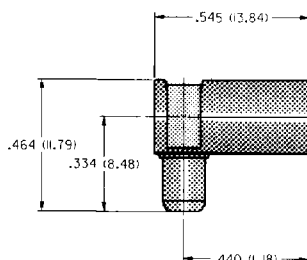
Assembly instructions Page 73.

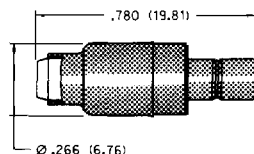


Right Angle Plug - DIE CAST

CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-1693-101	131-1693-116

Assembly instructions Page 73.

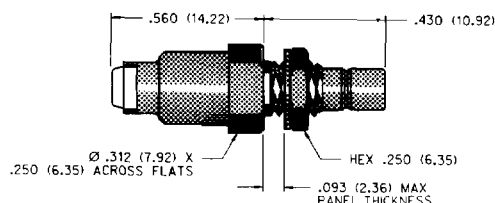


SMB**FOR SEMI-RIGID CABLE****Straight Jack**
 Inches (millimeters)
 customer drawings available upon request


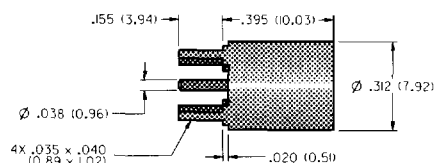
CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-3593-001	131-3593-006

Assembly instructions Page 73.
Straight Bulkhead Jack

CABLE TYPE	GOLD PLATED	NICKEL PLATED
.086 Semi-Rigid	131-3593-401	131-3593-406

Assembly instructions Page 73.


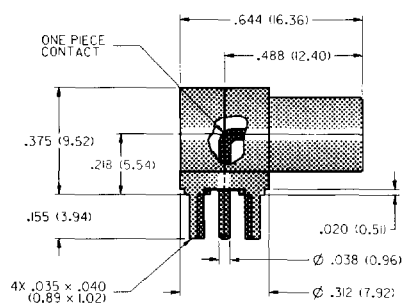
Straight Plug Receptacle



GOLD PLATED	NICKEL PLATED
131-3801-201	131-3801-216

Mounting hole layout Fig. 4 Page 76.

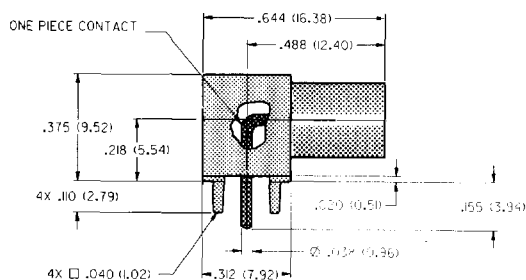
Right Angle Plug Receptacle



GOLD PLATED	NICKEL PLATED
131-3801-301	131-3801-316

Mounting hole layout Fig. 4 Page 76.

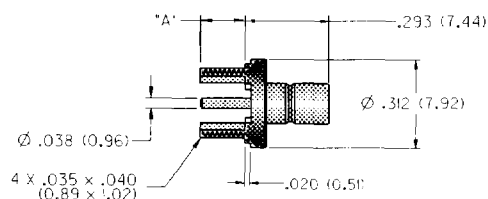
Right Angle Plug Receptacle - DIE CAST



GOLD PLATED	NICKEL PLATED
131-1801-371	131-1801-376

Mounting hole layout Fig. 4 Page 76.

Straight Jack Receptacle



LEG LENGTH DIM "A"	GOLD PLATED	NICKEL PLATED	IR COMPATIBLE*
.155 (3.94)	131-3701-201	131-3701-206	
.110 (2.79)	131-3701-211	131-3701-216	131-3701-215*

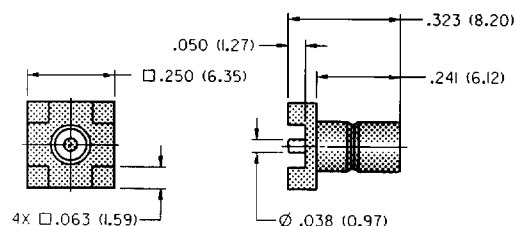
* Tin/Lead solder dipped legs for IR Reflow Compatibility.
 Mounting hole layout Fig. 4 Page 76.

CONNECTOR TYPE
SMB
PC MOUNT



Straight Jack Receptacle - Surface Mount

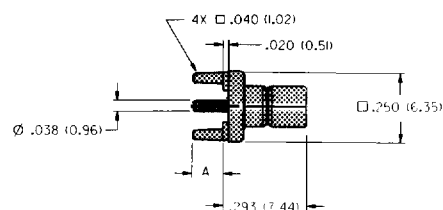
Inches (millimeters)
customer drawings available upon request



GOLD PLATED	NICKEL PLATED
131-3711-201	131-3711-205 Δ

Δ Connector Mounting Pads 60%/40% Tin/Lead Coated (Solder Plated)
Recommended Land Pattern Fig. 9 Page 76.

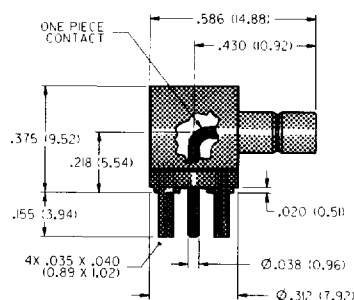
Straight Jack Receptacle - DIE CAST



LEG LENGTH DIM. "A"	GOLD PLATED	NICKEL PLATED	IR COMPATIBLE *
.155 (3.94)	131-1701-201	131-1701-206	
.095 (2.41)	131-1701-211	131-1701-216	131-1701-215*

* Tin/Lead solder dipped legs for IR Reflow Compatibility.
Mounting hole layout Fig. 4 Page 76.

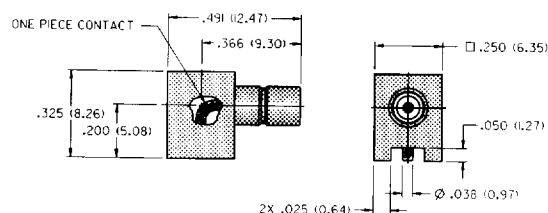
RightAngle Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-3701-301	131-3701-306

Mounting hole layout Fig. 4 Page 76.

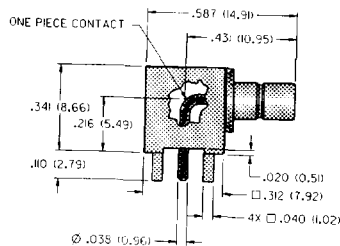
RightAngle Jack Receptacle - Surface Mount



GOLD PLATED	NICKEL PLATED
131-3711-301	131-3711-305 Δ

Δ Connector Mounting Rails 60%/40% Tin/Lead Coated (Solder Plated)
Recommended Land Pattern Fig. 9 Page 76.

Right Angle Receptacle - Moisture Seal *

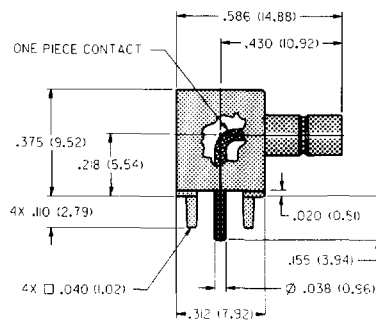


NICKEL BODY, GOLD INTERFACE,
 IR COMPATIBLE*

131-3701-355*

***Tin/Lead solder dipped legs and Moisture Sealed for IR Reflow Compatibility.**
 Mounting hole layout Fig. 4 Page 76.

Right Angle Jack Receptacle - DIE CAST



GOLD PLATED

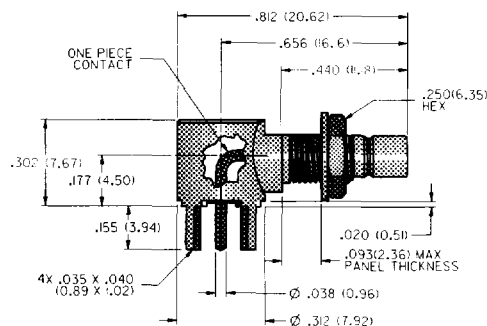
131-1701-371

NICKEL PLATED

131-1701-376

Mounting hole layout Fig. 4 Page 76.

Right Angle Bulkhead Jack Receptacle



GOLD PLATED

131-3701-341

NICKEL PLATED

131-3701-346

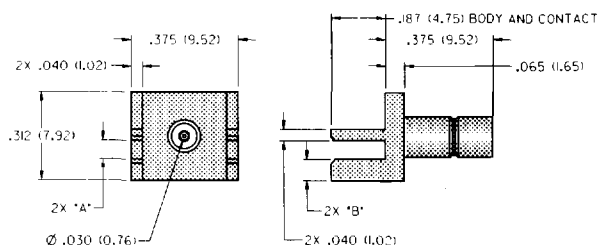
Mounting hole layout Fig. 4 & 5 Page 76.

CONNECTOR TYPE
SMB
PC MOUNT



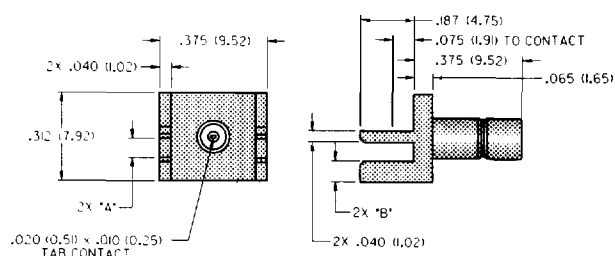
Inches (millimeters)
customer drawings available upon request

End Launch Jack Receptacle - Round Contact



DIMENSION "A"	DIMENSION "B"	GOLD PLATED	NICKEL PLATED
.068 (1.73)	.073 (1.85)	131-3701-801	131-3701-806
.048 (1.22)	.093 (2.36)	131-3701-821	131-3701-826

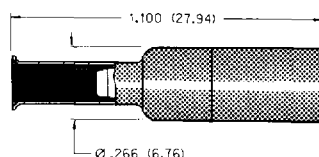
End Launch Jack Receptacle - Tab Contact



DIMENSION "A"	DIMENSION "B"	GOLD PLATED	NICKEL PLATED
.068 (1.73)	.083 (2.11)	131-3701-811	131-3701-816
.048 (1.22)	.103 (2.62)	131-3701-831	131-3701-836

Inches (millimeters)
customer drawings available upon request

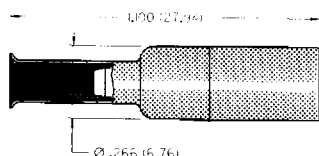
Straight Crimp Type Plug



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-3402-001	131-3402-016
RG-161/U, 174, 179, 187, 188, 316	131-3403-001	131-3403-016
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-3404-001	131-3404-016

Assembly instructions Page 74.
See Page 61 for Cable Assembly Tools.

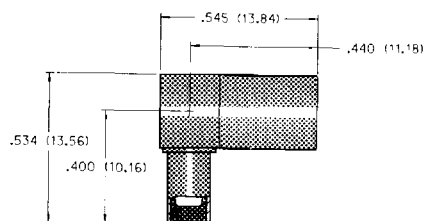
Straight Crimp Type Plug - DIE CAST



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-161/U, 174, 179, 187, 188, 316	131-1403-001	131-1403-016
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-1404-001	131-1404-016

Assembly instructions Page 74.
See Page 61 for Cable Assembly Tools.

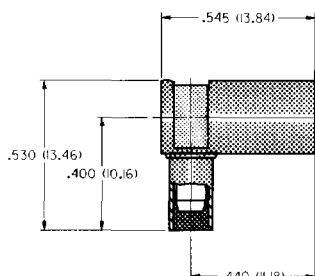
RightAngle Crimp Type Plug



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-3402-101	131-3402-116
RG-161/U, 174, 179, 187, 188, 316	131-3403-101	131-3403-116
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-3404-101	131-3404-116

Assembly instructions Page 75.
See Page 61 for Cable Assembly Tools.

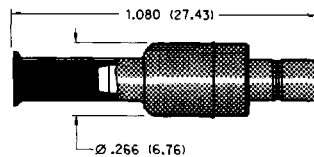
RightAngle Crimp Type Plug - DIE CAST



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-1402-101	131-1402-116
RG-161/U, 174, 179, 187, 188, 316	131-1403-101	131-1403-116
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-1404-101	131-1404-116

Assembly instructions Page 75.
See Page 61 for Cable Assembly Tools.

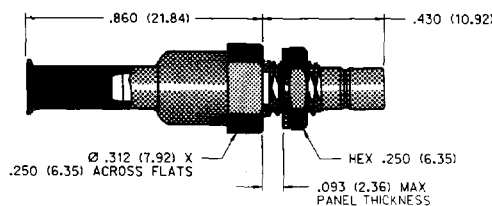
Straight Crimp Type Jack



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-3302-001	131-3302-006
RG-161/U, 174, 179, 187, 188, 316	131-3303-001	131-3303-006
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-3304-001	131-3304-006

Assembly instructions Page 74.
 See Page 61 for Cable Assembly Tools.

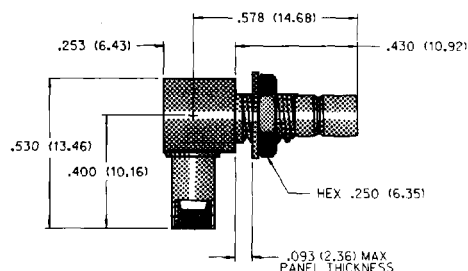
Straight Crimp Type Bulkhead Jack



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-178/U, 196	131-3302-401	131-3302-406
RG-161/U, 174, 179, 187, 188, 316	131-3303-401	131-3303-406
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-3304-401	131-3304-406

Assembly instructions Page 74.
 Mounting hole layout Fig. 5 Page 76.
 See Page 61 for Cable Assembly Tools.

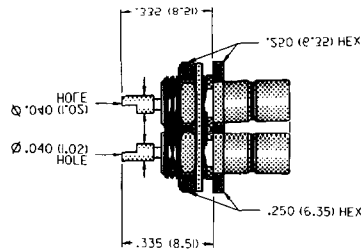
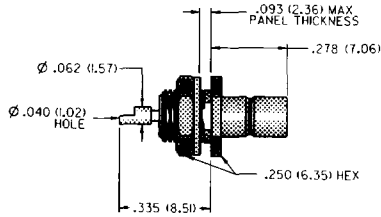
RightAngle Crimp Type Bulkhead Jack



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-161/U, 174, 179, 187, 188, 316	131-3303-501	131-3303-506
RG-188 DS RG-316 DS RG-179 DS RG-187 DS	131-3304-501	131-3304-506

Assembly instructions Page 75.
 Mounting hole layout Fig. 5 Page 76.
 See Page 61 for Cable Assembly Tools.

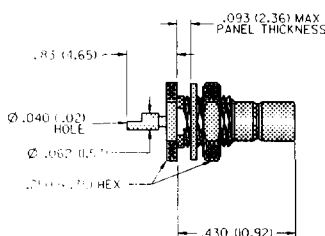
Front Mount Bulkhead Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-3701-411	131-3701-416

Mounting hole layout Fig. 5 Page 76.

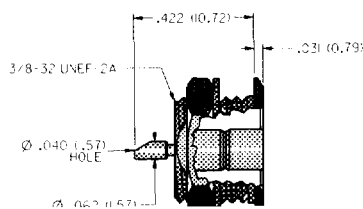
Rear Mount Bulkhead Jack Receptacle



GOLD PLATED	NICKEL PLATED
131-3701-401	131-3701-406

Mounting hole layout Fig. 5 Page 76.

Recessed Bulkhead Jack Receptacle



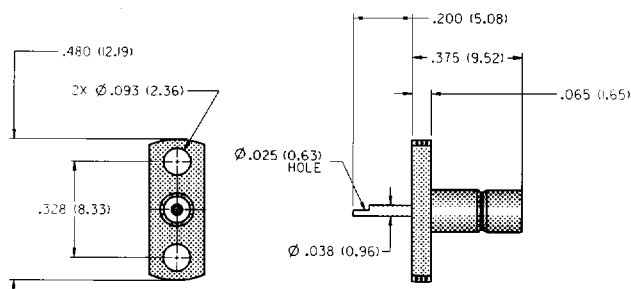
GOLD PLATED	NICKEL PLATED
131-3701-421	131-3701-426

Mounting hole layout Fig. 6 Page 76.

2-hole Flange Mount Jack Receptacle

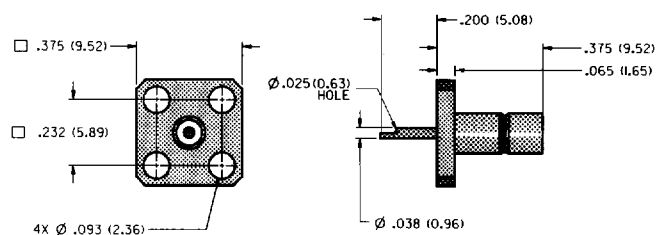
 Inches (millimeters)
 customer drawings available upon request

GOLD PLATED	NICKEL PLATED
131-3701-621	131-3701-626



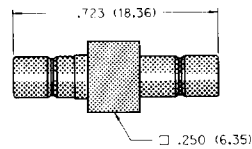
4-hole Flange Mount Jack Receptacle

GOLD PLATED	NICKEL PLATED
131-3701-631	131-3701-636



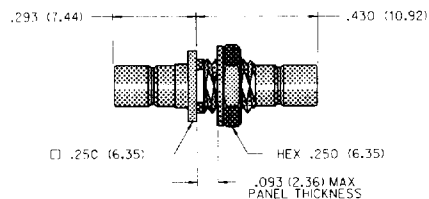
Inches (millimeters)
 customer drawings available upon request

Jack - Jack



GOLD PLATED	NICKEL PLATED
131-3901-801	131-3901-806

Jack - Bulkhead Jack



GOLD PLATED	NICKEL PLATED
131-3901-401	131-3901-406

Mounting hole layout Fig. 5 Page 76.