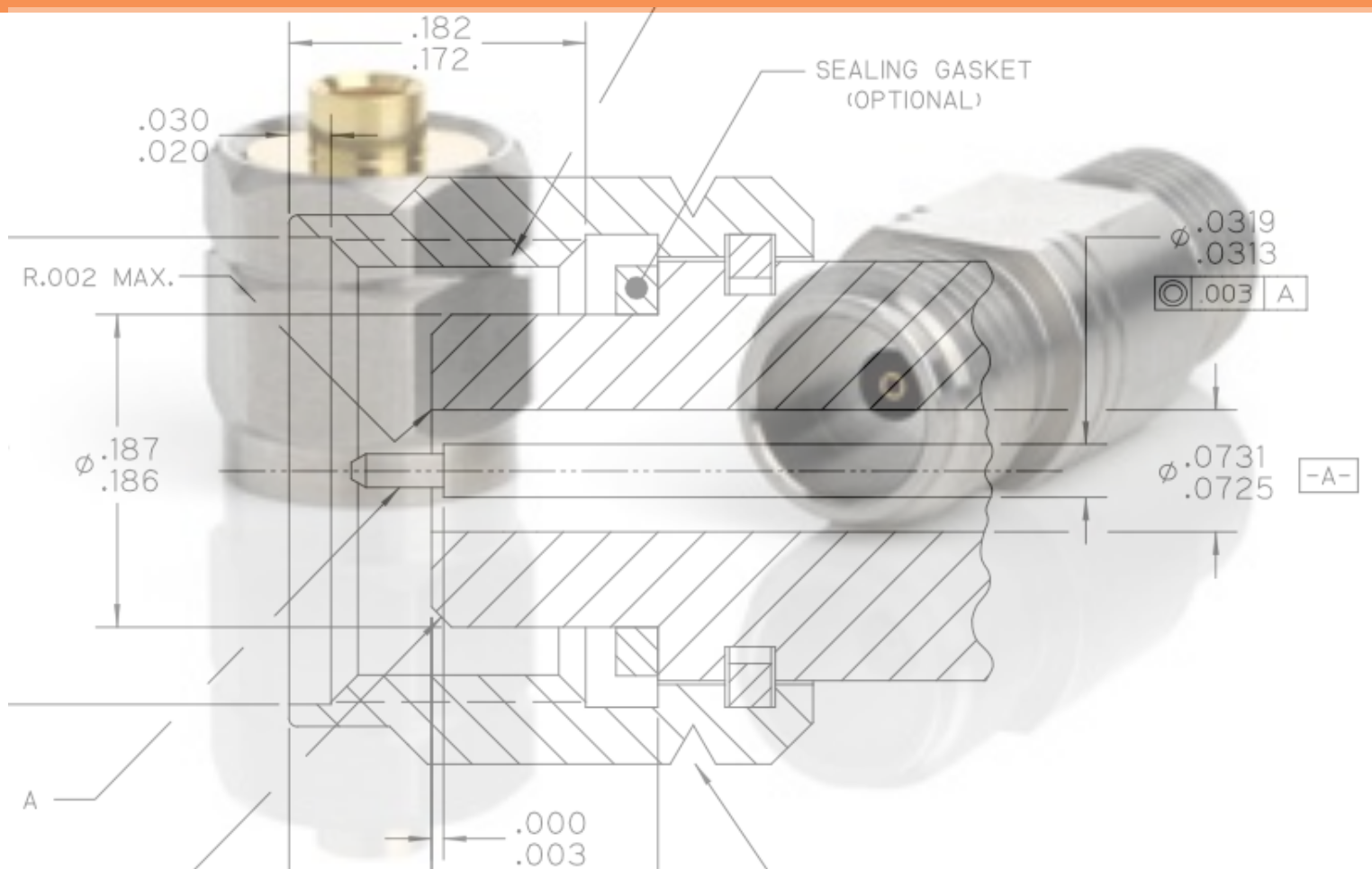


# 1.85mm

## Precision 65GHz Connectors





# 1.85mm Precision Connectors

## DESCRIPTION

The 1.85mm connector are 50 ohm precision connector developed in the mid-1980s. Perform mode free to 65GHz. The outer conductor measures 1.85mm and the robust wall of the connector body is designed to engage before the center conductor, assuring a rugged, repeatable mating interface. The interface is air dielectric with the contact supported by a short dielectric bead. ConductRF offers 1.85mm connectors for semi-rigid and low loss flexible cables as well as receptacles and adapters. Custom configurations and cable assemblies are available by request.

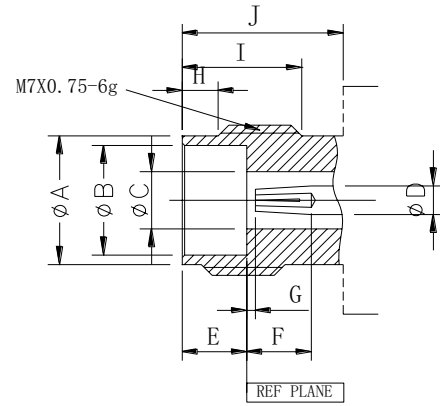
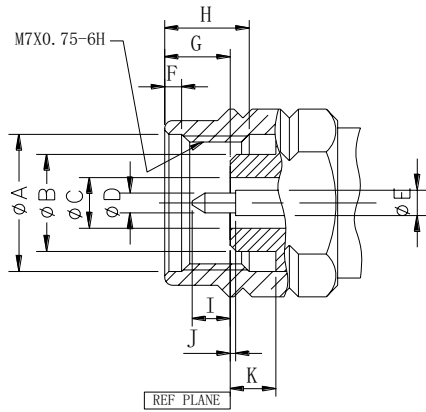
### 1.85mm Design Features

- Excellent performance up to 65GHz
- Low Insertion Loss and VSWR
- Rugged construction for reliability
- Mechanically compatible with 2.4mm connector series

## CONTENTS

1. Description
2. Interface Dimensions
3. Technical Specifications
4. Cable Connectors and Adapters
5. Receptacle Applications Details
6. Receptacle Connectors

# 1.85mm INTERFACE



1.85mm Male				
	mm		Inch	
	Min	Max	Min	Max
A	7.01	7.11	.276	.280
B	4.72	4.75	.186	.187
C	1.84	1.86	.7233	.0733
D	0.50	0.52	.0196	.0206
E	0.79	0.82	.0311	.0321
F	0.51	0.76	.020	.030
G	1.85	2.45	.073	.096
H	4.37	4.62	.172	.182
I	1.35	1.45	.053	.057
J	—	0.08	—	.003
K	3.38	3.48	.133	.137

1.85mm Female				
	mm		Inch	
	Min	Max	Min	Max
A	5.79	5.89	.228	.232
B	4.77	4.80	.1878	.1888
C	1.84	1.86	.07233	.07333
D	0.79	0.82	.0311	.0321
E	3.00	3.10	.118	.122
F	2.64	—	.104	—
G	—	0.08	—	.003
H	1.37	1.63	.054	.064
I	4.80	5.05	.189	.199
J	6	—	.236	—

Interface dimensions conformable to the standards: IEC61169

# TECHNICAL DATA

ELECTRICAL DATA	
Impedance	50 Ohm
Frequency range	DC — 65GHz
Dielectric withstanding voltage	500V
Insulation resistance	$\geq 3 \times 1000 \text{ M}\Omega$
Contact resistance	inter contact $\leq 3 \text{ m}\Omega$ out contact $\leq 2.5 \text{ m}\Omega$
VSWR max.	1.25 : 1

MECHANICAL DATA	
Base material	
Centercontact	Copper Beryllium Alloy, Gold-pated
Body	Stainless Steel, Passivated
Insulator	PEI
Durability(matings)	$\geq 500$

ENVIRONMENTAL	
Temperature Range	-55 °C to + 165 °C
Thermal shock	MIL-STD-202, Method 107, Condition B
Corrosion	Saltspray test acc.to MIL-STD-202, Method 101, Condition B
Vibration	MIL-STD-202, Method 204, Condition D

Materials Subject to change, See latests Rev for specific details.

# Cable and Adapter Configurations

## DESCRIPTION

### 1.85mm Jacks

- 1.85mm BULKHEAD JACK, SOLDER CLAMP FOR RG-405 CABLE
- 1.85mm JACK, SOLDER CLAMP FOR .047 SEMI-RIGID CABLE
- 1.85mm JACK FOR RG-405 CABLE
- 1.85mm JACK, 2-HOLE FLANGE MOUNT, SOLDER CLAMP FOR RG-405 CABLE
- 1.85mm JACK, 4-HOLE FLANGE MOUNT, SOLDER CLAMP FOR RG-405 CABLE
- 1.85mm JACK, PCB MOUNT, 0.012 PIN
- 1.85mm JACK, PCB MOUNT, 0.012 PIN

## ConductRF Part #

- PBF31A-A28S01
- PBF11A-A33S01
- PBF12A-A28S01
- PBF41A-A28S01
- PBF41B-A28S01
- PBF11A-TPCS01
- PBF12A-TPCS01

### 1.85mm Plugs

- 1.85mm PLUG, DIRECT SOLDER, NO CONTACT FOR RG-405 CABLE
- 1.85mm PLUG, DIRECT SOLDER, NO CONTACT, LOW PROFILE FOR RG-405 CABLE
- 1.85mm PLUG, SOLDER CLAMP, FOR SS-405 CABLE, KNURL/HEX
- 1.85mm PLUG, SOLDER CLAMP FOR .047 SEMI-RIGID CABLE

- PBM11A-A28S01
- PBM12A-A28S01
- PBM11B-A28S01
- PBM12B-A33S01

### 1.85mm In-Series Adapters

- 1.85mm PLUG TO 1.85mm JACK, ADAPTER
- 1.85mm JACK TO 1.85mm JACK, ADAPTER
- 1.85mm PLUG TO 1.85mm PLUG, ADAPTER

- PBA11A-ADPS01
- PBF11A-ADPS01
- PBM11A-ADPS01

### 1.85mm Between Series Adapters

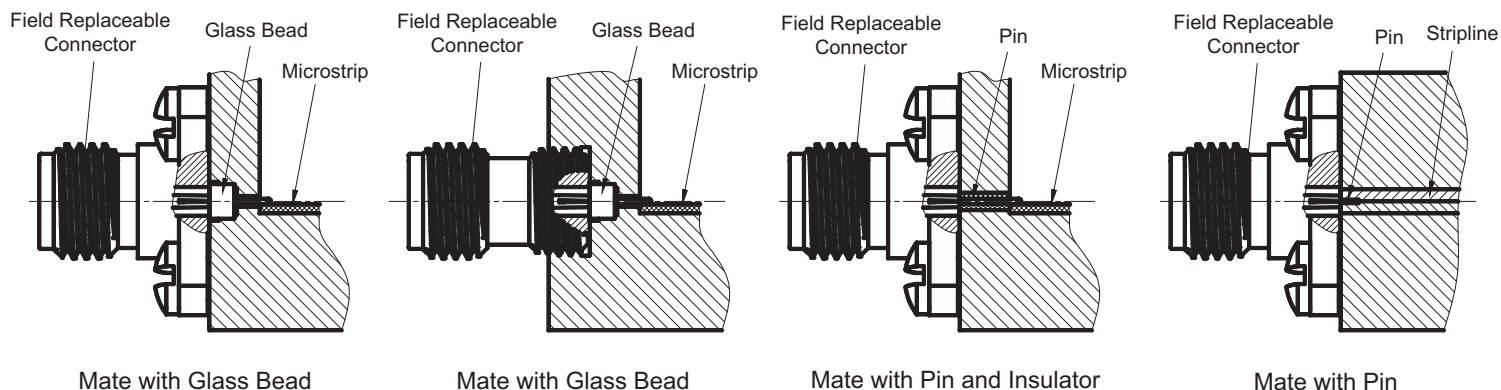
- 1.85mm JACK TO 1.0mm JACK, ADAPTER
- 1.85mm JACK TO 1.0mm PLUG, ADAPTER
- 1.85mm PLUG TO 1.0mm JACK, ADAPTER
- 1.85mm PLUG TO 1.0mm PLUG, ADAPTER
- 1.85mm PLUG TO 2.92mm JACK, ADAPTER
- 1.85mm PLUG TO 2.92mm PLUG, ADAPTER

- BA-PAF-PBF-50
- BA-PAM-PBF-50
- BA-PAF-PBM-50
- BA-PAM-PBM-50
- BA-PBM-PDF-50
- BA-PBM-PDM-50

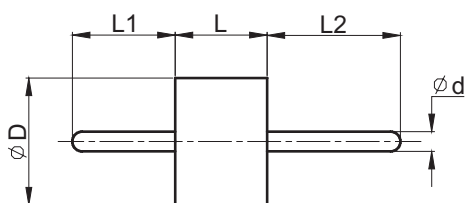
Drawings available on Request



# 1.85mm Receptacle Application

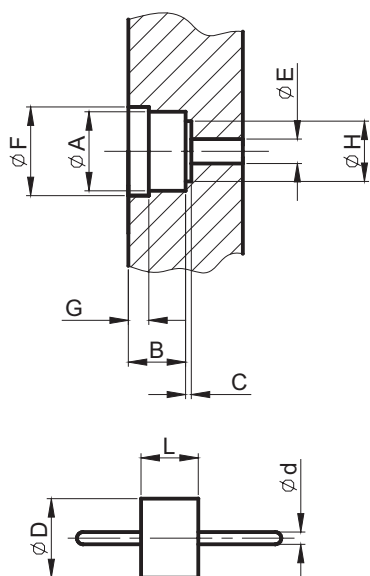


## Glass Bead



Recommended Dimensions		
$\phi d$	0.23 [.009]	0.30 [.012]
D	1.73 [.068]	1.93 [.076]
L	1.40 [.055]	
L1	3.05 [.120]	1.02 [.040]
L2	0.76 [.030]	2.03 [.080]

## Recommend Glass Bead Mounting Dimensions

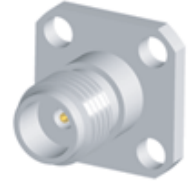
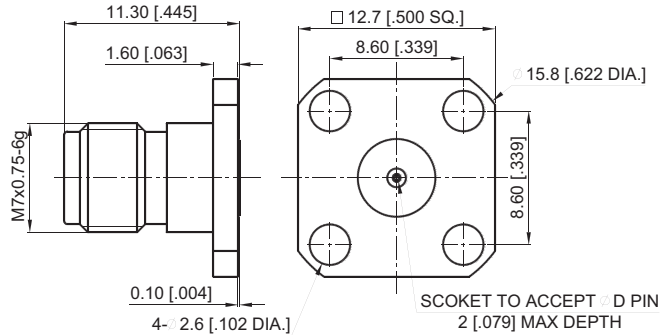


Recommended Dimensions		
$\phi d$	0.23 [.009]	0.30 [.012]
A	According as D	
B	According as L	
C	0.15 [.006] — 0.20 [.008]	0.06 [.0025] — 0.09 [.0035]
D	0.77 [.0302] — 0.82 [.0322]	1.65 [.065] — 1.70 [.067]
E	d x 2.3 [d x .091]	
H	A + 1 [A+.039]	
G	0.5 [.020]	

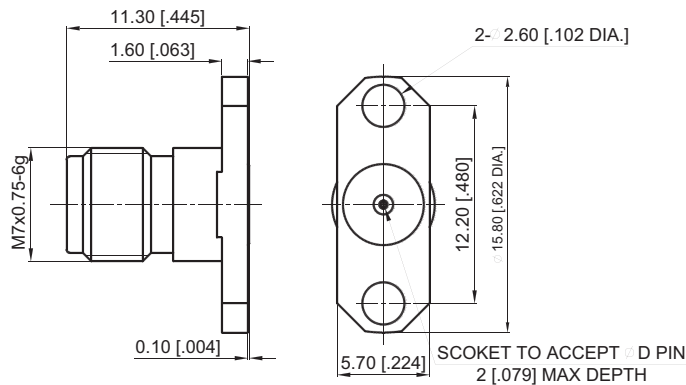
# RECEPTACLES WITH ACCEPTS PIN

## Receptacles, jacks (female), Flange Mount

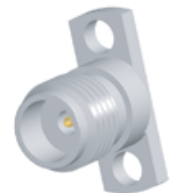
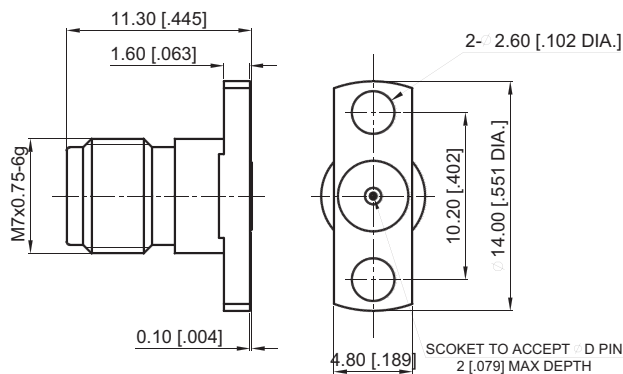
Part Number	Ø D PIN
PBF41A-4HLS01	0.23 [.009]
PBF42A-4HLS01	0.30 [.012]



Part Number	Ø D PIN
PBF41A-2HLS01	0.23 [.009]
PBF42A-2HLS01	0.30 [.012]

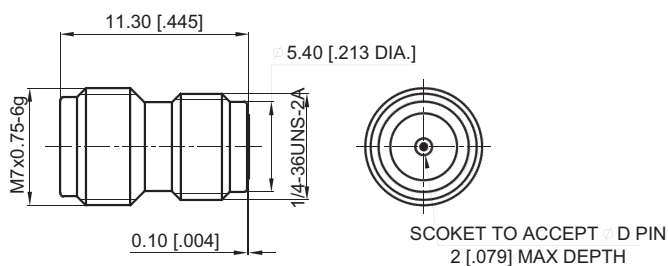


Part Number	Ø D PIN
PBF41B-2HLS01	0.23 [.009]
PBF42B-2HLS01	0.30 [.012]



## Receptacles, jacks (female), Thread in

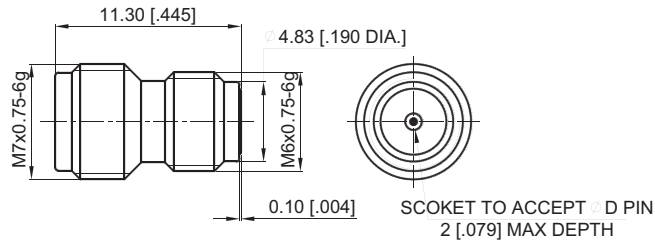
Part Number	Ø D PIN
PBF11B-RECS01	0.23 [.009]
PBF12B-RECS01	0.30 [.012]



# RECEPTACLES WITH ACCEPTS PIN

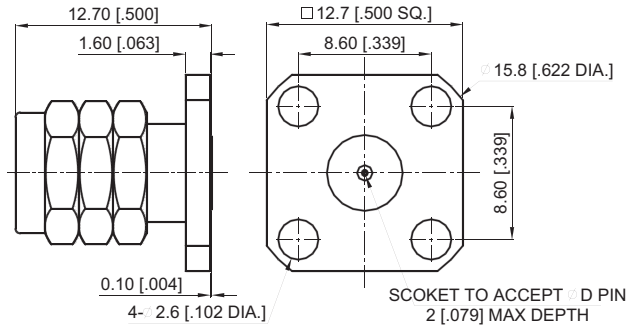
Receptacles, jacks (female), Thread in

Part Number	Ø D PIN
PBF11A-RECS01	0.23 [.009]
PBF12A-RECS01	0.30 [.012]

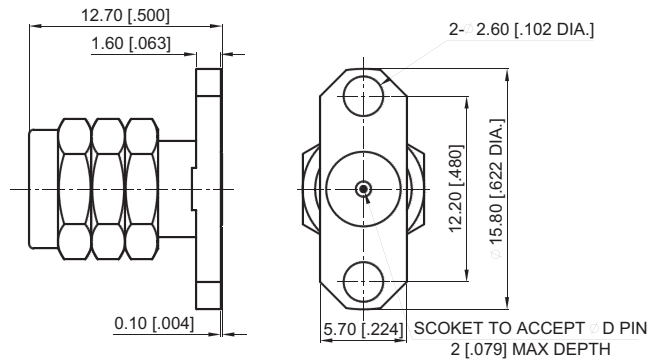


Receptacles, plugs (male), Flange Mount

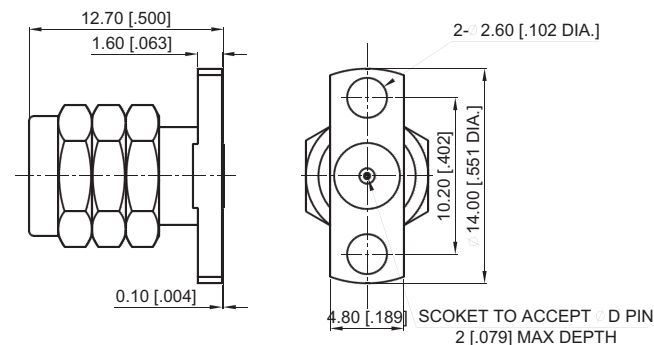
Part Number	Ø D PIN
PBM41A-4HLS01	0.23 [.009]
PBM42A-4HLS01	0.30 [.012]



Part Number	Ø D PIN
PBM41A-2HLS01	0.23 [.009]
PBM42A-2HLS01	0.30 [.012]



Part Number	Ø D PIN
PBM41B-2HLS01	0.23 [.009]
PBM42B-2HLS01	0.30 [.012]





[www.ConductRF.com](http://www.ConductRF.com)



14-185-A

Technology  
Partner



800.348.5580  
630.208.2200



rellpower.com  
rellpower@rell.com