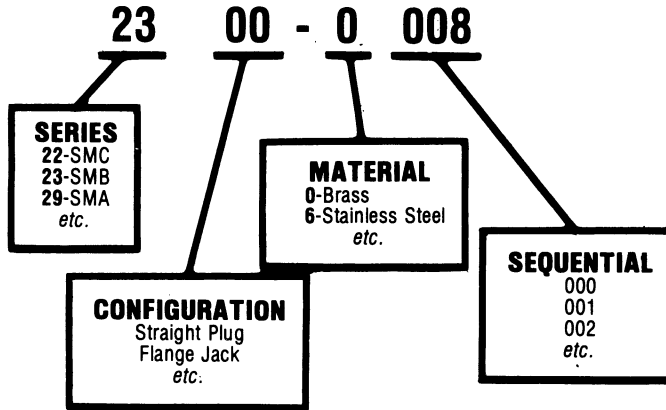


REFERENCE SECTION

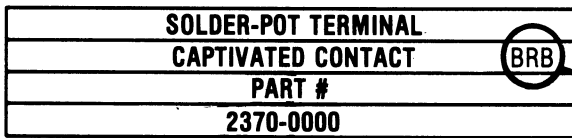
NUMBERING SYSTEM



CONTACT CAPTIVATION CODE

In each "Call-Out Box", for every part listed, there is a heading designating the part's contact status - Captivated or Non-Captivated (*when applicable*). For each part that has a Captivated Contact, there will be a three letter Captivation Code immediately following the designation - "Captivated Contact". This code is intended to satisfy any queries as to the type of captivation method employed by S/M for any given part (*where applicable*). In each Call-Out Box there is listed the part #. Below is an example of a connector with a Barbed captivated contact.

BULKHEAD RECEPTACLE



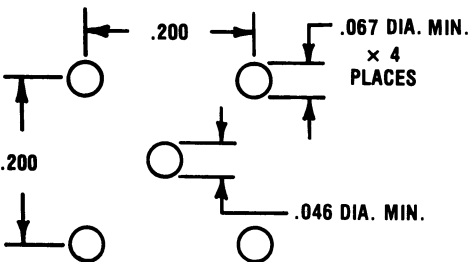
CONTACT CAPTIVATION CODE

BRB: The Barb method of captivation.

SHL: The Shoulder method of captivation.

MOUNTING HOLE CONFIGURATIONS

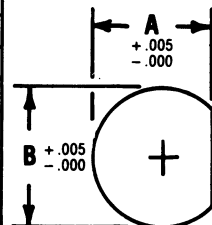
PRINTED CIRCUIT BOARD MOUNTING INFORMATION



Applies to all S/M p.c. board connectors.

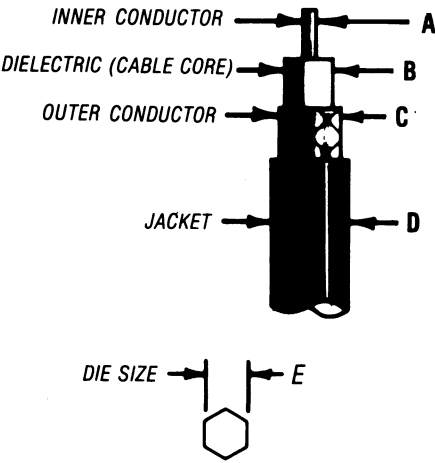
'D' - FLAT MOUNTING HOLE INFORMATION

PART #	PAGE / POSITION	A $\begin{smallmatrix} +.005 \\ -.000 \end{smallmatrix}$	B $\begin{smallmatrix} +.005 \\ -.000 \end{smallmatrix}$
2331-0001	6 / 2	.177	.195
2332-0001	6 / 2	.177	.195
2333-0001	6 / 4	.177	.195
2334-0001	6 / 4	.177	.195
2360-0002	7 / 1	.177	.195
2360-0003	7 / 2	.177	.195
2362-0001	7 / 4	N/A	.330
2363-0001	9 / 2	.177	.195
2363-0002	9 / 1	.177	.195
2370-0003	7 / 3	.177	.195
2390-0003	10 / 4	.177	.195
2390-0004	9 / 3	.177	.195



REFERENCE SECTION

RG FLEXIBLE CABLE INFORMATION

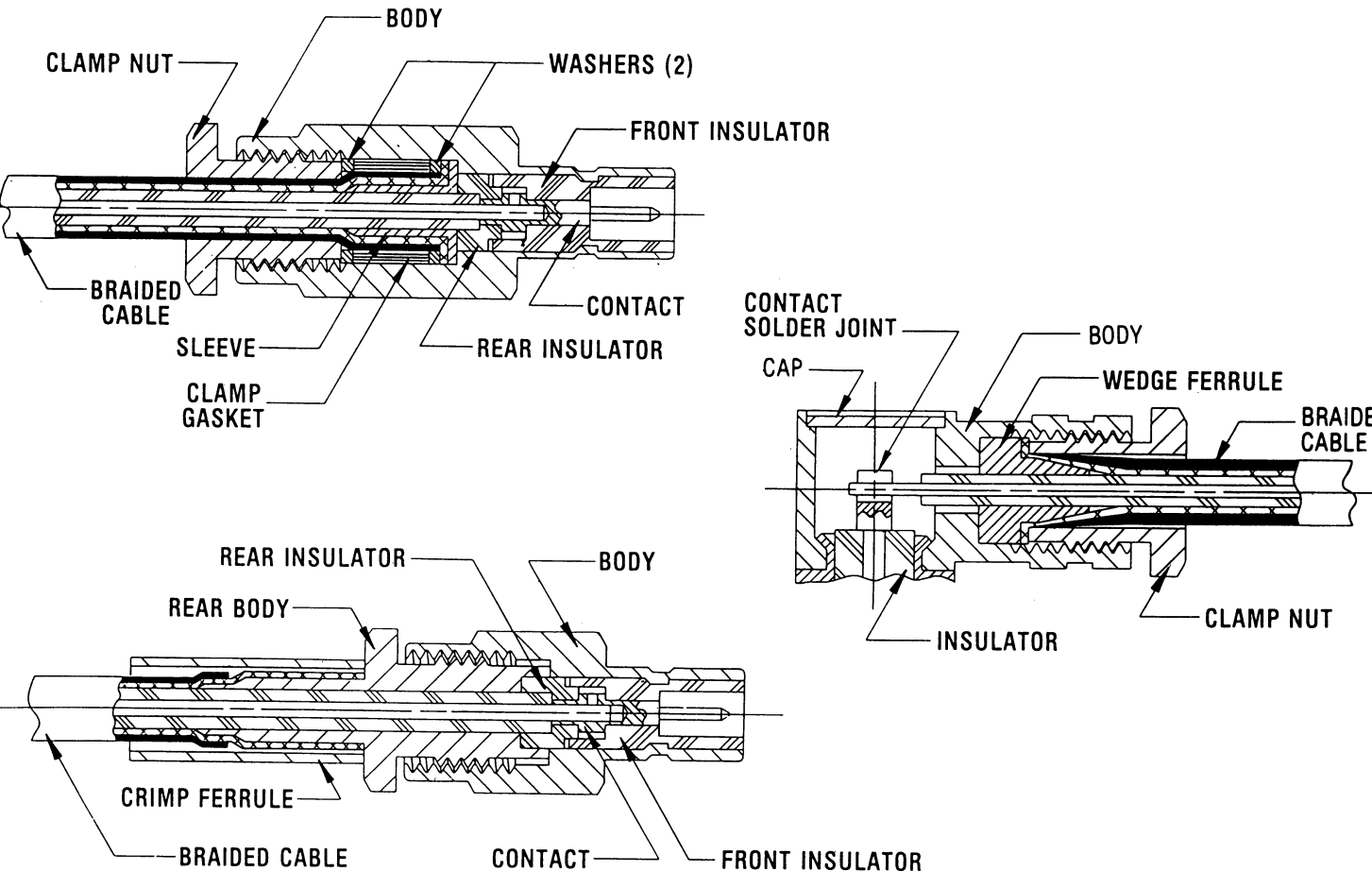


	FLEXIBLE CABLE (RG)			
	178/BU	188/ AU	196/AU	316/U
IMPEDANCE/ OHMS	50	50	50	50
VOLTAGE RATING/ VOLTS	335	250	335	250
RF HIGH POTENTIAL/ VOLTS	700	500	700	500
DIELECTRIC W/STANDING VOLTAGE	1000	750	1000	750
FLEX. CABLE DIMENSIONS				
A	.012	.020	.012	.020
B	.034	.060	.034	.060
C	.054	.081	.054	.081
D	.080	.110	.080	.110
E	.105	.128	.105	.128

NOTES

- 1.) Due to the low frequency range (D.C. to 4 GHz) of the SMB connector, use of the 70 Ohm (RG-161) and the 75 Ohm (RG-179 & RG-187) cables are acceptable with the 50 Ohm SMB connector.
- 2.) Crimp tool #M22520/10-05 can be used on all cables shown above.

CONNECTOR CONSTRUCTION (TYPICAL)



FLEXIBLE CABLE CONNECTORS

Plugs - pg. 4-5

Jacks - pg. 6

Bulkhead jacks - pg. 6

PANEL MOUNT RECEPTACLES

Solder-pot terminals - pg. 7

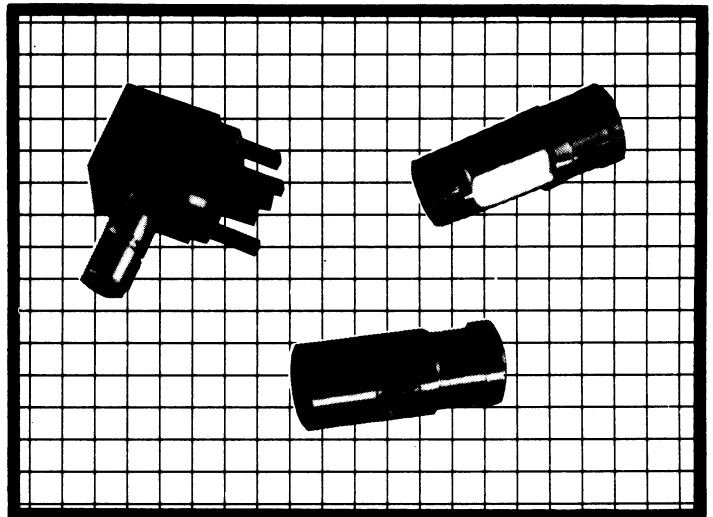
Printed circuit (p.c.) board terminals - pg. 8

Hermetic seal solder-pot terminals - pg. 9

IN-SERIES ADAPTERS

Plugs - pg. 10

Jacks - pg. 10



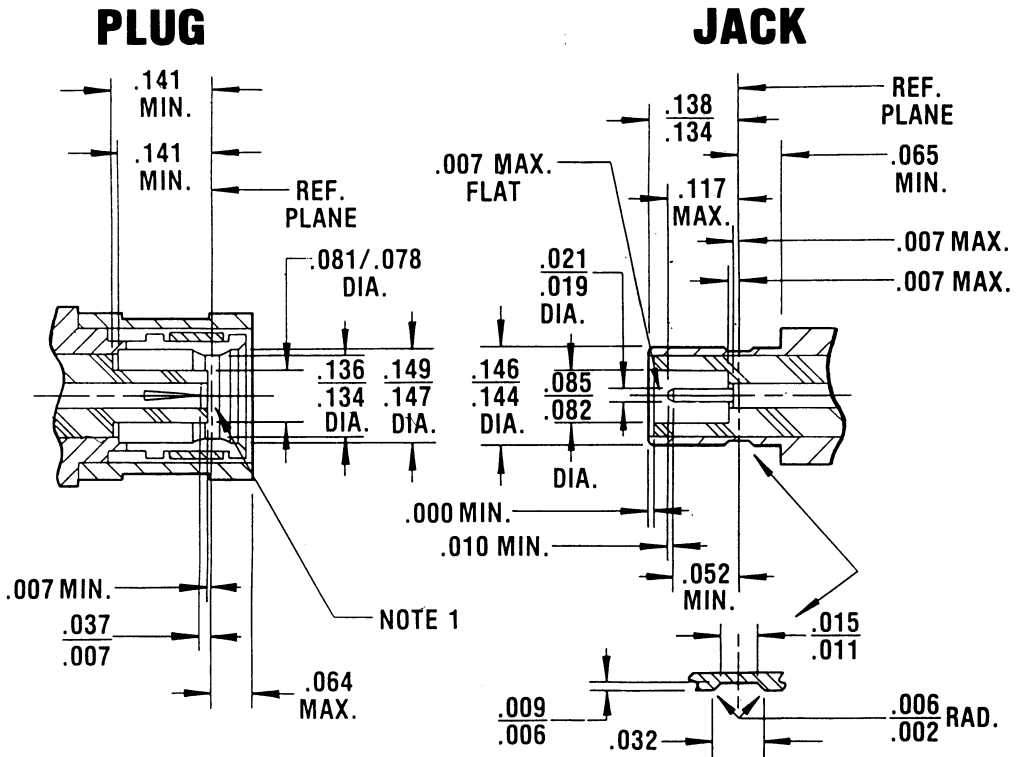
SMB - 2300 SERIES CONNECTORS

Soliton/Microwave's SMB low frequency connectors feature quick-connect, snap-on mating. Their small size and low frequency range (D.C. to 4 GHz) belies the real hallmark of the SMB series -- *convenience and stability*. Many systems today have dense packaging situations where wrench access to a coupling nut is not possible. Quick-connect snap-on SMBs have proven to be highly adaptable in these situations, plus offer both a reliable and electrically stable connection.

Soliton/Microwave's SMBs are constructed of both nickel and gold plated brass. Center contacts are gold plated brass and beryllium copper, and are captivated within the connector to provide the dimensional stability required to perform well electrically. SMBs are available in many configurations. Straight and right angle plugs and jacks are offered for attachment to all the popular subminiature flexible cables, and include both clamp and crimp cable attachments with a grip equal to the actual strength of the cables themselves. To mate with these cable connectors, Soliton offers a complete series of bulkhead, panel and printed circuit board mount receptacles. Their rugged construction offers designers many options for use in satellite, missile, aircraft and computer applications. All Soliton/Microwave SMB connectors meet or exceed the parameters of MIL-C-39012.

Soliton/Microwave's SMB connectors are the result of many years of experience in connector design and manufacture. Precision craftsmanship, the finest materials obtainable, and the utmost in quality control procedures have made Soliton's SMBs the industry standard of today. We are constantly monitoring the pulse of the industry and, consequently, we reevaluate all our designs to better serve the demanding needs of the microwave industry today, and in the future.

For special connector designs not listed in this catalog, contact our Application Engineering Department and they will be quick to respond to your special design requirements.



1.) Inside diameter of contact will meet Mating Characteristics, VSWR and Connector Durability ratings when mated with our .019 - .021 inch diameter male contact.

SPECIFICATIONS

(Example for 2300-0008, 2301-0008, 2340-0002, 2341-0002)

REQUIREMENTS

TYPICAL SPECIFICATIONS

MATERIAL

BODY AND SLEEVE

Brass per QQ-B-626
1/2 H Alloy 360

CONTACT AND SPRING

Beryllium copper per QQ-C-530
Cond. HT Alloy 173

DIELECTRIC

Teflon per MIL-P-19468
and L-P-403 Type I.

FINISH

ALL METAL PARTS
Except Contact and
Lock Ring

Gold per MIL-G-45204 Type II
over copper per MIL-C-14550.

CENTER CONTACT

Gold per MIL-G-45204 Type II
over copper per MIL-C-14550.

LOCK RING

None

DESIGN

Interface Dimensions per
Solitron/Microwave MD-121

MIL-C-39012/SMB Series
See above; 'Mating End Dimensions'.

NOMINAL IMPEDANCE

50 Ohms

FREQUENCY RANGE

D.C. to 4.0 Ghz

SPECIFICATIONS

SMB

REQUIREMENTS	TYPICAL SPECIFICATIONS
VOLTAGE RATING	250 Volts RMS Maximum - <i>RG Cable 178, 196</i> 335 Volts RMS Maximum - <i>RG Cable 188, 316</i>
TEMPERATURE RATING	-65°C to +165°C
V.S.W.R.	1.30 + .040 x fGHz Maximum - <i>RG Cable 178, 196</i> 1.25 + .040 x fGHz Maximum - <i>RG Cable 188, 316</i>
INSERTION LOSS	.30 dB Max. @ 1.5 GHz
R.F. LEAKAGE	- 55 dB Min. @ 2 to 3 GHz
R.F. HIGH POTENTIAL	500 Volts RMS Maximum @ 5 MHz - <i>RG Cable 178, 196</i> 700 Volts RMS Maximum @ 5 MHz - <i>RG Cable 188, 316</i>
DIELECTRIC WITHSTANDING VOLTAGE	Method 301 of MIL-STD-202
INSULATION RESISTANCE	1000 Megohms Minimum
CONTACT RESISTANCE	Center Contact 6 Milliohms Max. Outer Contact 1 Milliohms Max.
CENTER CONTACT AXIAL FORCES	Insertion 40 Ounces Max. Withdrawal 1.0 Ounces Min.] - FEMALE SOCKETS ONLY
CONNECTOR DURABILITY	500 Cycles Min.
CONNECTOR ENGAGEMENT AND DISENGAGEMENT	14 Lbs. Max. Longitudinal Force
VIBRATION	MIL-STD-202 Method 204 Cond. D [20 G's]
SHOCK	MIL-STD-202 Method 213 Cond. I [100 G's]
TEMPERATURE CYCLING	MIL-STD-202 Method 102 Cond. C [-65°C to +200°C]
CORROSION	MIL-STD-202 Method 101 Cond. B [48 Hrs.]
MOISTURE RESISTANCE	MIL-STD-202 Method 106 Less step 7b.
BAROMETRIC PRESSURE	MIL-STD-202 Method Cond. C [70,000 ft./250 VRMS].
CAPTIVATION	6.0 Lbs. Axial Force Min.

For specifications in designs,
materials and finishes: request
Engineering Data Drawings [EDD'S]
from the Sales Department.

SMB/C/D SUBMINIATURE COAXIAL CONNECTORS

NOTE:

Soliton/Microwave SMB and SMC connectors are designed in accordance with the standard military categories for cable attachment.

CATEGORY A: Clamp type field repairable connectors which require no special tools to assemble.

CATEGORY B: Crimp type connectors which may require special tools to assemble.

All Soliton/Microwave SMB/SMC connectors are manufactured in accordance with, and meet or exceed MIL-C-39012.

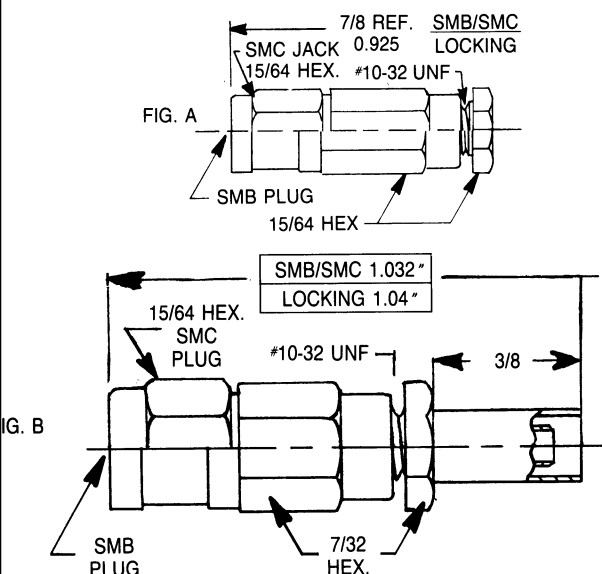
Crimp connectors are recommended for most cables less than 3/16" diameter

SMB = SNAP-ON

SMC = SCREW-ON

SMD = SLIDE-ON

CABLED PLUG STRAIGHT



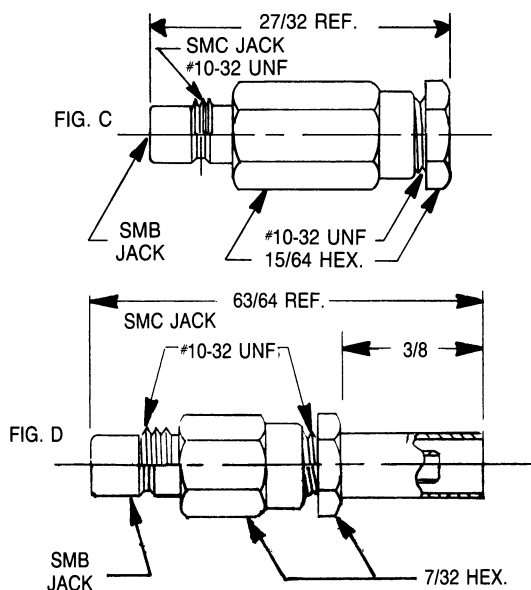
Cable type	SMB Snap-on	SMC Screw-on	Locking Snap-on	Fig.
GASKET CLAMP Captivated Contact (SHL)				
RG 188/316	S/M 2300-0008	S/M 2200-0008	R 117-005	A
RG 178/196	S/M 2301-0008	S/M 2201-0008	R 117-003	A
PREFERRED CRIMP TYPE Captivated Contact (SHL)				
RG 188/316	S/M 2302-0008	S/M 2202-0008	R 117-075	B
RG 178/196	S/M 2303-0008	S/M 2203-0008	R 117-073	B

Mil C39012/ (Note listed commercial item is not equal to Mil #)

Cable type	SMB Snap-on		SMC Screw-on	
	Cat A (Clmp)	Cat B (Crmp)†	Cat A (Clmp)	Cat B (Crmp)†
RG 178	/67-0003	/67-B0008	/73-0003	/73-B0008
RG 179	/67-0004	/67-B0010	/73-0004	/73-B0010
RG 174/316	/67-0004	/67-B0009	/73-0004	/73-B0009

† Non Captive Contact

CABLED JACK STRAIGHT



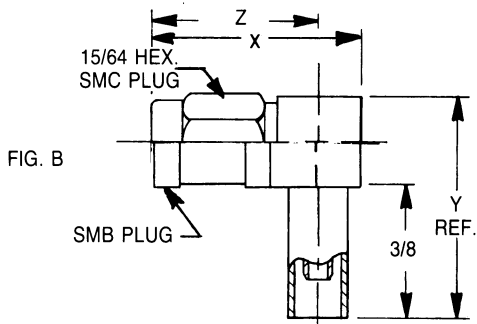
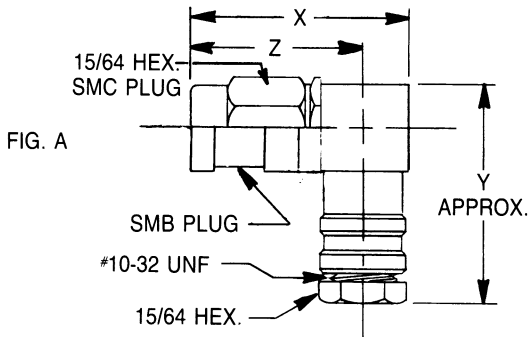
Cable type	SMB Snap-on	SMC Screw-on	SMD Slide-on	Fig.
GASKET CLAMP Captivated Contact (SHL)				
RG 188/316	S/M 2340-0002	S/M 2241-0001		C
RG 178/196	S/M 2341-0002	S/M 2242-0001		C
PREFERRED CRIMP TYPE Captivated Contact (SHL)				
RG 188/316	S/M 2342-0009	S/M 2242-0009		D
RG 178/196	S/M 2343-0009	S/M 2243-0009		D

Mil-C-39012/ (Note listed commercial item is not equal to Mil #)

Cable type	SMB Snap-on		SMC Screw-on	
	Cat A (Clmp)	Cat B (Crmp)*	Cat A (Clmp)	Cat B (Crmp)*
RG 178/196	/68-0003	/68-B0013	/74-0003	/74-B0013
RG 179	/68-0004	/68-B0015	/74-0004	/74-B0015
RG 174/316	/67-0004	/68-B0014	/74-0004	/74-B0014

*Captive Contact. Previous non-captive items not for new designs.

RIGHT ANGLE CABLED PLUG



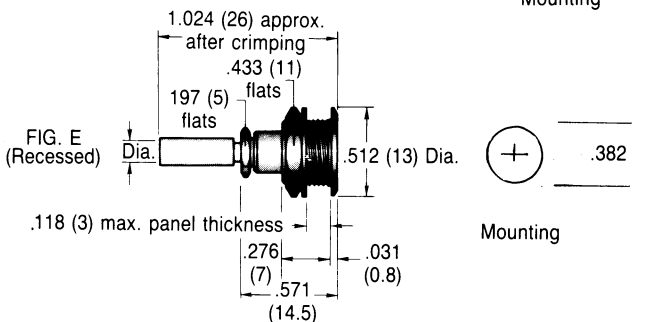
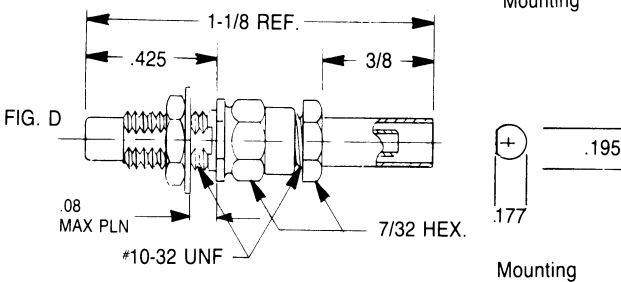
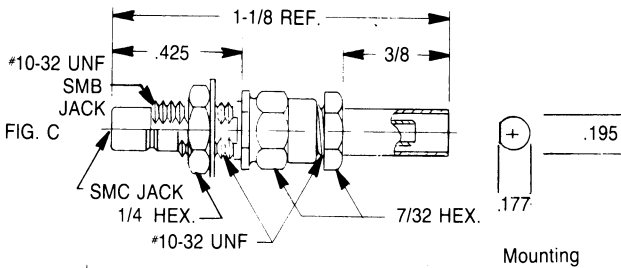
Cable Type	SMB Snap-on	SMC Screw-on	Locking Snap-on	Dimensions (inches)			
				Fig.	X	Y	Z
GASKET CLAMP Captivated Contact (SHL)							
RG 188/316	S/M 2310-0009	S/M 2210-0009		A	.545	.750	
RG 178/196	S/M 2311-0009	S/M 2211-0009		A	.545	.750	
RG 188/316			R 117-165	A	.618	.728	.512
RG 178/196			R 117-163	A	.618	.728	.512
WEDGE CLAMP/T JOINT Captivated Contact (BRB)							
RG 188/316	S/M 2310-0008	S/M 2210-0008		A	.545	.625	
RG 178/196	S/M 2311-0008	S/M 2211-0008		A	.545	.625	
PREFERRED CRIMP TYPE Captivated Contact (SHL)							
RG 188/316	S/M 2312-0008	S/M 2212-0008		B	.545	.625	
RG 178/196	S/M 2313-0008	S/M 2213-0008		B	.545	.625	
RG 188/316			R 117-186	B	.618	.689	.512
RG 178/196			R 117-183	B	.618	.689	.512

Mil-C-39012/ (Not equal to listed commercial parts)

Cable Type	SMB Snap-on		SMC Screw-on		Dimensions (inches)			
	Cat A (Clmp)	Cat B (Crmp)	Cat A (Clmp)	Cat B (Crmp)	Fig.	X	Y	Z
RG 178	/69-0003	/69-0008	/75-0003	/75-0008	A	.63	.80	.50
RG 179	/69-0004	/69-0010	/75-0004	/75-0010	A	.63	.80	.50
RG 188/316	/69-0004	/69-0009	/75-0004	/75-0009	B	---	.94	.75

Mil-C-39012 Dimensions are Maximum allowed.

BULKHEAD CABLED JACK



Cable Type	SMB Snap-on	SMC Screw-on	SMD Slide-on	Fig.
GASKET CLAMP Captivated Contact (SHL)				
RG 188/316	S/M 2331-0001	S/M 2231-0001		C
RG 178/196	S/M 2332-0001	S/M 2232-0001		C
PREFERRED CRIMP TYPE Captivated Contact (SHL)				
RG 188/316	S/M 2333-0001	S/M 2233-0001		D
RG 178/196	S/M 2334-0001	S/M 2234-0001		D
174/188/316	R 114-316			E

Mil-C-39012/ (Note listed commercial item is not equal to Mil #)

Cable Type	SMB Snap-on		SMC Screw-on	
	Cat A (Clmp) Fig C	Cat B (Crmp) Fig D*	Cat A (Clmp) Fig C	Cat B (Crmp) Fig D*
RG 178	/70-0003	/70-0008	/76-0003	/76-0006
RG 179	/70-0004	/70-0010	/76-0004	/76-0010
RG 188-316	/70-0004	/70-0009	/76-0004	/76-0009

* 1.20 max overall length. May be direct crimp or crimp-clamp at manufacturers option.

SMB/C/D

BULKHEAD RECEPTACLES

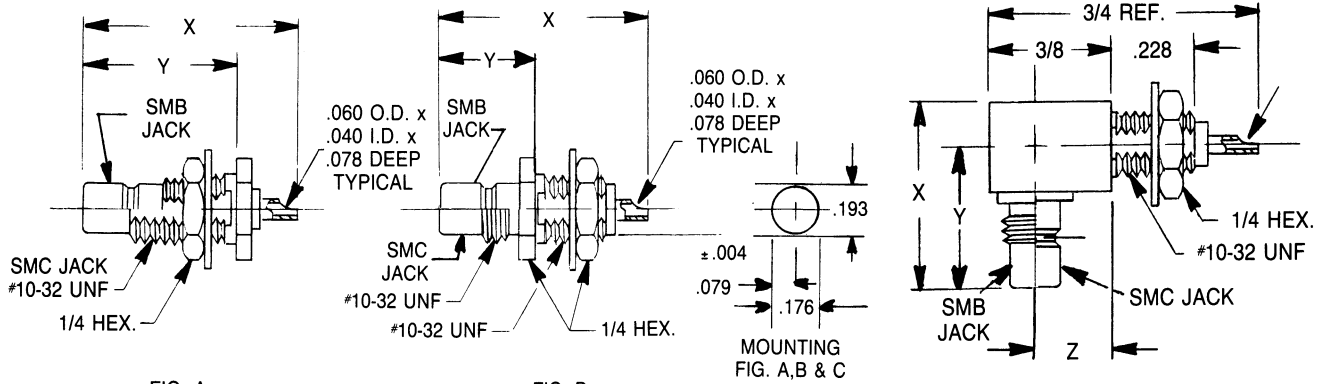


FIG. A

FIG. B

FIG. C

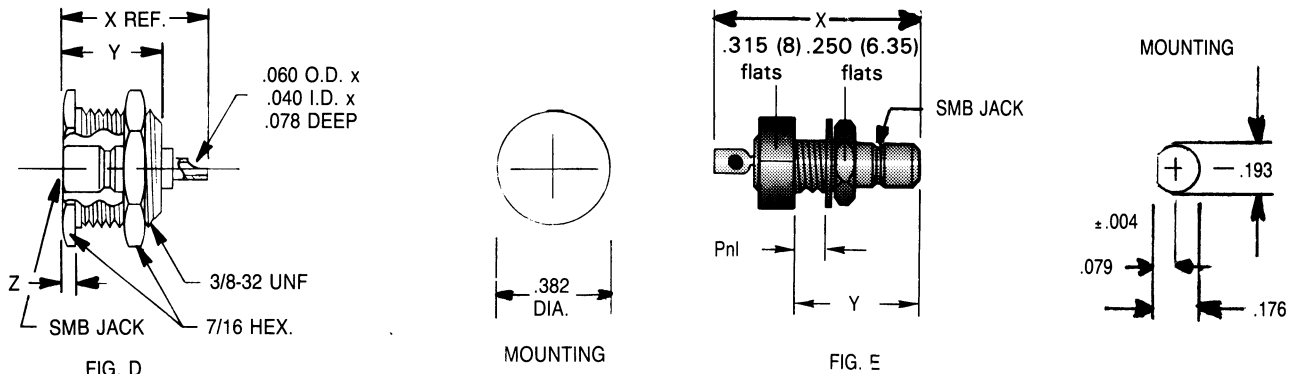


FIG. D

MOUNTING

FIG. E

TYPE	SMB Snap-on	SMC Screw-on	SMD Slide-on	Dimensions (Inches)			Max Pnl
				Fig.	X	Y	
NON HERMETIC BULKHEAD MOUNT SOLDER-POT TERMINAL Captivated Contact (BRB)							
ST. J REAR MNT	S/M 2360-0002	S/M 2260-0002		A	.59	.426	
ST. J FRNT MNT	S/M 2360-0003			A	.59	.236	
ST. J FRNT MNT		S/M 2260-0003		A	.59	.274	
RT. ANG J	S/M 2370-0003	S/M 2270-0003		C	.59	.33	.22
RT. ANG J	R 114-670			C	.571	.433	.187
RECESSED JACK	S/M 2362-0001			D	.453	.312	.03
RECESSED JACK	R 114-566			D	.47	.29	.03
HERMETIC SOLDER-POT TERMINAL Captivated Contact							
ST. J REAR MNT	S/M 2363-0001	S/M 2263-6001		A	.67	.431	
ST. J FRNT MNT	S/M 2363-0002	S/M 2263-6002		B	.675	.383	
HERMETIC BULKHEAD MOUNT TAB WITH HOLE							
ST. J REAR MNT	R 114-603			E	.709	.433	.098
MIL C39012/ (Not equal to listed commercial parts)							
ST. J REAR MNT	/71-0001	/77-0001		A	.63	.426	.096
ST. J FRNT MNT	/71-0002	/77-0002		A	.635	.236	.096

ADD SUFFIX SF TO COMMERCIAL PART NUMBER FOR STAINLESS STEEL VERSION.

PRINTED CIRCUIT RECEPTACLES

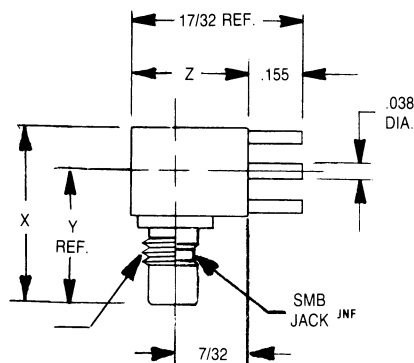


FIG. A

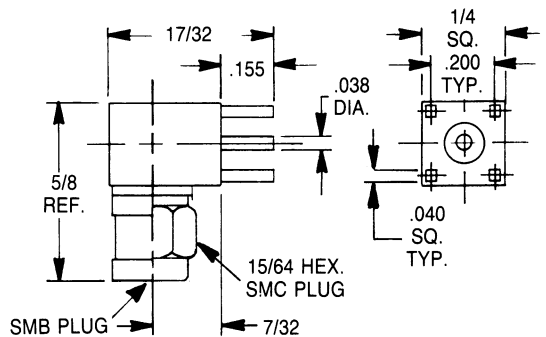


FIG. B

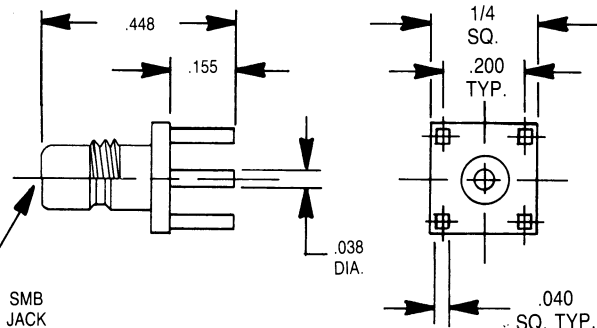


FIG. C

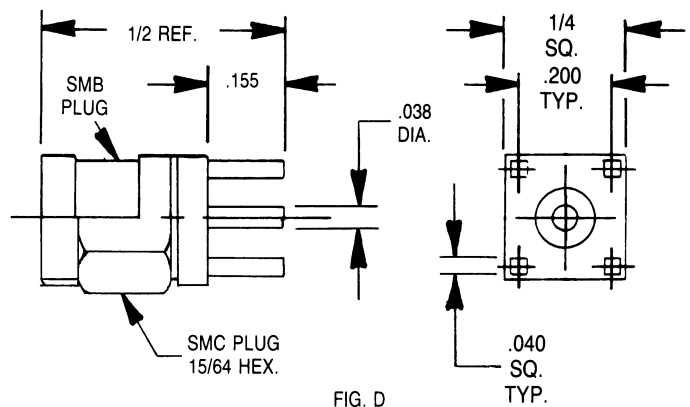


FIG. D

TYPE	SMB Snap-on	SMC Screw-on	SMD Slide-on	Dimensions (Inches)			
				Fig.	X	Y	Z
NON HERMETIC PRINTED CIRCUIT Captivated Contact (BRB)							
ST. JACK	S/M 2385-0001	S/M 2285-0001		C	--	--	--
ST. JACK	R 114-426 †	R 112-426 †		C	--	--	--
ST. PLUG	S/M 2387-0001	S/M 2287-0001		D	--	--	--
RT. ANG JACK	R 114-665			A	.571	.433	.218
RT. ANG JACK		R 112-665		A	.570	.433	.343
RT. ANG JACK	S/M 2385-0013	S/M 2285-0013		A	.718	.593	.376
RT. ANG PLUG		S/M 2287-0004		B	--	--	--
NON HERMETIC PRINTED CIRCUIT Captivated Contact (SHL)							
RT. ANG PLUG	S/M 2387-0004	S/M 2211-0008		B	--	--	--
MIL C39012/ PRINTED CIRCUIT (Non Hermetic)							
ST. JACK	/95-0001			C	--	--	--
RT. ANG JACK	/96-0001			A	.718	.593	.376

† FIG. C .448 dimension IS .453 inch for Radial Parts

