



Phoenix SMP Connectors

-Ruggedized for environmental use

Product Description



Phoenix's SMP series subminiature connectors offer superior electrical performance from DC to 26.5 GHz. Blindmate feature allows for board-to-board, cable mount, and pcb mount. In-series adapters provide solutions for rack and panel applications.

All products manufactured to Mil-Std-348.

Features

- Subminiature size for high-density applications.
- Snap feature for quick mating and reduced assembly time.
- Axial alignment reduces stress from multiple blindmate interconnects.
- Gang mating possible. Compensates for up to .020" radial and axial misalignment (when used with an adapter).
- Center-to-Center spacing of .170".

Applications

- Blindmate telecommunications.
- Active antennas.
- Phased arrays.
- Airborne platforms.
- Ship and ground radar.
- Satellite communications.
- Military.

Connector Types (Full Detent, Limited Detent, And Smooth Bore)

- PCB: Subminiature vertical and right angle plugs.
- Jack-to-Jack: jack-to-jack adapter.
- Cabled: Right angle cable and subminiature straight jack cable.
- Edge Mount: Subminiature edge mount plug.
- Surface Mount: Subminiature vertical surface mount plug.

The Phoenix Company of Chicago, Inc. • 555 Pond Drive, Wood Dale, IL 60191 USA

Tel: (630) 595-2300 • Fax: (630) 595-6579

www.phoenixofchicago.com



The Phoenix Company of Chicago and its affiliates have manufacturing facilities in the United States, Mexico, and China.

Phoenix SMP Connectors

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Materials

Shroud Bodies- Stainless Steel Per QQ-S-763.

Female Bodies- Beryllium Copper Per ASTM-B-196.

Other Bodies- Brass Per ASTM-B-16.

Insulators- Teflon (PTFE) Per ASTM-D-1710.

Contacts- Beryllium Copper Per ASTM-B-196.

Plating:

Gold Per Mil-G-45204.

Copper Per Mil-C-14550.

Nickel Per QQ-N-290.

Passivate Per ASTM-A-380.

Finishes (Add Letter To End Of Part Number)

“A”: Body- .000050 Min. Gold Over .000050 Nickel.

“P”: Body- Passivated.

Contact- .000050 Min. Gold Over Nickel.

Other Metal Parts: Gold Plated Or Passivated To Meet The Environmental Requirements.

Mating Characteristics

Engagement & Separation Forces	Full Detent	Limited Detent	Smooth Bore
Maximum	15 LBS.	10 LBS.	2 LBS.
Minimum	5 LBS.	2 LBS.	0.5LBS.
Endurance	100	500	1,000
Radial Misalignment: +/- .010	Conforms To DSCC 94007, 94008 Standard.		
Axial Misalignment: .000/.010			

Electrical

Impedance: 50 Ohms.

Frequency Range: DC To 26.5 GHz. (Max. Frequency Depends Upon Cable And Component Selection).

Voltage Rating: 335 Volts RMS @ Sea Level, 65 Volts RMS @ 70,000 Feet.

Insulation Resistance: 5,000 Megohms Min.

Temperature Rating: -65°C To +165°C.

DWV: 500 Volts RMS.

RF High Potential: 600 Volts RMS Min. @ 5 MHz.

Contact Resistance: Center Contact: 6.0 Milliohms. Outer Contact: 2.0 Milliohms.

VSWR: 1.20 Max. @ DC To 18 GHz.

1.35 Max. @ 18 To 26.5 GHz.

Corona Level: 70,000 Ft. – 190 Volts.

Insertion Loss: $.12 \sqrt{F*(GHz)}$ dB.

RF Leakage: -80dB To 3 GHz, -65 dB From 3 To 26.5 GHz.

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INTERFACE DESIGN STANDARD			REV	DESCRIPTION	DATE	APPR
IDS-32			B	PER ECN 7826	05/24/05	JEM
PAGE 1 OF 3	DATE: 06/03/04		C	PRELIMINARY	06/22/05	JEM
DRAWN: ALS	APPROVED: JEM		D	PER ECN 9619	11/11/08	JEM
			E	PER ECN 9715	12/15/08	JEM

22 GREAT HILL ROAD, NAUGATUCK, CT. 06770
PHONE: (203) 729-9090 FAX: (203) 723-1794

DESCRIPTION: 32 SERIES, SMP

MECHANICAL

MATERIALS

SHROUD BODIES- STAINLESS STEEL PER QQ-S-763,
FEMALE BODIES- BERYLLIUM COPPER PER ASTM-B196.
OTHER BODIES- BRASS PER ASTM-B16.
INSULATORS - TEFLON (PTFE) PER ASTM-D1710.
CONTACTS - BERYLLIUM COPPER PER ASTM-B196.

PLATING:

GOLD PER MIL-G-45204,
COPPER PER MIL-C-14550.
NICKEL PER QQ-N-290.
PASSIVATE PER ASTM-A380.

FINISHES (ADD LETTER TO END OF PART NUMBER)

"A": BODY - .000050 MIN. GOLD OVER .000050 NICKEL
"P": BODY - .PASSIVATED
CONTACT - .000050 MIN. GOLD OVER NICKEL
OTHER METAL PARTS:
GOLD PLATED OR PASSIVATED TO MEET THE ENVIRONMENTAL REQUIREMENTS.

MATING CHARACTERISTICS

ENGAGEMENT & SEPARATION FORCES	FULL DETENT	LIMITED DETENT	SMOOTH BORE
MAXIMUM	15 LBS.	10 LBS.	2 LBS.
MINIMUM	5 LBS.	2 LBS.	.5 LBS.
ENDURANCE:	100	500	1000

RADIAL MISALIGNMENT: ±.010 CONFORMS TO DSCC 94007, 94008 STANDARD.
AXIAL MISALIGNMENT: .000/.010
COMPONENT MOUNTING: SEE DRAWING ON PAGE 3.

ELECTRICALS

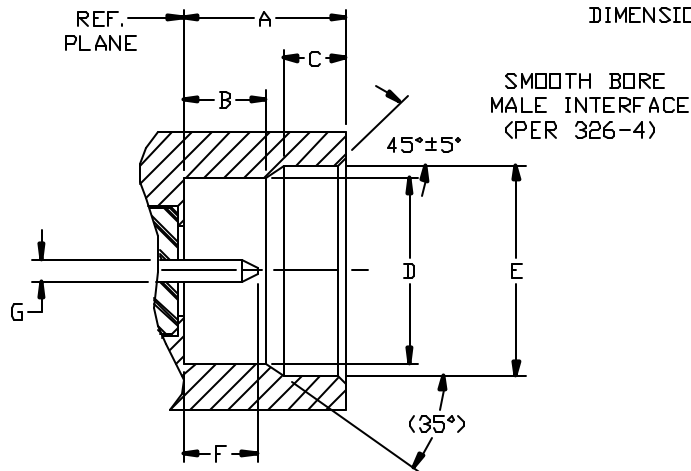
IMPEDANCE: 50 OHMS,
FREQUENCY RANGE: DC TO 26.5 GHz. (MAX. FREQUENCY DEPENDS UPON CABLE AND COMPONENT SELECTION).
VOLTAGE RATING: 335 VOLTS RMS @ SEA LEVEL, 65 VOLTS RMS @ 70,000 FEET.
INSULATION RESISTANCE: 5000 MEGOHMS MIN.
TEMPERATURE RATING: -65°C TO +165°C
DWV: 500 VOLTS RMS.
RF HIGH POTENTIAL: 600 VOLTS RMS MIN. @ 5 MHz.
CONTACT RESISTANCE: CENTER CONTACT: 6.0 MILLIOHMS.
OUTER CONTACT: 2.0 MILLIOHMS.
VSWR: 1.20 MAX. @ DC TO 18 GHz.
1.35 MAX. @ 18 TO 26.5 GHz.
CORONA LEVEL: 70,000 FT. - 190 VOLTS
INSERTION LOSS: $.12\sqrt{F * (GHz)}$ dB.
RF LEAKAGE: -80dB TO 3 GHz, -65 dB FROM 3 TO 26.5 GHz.

ENVIRONMENTAL

VIBRATION: MIL-STD-202, METHOD 204, TEST CONDITION D.
SHOCK: MIL-STD-202, METHOD 213, TEST CONDITION A.
THERMAL SHOCK: MIL-STD-202, METHOD 107, TEST CONDITION B, HIGH TEMPERATURE 165°C.
CORROSION: MIL-STD-202, METHOD 101, TEST CONDITION B.
MOISTURE RESISTANCE: MIL-STD-202, METHOD 106, OMIT STEP 7B.

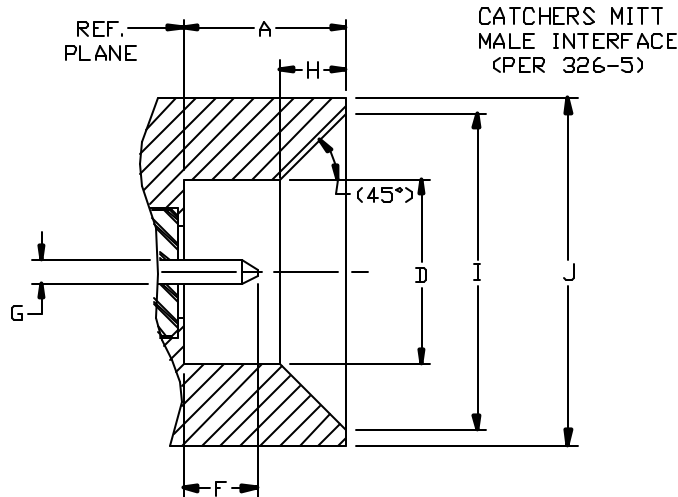
REV	DESCRIPTION	DATE	APPR
A	PER ECN 7761	12/20/04	JEM
B	PER ECN 7826	05/24/05	JEM
C	PRELIMINARY	06/22/05	JEM
D	PER ECN 9619	11/11/08	JEM

DESCRIPTION: 32 SERIES, SMP

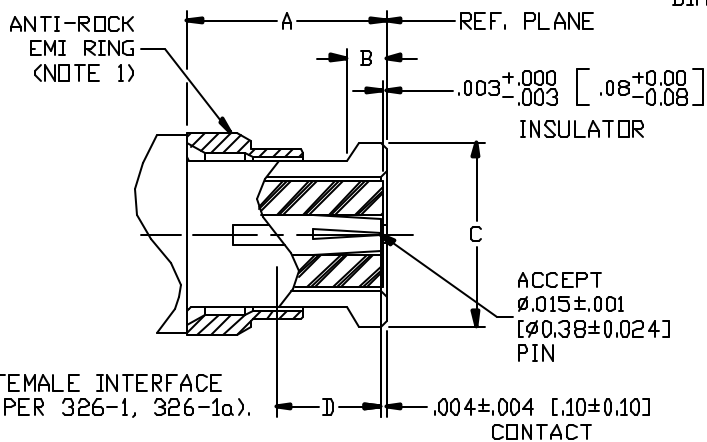


DIMENSIONS ARE TO MIL-STD-348A (326-4 & 326-5).

	INCH	[mm]	SUFFIX
A	.112 .108	[2.84] [2.74]	
B	.065 .059	[1.65] [1.50]	
C	.037 .033	[0.94] [0.84]	
D	∅.127 ∅.123	[∅3.23] [∅3.12]	
E	∅.145 ∅.139	[∅3.68] [∅3.53]	
F	.055 .045	[1.40] [1.14]	
G	∅.016 ∅.014	[∅0.41] [∅0.36]	
H	.047 .043	[1.19] [1.09]	
I	∅.220 ∅.210	[∅5.59] [∅5.33]	
J	∅.240 ∅.230	[∅6.10] [∅5.84]	



DIMENSIONS ARE TO MIL-STD-348A (326-1, 326-1a).



	INCH	[mm]	SUFFIX
A1	.112	[2.84]	MIN. (ADAPTOR)
A2	.132	[3.35]	MIN. (CABLED)
B1	.025 .018	[0.64] [0.46]	ADAPTOR
B2	.035 .025	[0.89] [0.64]	CABLED
C	∅.135	[∅3.43]	MAX.
D	.070	[1.78]	MIN. (HOLE DEPTH)

NOTE 1:

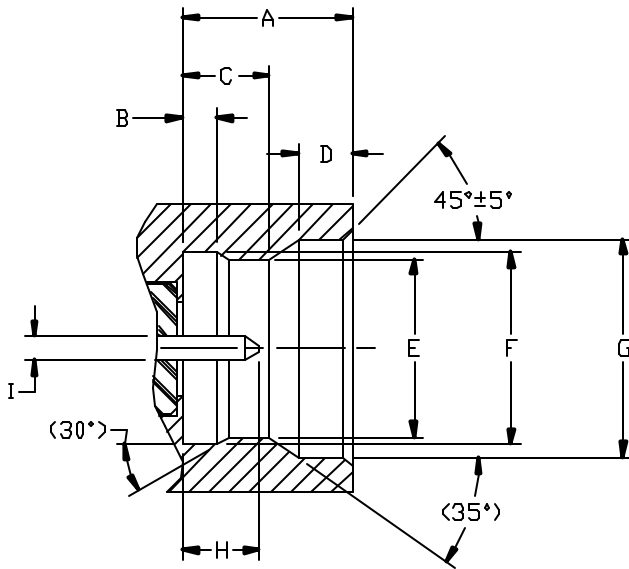
EMI SHIELD CONFIGURATION OPTIONAL:
 EMI SHALL NOT PREVENT PROPER ENGAGEMENT OF DETENT
 REQUIRED. TO MEET MECHANICAL AND ELECTRICAL REQUIREMENT OF DSCC 94008.

INTERFACE DESIGN STANDARD		PALEO CONNECTOR 22 GREAT HILL ROAD, NAUGATUCK, CT. 06770 PHONE: (203) 729-9090 FAX: (203) 723-1794	REV	DESCRIPTION	DATE	APPR
IDS-32			A	PER ECN 7761	12/21/04	JEM
PAGE 3 OF 3	DATE: 06/03/04		B	PER ECN 7826	05/24/05	JEM
DRAWN: ALS	APPROVED: JEM	C	PRELIMINARY	06/22/05	JEM	
		D	PER ECN 9619	11/11/08	JEM	

DESCRIPTION: 32 SERIES, SMP

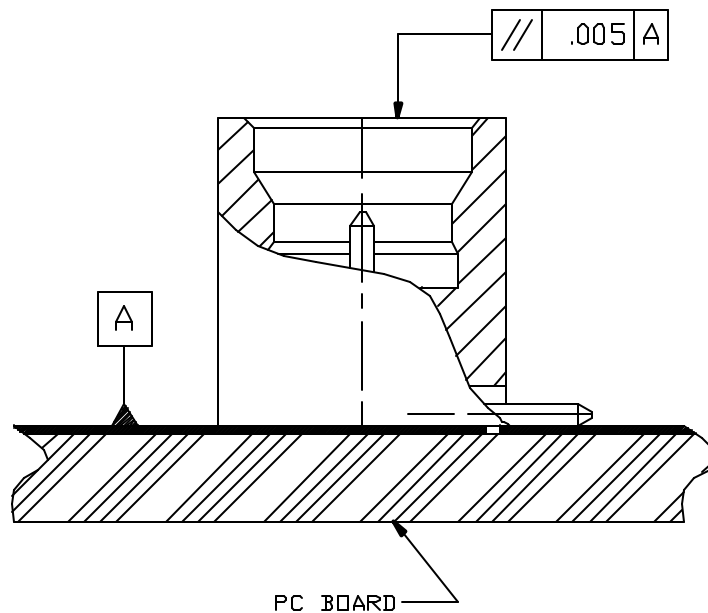
DIMENSIONS ARE TO MIL-STD-348A (326.2 & 326.3).

FULL DETENT & LIMITED DETENT
 MALE INTERFACE
 (326.2 & 326.3)



	INCH	[mm]	SUFFIX
A	.112 .108	[2.84] [2.74]	
B	.0235 .0205	[0.60] [0.52]	
C1	.057 .051	[1.45] [1.30]	FULL DETENT
C2	.060 .054	[1.52] [1.37]	LIMITED DETENT
D	.037 .033	[0.94] [0.84]	
E1	∅.118 ∅.114	[∅3.00] [∅2.90]	FULL DETENT
E2	∅.122 ∅.118	[∅3.10] [∅3.00]	LIMITED DETENT
F	∅.126 ∅.124	[∅3.20] [∅3.15]	
G	∅.145 ∅.139	[∅3.68] [∅3.53]	
H	.055 .045	[1.40] [1.14]	
I	∅.016 ∅.014	[∅0.41] [∅0.36]	

COMPONENT MOUNTING REQUIREMENT FOR SURFACE MOUNT CONNECTORS



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MATING CHARACTERISTICS

ENGAGEMENT & SEPARATION FORCES	FULL DETENT	LIMITED DETENT	SMOOTH BORE
MAXIMUM	15 LBS.	10 LBS.	2 LBS.
MINIMUM	5 LBS.	2 LBS.	.5 LBS.
ENDURANCE:	100	500	1000

RADIAL MISALIGNMENT: ±.010 CONFORMS TO DSCC 94007, 94008 STANDARD.
AXIAL MISALIGNMENT: .000/.010
COMPONENT MOUNTING: SEE DRAWING ON PAGE 3.

ELECTRICALS

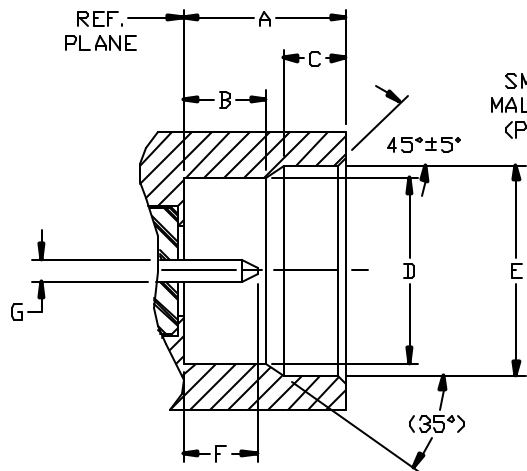
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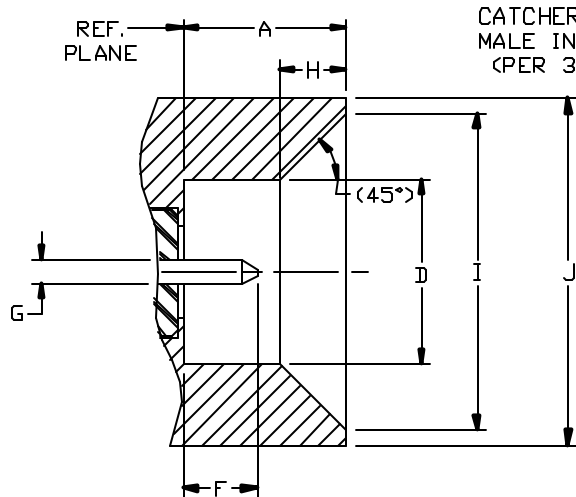
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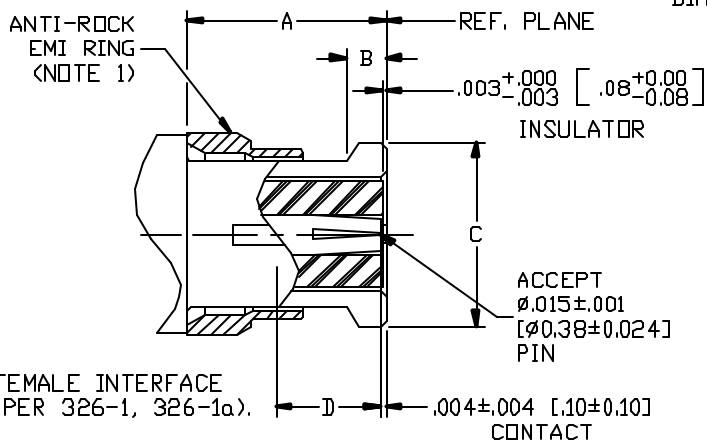
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CATCHERS MITT
 MALE INTERFACE
 (PER 326-5)

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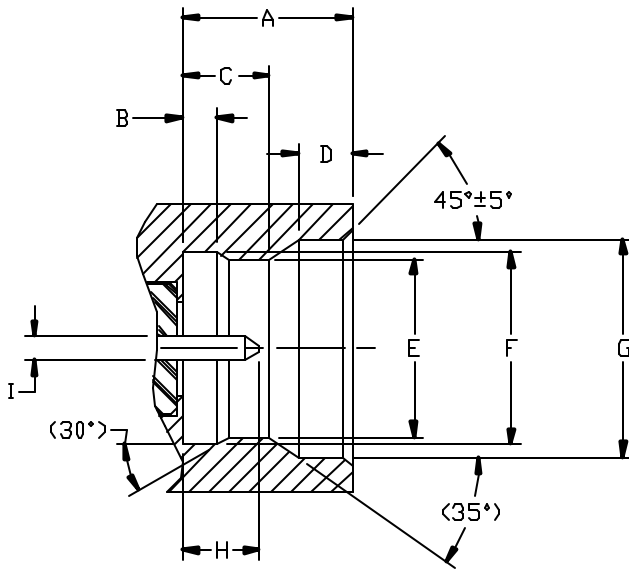
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