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RE-FLEX™ PRODUCTS

To provide improved electrical and mechanical performance over traditional hand-formable designs, Insulated Wire presents Re-Flex™.

Available in 0.085", 0.141", 0.235" and 0.325" diameters (identified as RF085, RF141, RF250 and RF325), IW's RF cable series offers the advantages of the same lamination process used on our Low Loss products. Combined with the same double shield construction plus a solder-free tin/alloy plated outer braid, the Re-Flex™ design provides a re-formable cable that will not develop micro fractures with repeated flexing, eliminating manufacturability issues associated with conformable style RG cables.

Both RF085 and RF141 are industry standard line sizes, consequently a wide range of connector types and styles can be used with these cables, including: SMA, TNC, N, SMP, SMPM, 2.92mm/K™, 2.4mm and 1.85mm/V™, with performance up to 60GHz. RF250 is commonly used for higher power applications with SMA, TNC, N, SC and HN connectors available.

Re-Flex™ assemblies can be employed wherever a semi-rigid or conformable cable type is currently used, and with FEP™ jacket available as a standard option, Re-Flex™ provides greater versatility. Cable part numbers are TPRFEP085, TPRFEP141 and TPRFEP250.

RE-FLEX™ CABLE - KEY PERFORMANCE PARAMETERS

Cable Type	Maximum Frequency (cable only)	Attenuation (dB/ft., max)				Bend Radius (inch)	Replaces
		10 GHz	18 GHz	32 GHz	60 GHz		
RF085	62 GHz	0.60	0.91	1.28	2.01	0.25	RG405
RF141	34 GHz	0.41	0.60	0.88	-	0.375	RG402
RF250	19.5 GHz	0.29	0.44	-	-	0.375	-
RF325	11 GHz	0.21	-	-	-	0.625	-

RE-FLEX™ CABLE - AVAILABILITY

Cable Type	AMS-DTL-23053 Jacket Available	FEP Jacket Available	Distribution Stock
RF085	Yes	Yes	SMA (m) to SMA (m) direct solder, 3" and up
RF141	Yes	Yes	SMA (m) to SMA (m) direct solder, 3" and up SMA (m) to SMA (m) shell style, 2" and up
RF250	Yes	Yes	

RE-FLEX™ STARTER KITS

RE-FORMABLE CABLE ASSEMBLY SOLUTIONS STRAIGHT OUT OF THE BOX!





For customers who know the advantages of Re-Flex over traditional hand-formable and semi-rigid, and to make cable selection easier for those new to our product, IW is pleased to announce our new range of Re-Flex Starter Kits!

Three kits are currently available:

CT-1879 (SPSD-TPRF085-XXX-SPSD) direct solder SMA male/male using TPRF085 (RG405 line size)

CT-1880 (SPSD-TPRF141-XXX-SPSD) direct solder SMA male/male using TPRF141 (RG402 line size)

CT-1881 (SPSH-TPRF141-XXX-SPSH) shell style SMA male/male using TPRF141 (RG402 line size)

Each kit comprises seven different assembly lengths 3”, 4”, 5”, 6”, 8”, 9” and 12”, 5 pcs of each, providing the design engineer with a convenient aid for performing cable routing in prototype system builds

The ability to **continually re-form Re-Flex** without the need for custom tooling to shape the cable, and the elimination of debris caused by micro fracturing is a key feature of the **Re-Flex** cable design, and enables the designer to make signal path/layout changes without having to throw product away after using it once.

RF085

OPERATING UP TO 62 GHz



Center Conductor
Silver Plated
Copper

Dielectric
PTFE

Foil
Silver Plated
Copper

Braid
Tin Plated Copper
RF085 - (0.085", 2.15 mm)

CABLE SPECIFICATIONS

	RF085
ELECTRICAL CHARACTERISTICS	
Impedance	50 +/– 2Ω
Cut Off Frequency (cable only, max)	61 GHz
Capacitance	28.6 pF/ft.
Velocity of Propagation	71%
Time Delay	1.43 ns/ft.
Shielding Effectiveness up to 18GHz	>90 dB
Cable Attenuation Factors (K1, K2) *	18.8, 0.86
Power Handling	See Chart
MECHANICAL CHARACTERISTICS	
Weight	0.19 oz/ft (17.86 g/m)
Static Bend Radius	0.25" (6.35 mm)
Dynamic Bend Radius	0.375" (95.25mm)

FEP Jacket available upon request

*Attenuation = $K1\sqrt{f} + K2f$ (cable only)

RF085

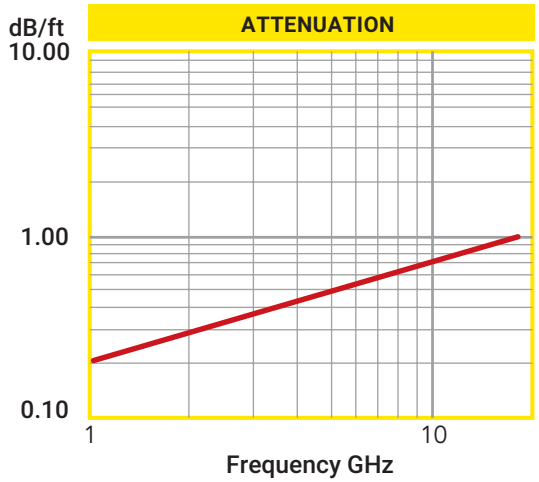
OPERATING UP TO 62 GHz

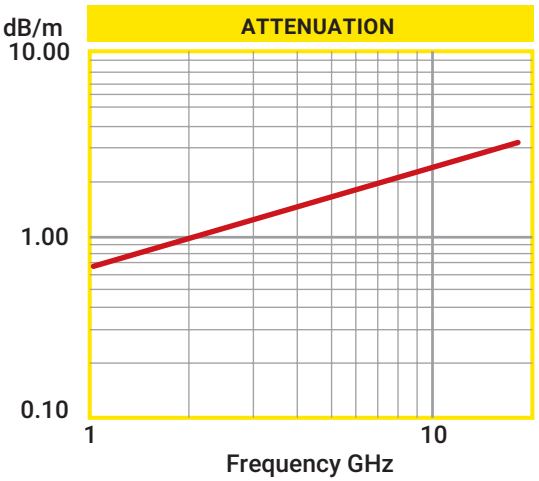
CABLE ATTENUATION

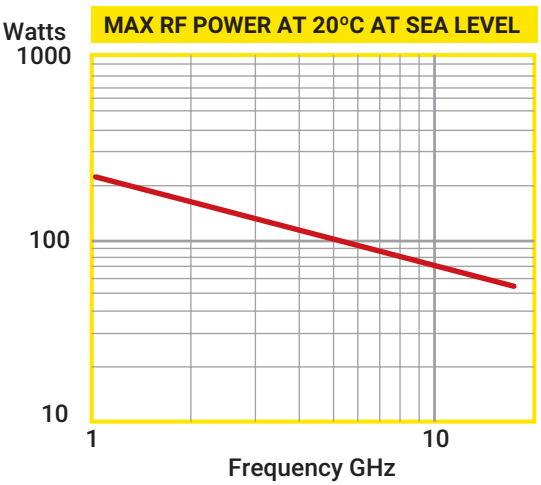
ATTENUATION (MAX)

RF085

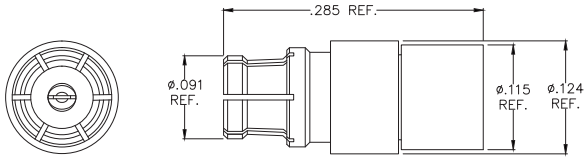
GHz	dB/ft.	dB/m	Power(W) @ 20°C @ Sea Level	dB/ft.	dB/m	Power(W) @ 20°C @ Sea Level
0.5	0.14	0.46	357	0.17	0.55	310
1	0.20	0.67	220	0.24	0.78	196
2	0.29	0.96	200	0.34	1.12	170
4	0.42	1.39	120	0.49	1.62	107
A	0.53	1.73	85	0.62	2.02	76
8	0.62	2.03	75	0.72	2.36	67
10	0.70	2.30	70	0.81	2.67	63
12	0.78	2.56	65	0.90	2.96	58
14	0.85	2.79	60	0.98	3.22	54
16	0.92	3.01	55	1.06	3.48	49
18	0.98	3.23	50	1.13	3.72	45
20	1.04	3.42	45	1.19	3.89	40
22	1.10	3.62	43	1.26	4.13	38
24	1.17	3.82	42	1.33	4.36	38
26	1.23	4.02	40	1.40	4.58	36
28	1.28	4.21	39	1.46	4.80	35
30	1.34	4.40	38	1.53	5.01	34
32	1.40	4.58	37	1.59	5.22	33
34	1.45	4.76	36	1.65	5.43	32
36	1.51	4.94	35	1.72	5.63	31
38	1.56	5.11	32	1.78	5.83	29
40	1.61	5.28	30	1.84	6.02	27
42	1.66	5.45	29	1.90	6.22	26
44	1.71	5.62	28	1.95	6.41	25
46	1.76	5.79	27	2.01	6.60	24
48	1.81	5.95	26	2.07	6.78	23
50	1.86	6.11	25	2.12	6.97	22
52	1.91	6.27	25	2.18	7.15	22
54	1.96	6.43	25	2.24	7.33	22
56	2.01	6.59	23	2.29	7.51	21
58	2.06	6.74	23	2.34	7.69	21
60	2.10	6.90	22	2.40	7.86	20
62	2.15	7.05	22	2.45	8.04	20



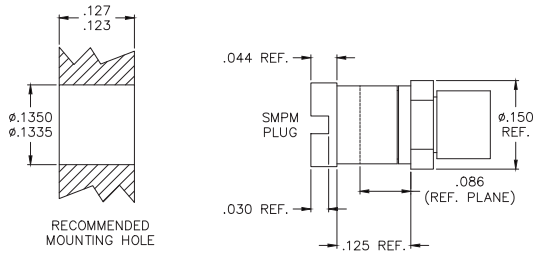




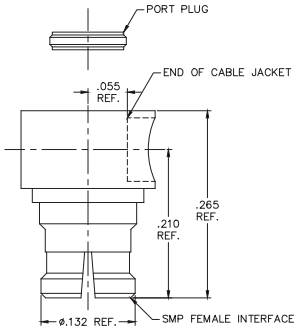
CONNECTORS FOR RF085



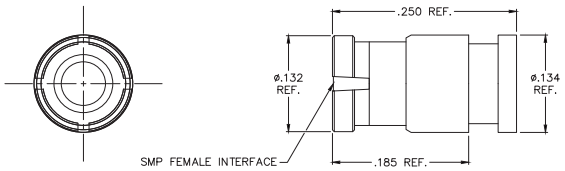
GPPO JACK/FEMALE (GGJS-TPRF085)



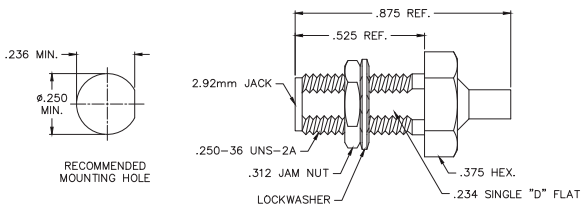
GPPO MALE BULKHEAD (GGPB-TPRF085)



GPO FEMALE RIGHT ANGLE (GJR-TPRF085)



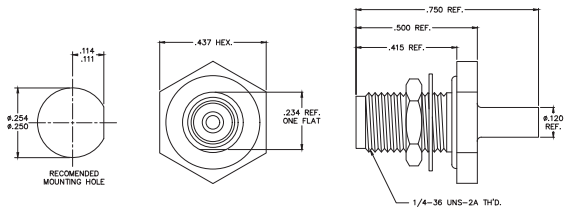
GPO JACK/FEMALE (GJS-TPRF085)



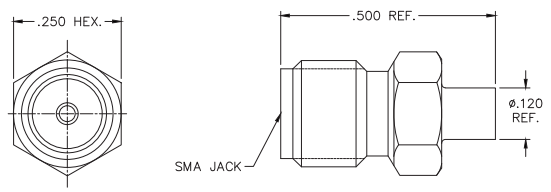
2.92MM FEMALE BULKHEAD (KJB-TPRF085)

Other connector types and styles are available, please contact the factory

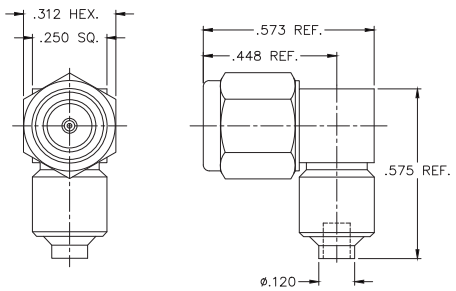
CONNECTORS FOR RF085



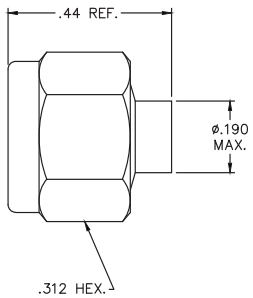
SMA FEMALE BULKHEAD (SJBD-TPRF085)



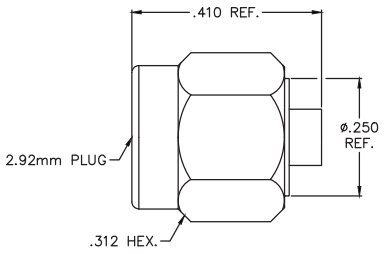
SMA FEMALE (SJSD-TPRF085)



SMA MALE RIGHT ANGLE (SPRCD-TPRF085)



SMA MALE (SPSD-TPRF085)



2.92MM MALE (KPSD-TPRF085)

Other connector types and styles are available, please contact the factory

RF141

OPERATING UP TO 33 GHz



Center Conductor
Silver Plated
Copper

Dielectric
PTFE

Foil
Silver Plated
Copper

Braid
Tin Plated Copper
RF141 - (0.141", 3.58 mm)

CABLE SPECIFICATIONS

	RF141
ELECTRICAL CHARACTERISTICS	
Impedance	50 +/– 2Ω
Cut Off Frequency (cable only, max)	33 GHz
Capacitance	28.6 pF/ft.
Velocity of Propagation	71%
Time Delay	1.43 ns/ft.
Shielding Effectiveness up to 18GHz	>90 dB
Cable Attenuation Factors (K1, K2) *	10.6, 0.86
Power Handling	See Chart
MECHANICAL CHARACTERISTICS	
Weight	0.19 oz/ft (17.86 g/m)
Static Bend Radius	0.375" (9.53 mm)
Dynamic Bend Radius	0.75" (19.05 mm)

FEP Jacket available upon request

*Attenuation = $K1\sqrt{f} + K2f$ (cable only)

RF141

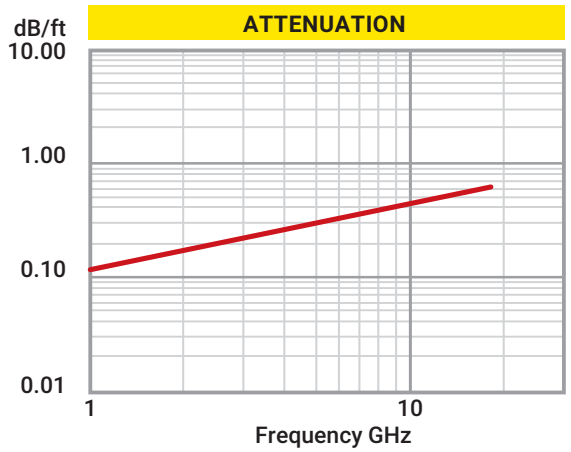
OPERATING UP TO 33 GHz

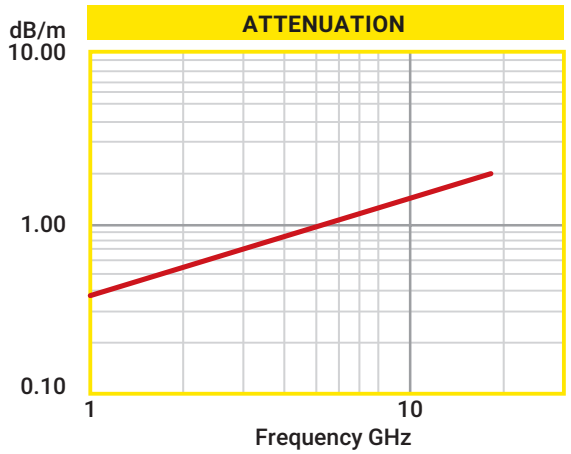
CABLE ATTENUATION

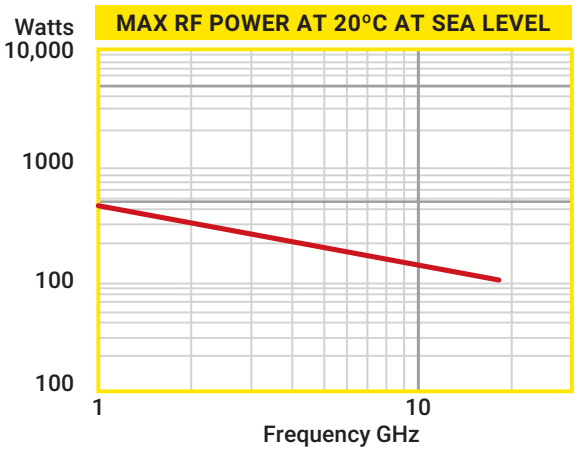
ATTENUATION (MAX)

RF141

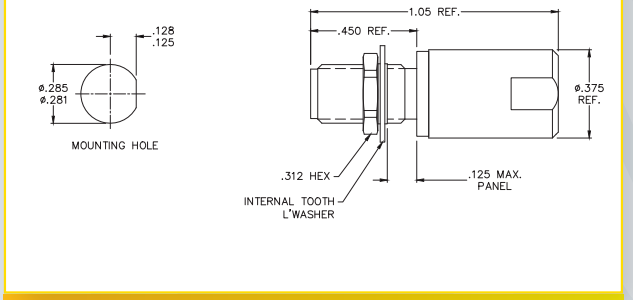
GHz	dB/ft.	dB/m	Power(W) @ 20°C @ Sea Level
0.5	0.078	0.226	635
1	0.11	0.38	430
2	0.17	0.55	291
4	0.25	0.81	197
6	0.31	1.02	157
8	0.37	1.21	133
10	0.42	1.38	118
12	0.47	1.54	106
14	0.52	1.70	97
16	0.56	1.84	90
18	0.60	1.98	84



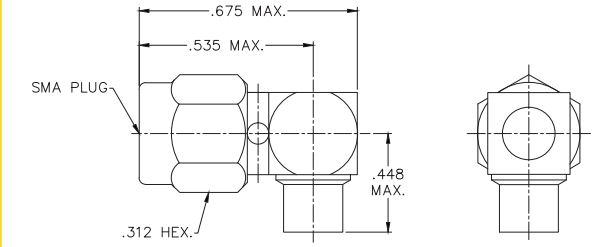




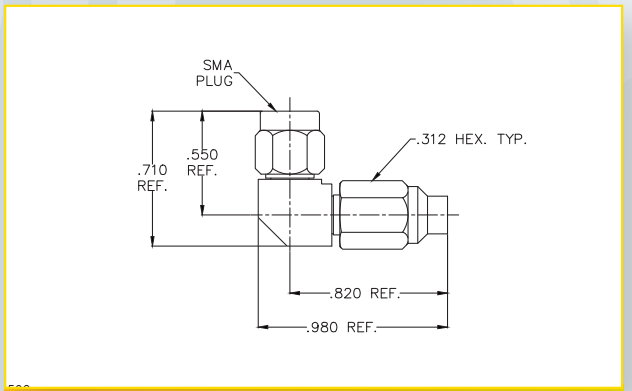
CONNECTORS FOR RF141



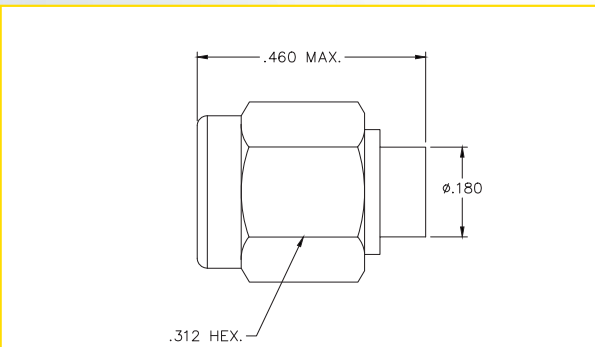
SMA FEMALE BULKHEAD (SJB-TPRF141)



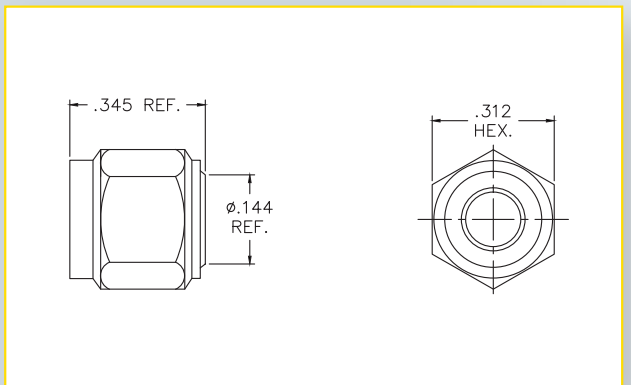
SMA MALE RIGHT ANGLE DIRECT SOLDER (SPRCD-TPRF141)



SMA MALE RIGHT ANGLE (SPRC-TPRF141)



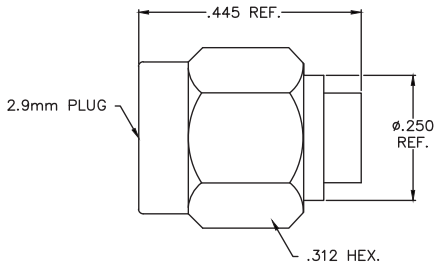
SMA MALE DIRECT SOLDER (SPSD-TPRF141)



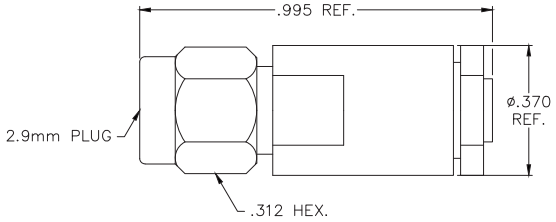
SMA MALE SHELL (SPSH-TPRF141)

Other connector types and styles are available, please contact the factory

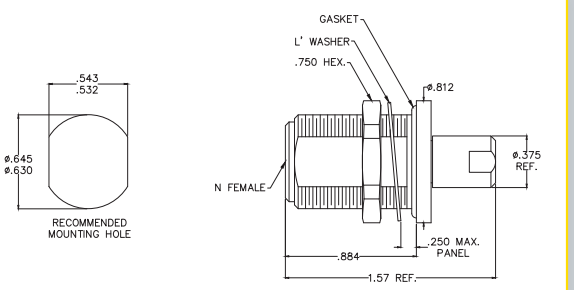
CONNECTORS FOR RF141



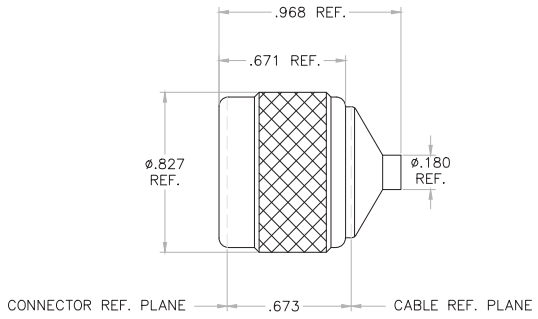
2.92MM MALE DIRECT SOLDER (KPSD-TPRF141)



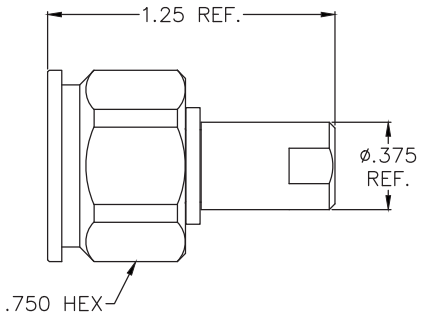
2.92MM MALE (KPS-TPRF141)



N-TYPE FEMALE BULKHEAD (NJB-TPRF141)



N-TYPE MALE DIRECT SOLDER W/KNURL COULING NUT (NPSDK-TPRF141)



N-TYPE MALE (NPS-TPRF141)

Other connector types and styles are available, please contact the factory

RF250

OPERATING UP TO 18 GHz



Center Conductor
Silver Plated
Copper

Dielectric
PTFE

Foil
Silver Plated
Copper

Braid
Tin Plated Copper
RF250 - (0.230", 5.84 mm)

CABLE SPECIFICATIONS

	RF250
ELECTRICAL CHARACTERISTICS	
Impedance	50 +/– 2Ω
Cut Off Frequency (cable only, max)	18 GHz
Capacitance	28.6 pF/ft.
Velocity of Propagation	71%
Time Delay	1.43 ns/ft.
Shielding Effectiveness up to 18GHz	>90 dB
Cable Attenuation Factors (K1, K2) *	6.4, 0.95
Power Handling	See Chart
MECHANICAL CHARACTERISTICS	
Weight	1.06 oz/ft (98.2 g/m)
Static Bend Radius	0.375" (95.25mm)
Dynamic Bend Radius	1.0" (25.4mm)

FEP Jacket available upon request

*Attenuation = $K1\sqrt{f} + K2f$ (cable only)

RF250

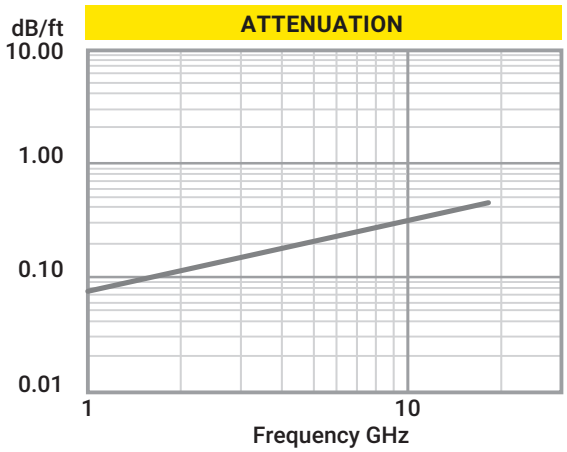
OPERATING UP TO 18 GHz

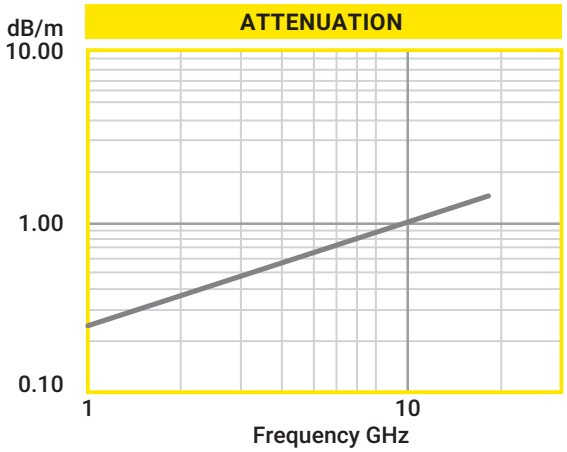
CABLE ATTENUATION

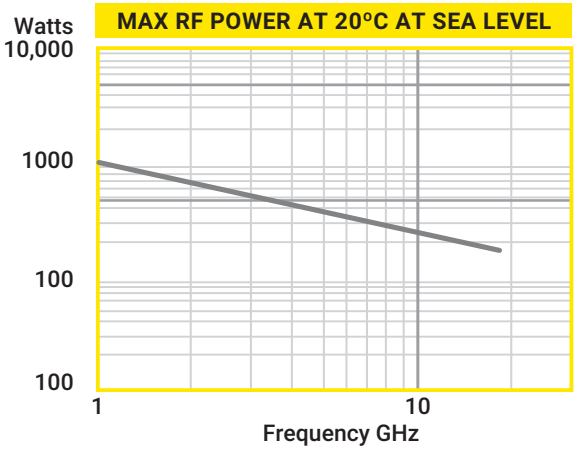
ATTENUATION (MAX)

RF250

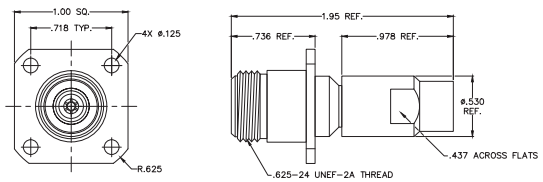
GHz	dB/ft.	dB/m	Power(W) @ 20°C @ Sea Level
0.5	0.05	0.16	1615
1	0.07	0.23	1033
2	0.11	0.36	661
4	0.17	0.56	423
6	0.22	0.72	326
8	0.26	0.85	271
10	0.29	0.95	235
12	0.34	1.12	209
14	0.37	1.21	189
16	0.41	1.35	173
18	0.44	1.44	161



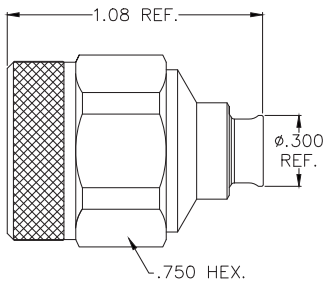




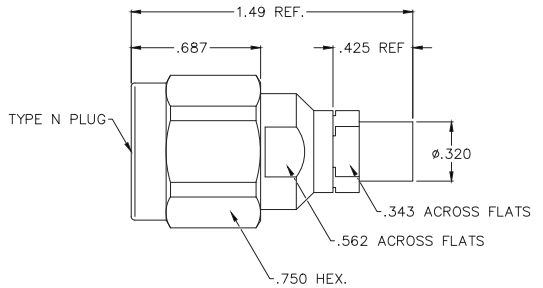
CONNECTORS FOR RF250



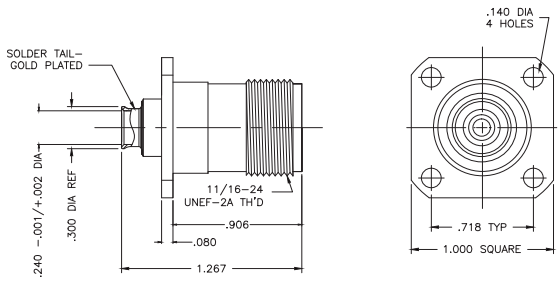
N-TYPE FEMALE 4 HOLE FLANGE MOUNT (NJP4-TPRF250)



NPSDTPRF250-SPEC_A_GEN



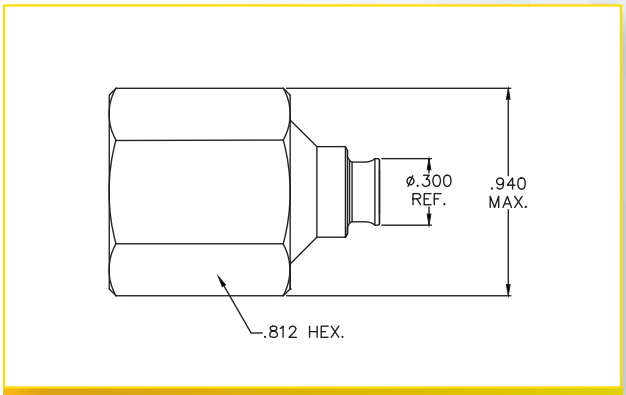
N-TYPE MALE (NPS-TPRF250)



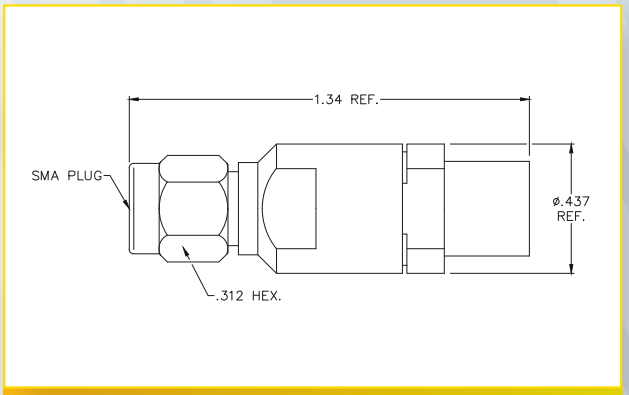
SC FEMALE DIRECT SOLDER 4 HOLE FLANGE MOUNT SCJP4-TPRF250

Other connector types and styles are available, please contact the factory

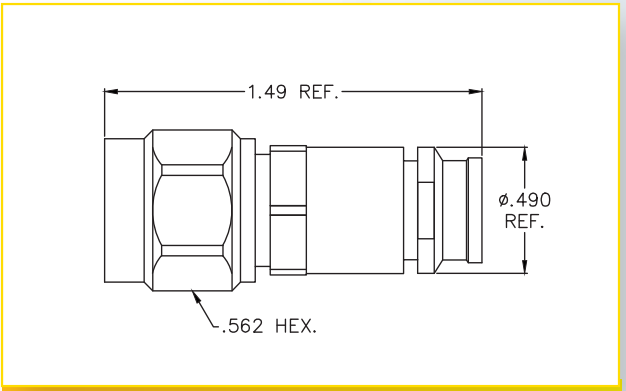
CONNECTORS FOR RF250



SC MALE DIRECT SOLDER (SCPSD-TPRF250)



SMA MALE (SPS-TPRF250)



TNC MALE (TPS-TPRF250)

Other connector types and styles are available, please contact the factory

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