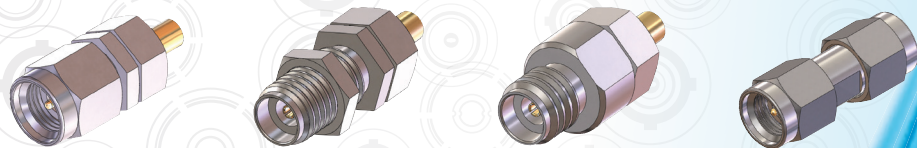




MILLIMETER WAVE COAXIAL CONNECTORS



MILLIMETER WAVE Coaxial Connectors

2.92 mm SPECIFICATIONS

2.92 mm Interface at a Glance

The 2.92 mm connector was developed for use to 40 GHz. The male pin is shorter than that of an SMA or 3.5 mm to ensure that the outer contacts of the male and female connectors engage before the pin and female receptacle do. This ensures that the pin and socket will not see excessive

wear and mating stress seen by misalignment in an SMA or 3.5 mm connector. The 2.92 mm connector also has a thicker wall than a standard SMA. The 2.92 mm series mates with SMA and 3.5 mm connectors.

Electrical Specifications (General Precision Grade)

Impedance	50 Ω
Delta Impedance	0.8%
Min Operating Frequency	40 GHz
Max Cut-off Frequency	46 GHz
Max Return Loss	30 dB
Max Insertion Loss	0.3 dB
Shielding Effectiveness	≥ 100 dB
Contact Resistance (Inner)	0.75 m Ω
Contact Resistance (Outer)	0.13 m Ω

Mechanical Specifications (General Precision Grade)

Outer Conductor I.D.	2.92 mm
Inner Conductor O.D.	1.27 mm
Min Mating Cycles	2000
Max Insertion Force	4.5 N
Max Withdrawal Force	3.3 N
Max Recommended Torque	1.8 Nm
Inter-mate ability	SMA, 3.5 mm

Environmental Specifications (General Precision Grade)

Temperature (operating)	13 to 33 $^{\circ}\text{C}$
Temperature (non-operating)	-55 to 70 $^{\circ}\text{C}$
Humidity	20 to 80% RH
Pressure	78 to 104 kPa

Note: Dimensions vary by P/N, data sheets available at www.svmicrowave.com or (561) 840-1800

2.92 mm CONNECTORS

2.92 mm CONNECTORS

2.92 mm Cable Plug

Technical drawing of a 2.92 mm Cable Plug. The front view shows a hexagonal base with three .312 HEX. flats. The side view shows a total length of .772 and a hex section length of .185. The isometric view shows the plug with a gold-plated center pin.

P/ N	CABLE
SF1511-60031	.047
SF1511-60030	.086
SF1511-60044	.141

2.92 mm Cable Jack

Technical drawing of a 2.92 mm Cable Jack. The front view shows a hexagonal base with three .312 ACROSS FLATS. The side view shows a total length of .805 and a hex section length of .312 HEX. The isometric view shows the jack with a gold-plated center pin.

P/ N	CABLE
SF1521-60039	.047
SF1521-60043	.086
SF1521-60042	.141

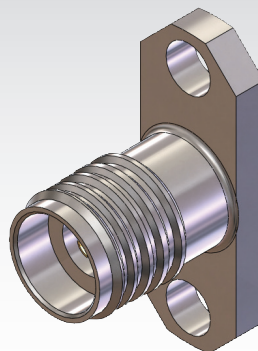
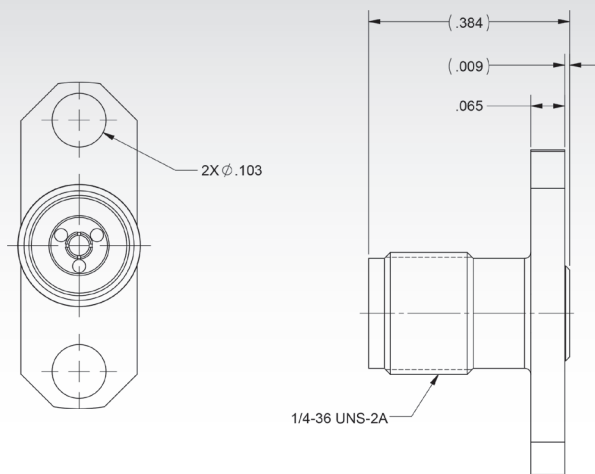
2.92 mm Bulkhead Cable Jack

Technical drawing of a 2.92 mm Bulkhead Cable Jack. The front view shows a hexagonal base with three .312 HEX. flats. The side view shows a total length of .863 and a hex section length of .448. The isometric view shows the jack with a gold-plated center pin.

P/ N	CABLE
SF1521-60045	.047
SF1521-60025	.086
SF1521-60044	.141

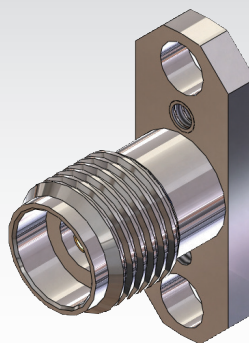
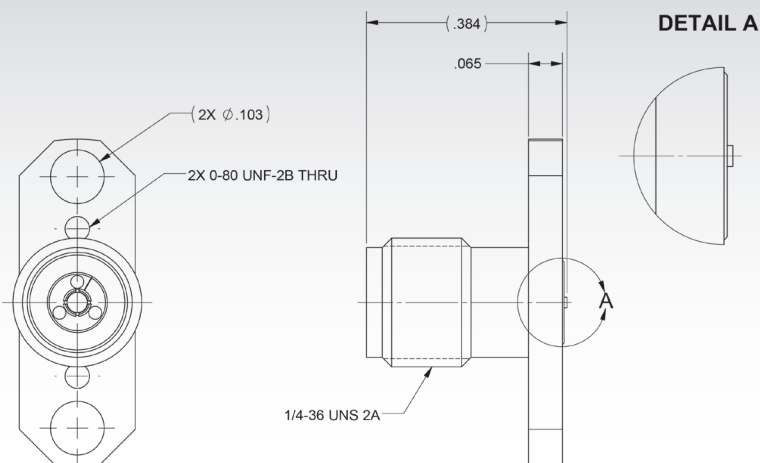
2.92 mm CONNECTORS

2.92 mm Jack Field Replaceable (Accepts Ø.012" Pin)



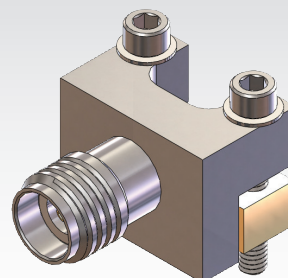
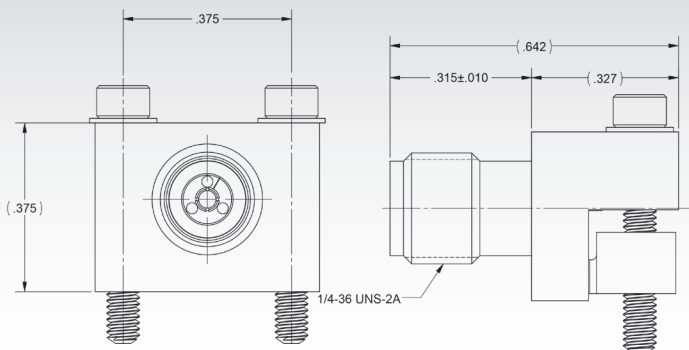
P/ N	Description
SF1552-6002	2 Hole Flange
SF1550-6400	4 Hole Flange

2.92 mm Flange Jack Compression Mount



P/ N	Description
SF1521-60013	2 Hole Flange
SF1521-60047	4 Hole Flange

2.92 mm Edge Launch Jack

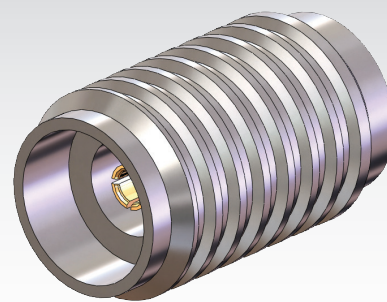
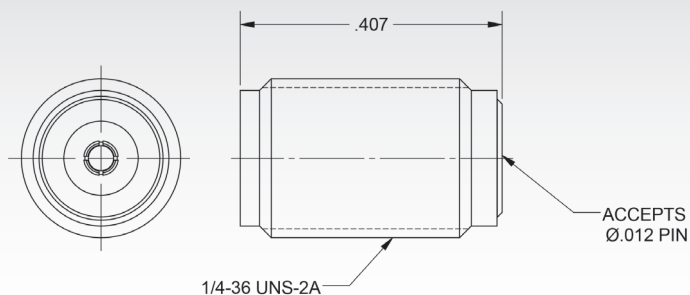


P/ N	Description
SF1521-60049	Adjustable PCB Thickness
1521-60051	Fixed PCB Thickness (.068")

2.92 mm CONNECTORS

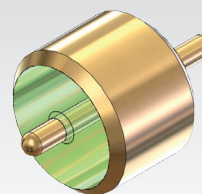
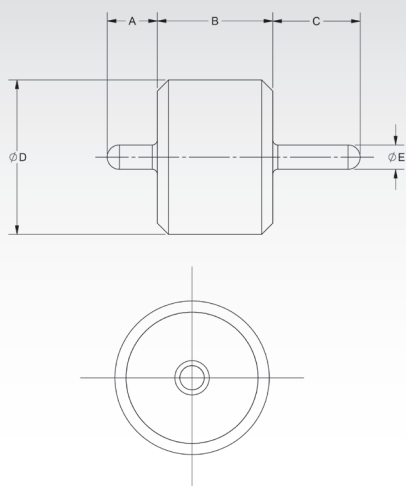
2.92 mm Jack Launcher (Sparkplug)

2.92 mm CONNECTORS



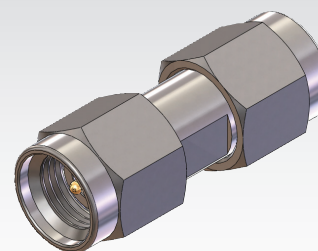
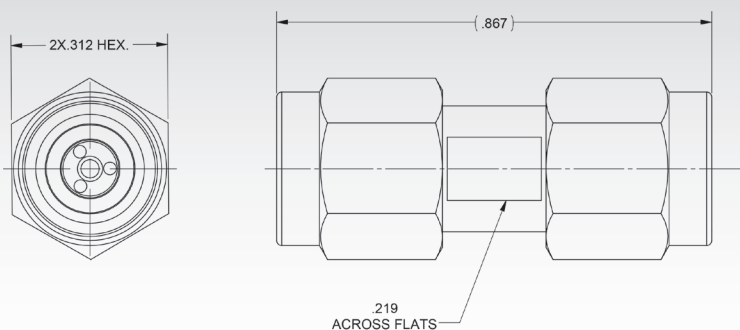
P/ N	Description
SF1575-6007	Accepts Ø.012" Pin

Glass Feedthru



P/ N	A	B	C	ØD	ØE
066-15-000	0.04	0.055	0.029	0.076	0.012
066-15-001	0.04	0.055	0.08	0.076	0.012
066-15-002	0.03	0.055	0.026	0.068	0.009
066-15-003	0.03	0.055	0.08	0.068	0.009
066-15-004	0.03	0.055	0.12	0.068	0.009
066-15-005	0.05	0.06	0.125	0.158	0.02

2.92 mm Adapters



P/ N	Description
SF1593-6000	Plug to Plug
SF1590-6000	Jack to Jack
SF1597-6003	Plug to Jack

2.4 mm SPECIFICATIONS

2.4 mm Interface at a Glance

The 2.4 mm connector was developed for use to 50 GHz. This connector series uses a thick outer wall to eliminate the fragility seen in SMA and 2.92 mm connectors. The female socket is also strengthened to ensure reliable

mating. The 2.4 mm series mates with SMA, 3.5 mm and 2.92 mm connectors with adapters and can mate with the 1.85 mm series without adapters.

Electrical Specifications (General Precision Grade)

Impedance	50Ω
Delta Impedance	0.8%
Min Operating Frequency	50 GHz
Max Cut-off Frequency	56.5 GHz
Max Return Loss	24 dB
Max Insertion Loss	0.15 dB
Shielding Effectiveness	≥ 100 dB
Contact Resistance (Inner)	3 mΩ
Contact Resistance (Outer)	0.15 mΩ

Mechanical Specifications (General Precision Grade)

Outer Conductor I.D.	2.4 mm
Inner Conductor O.D.	1.0423 mm
Min Mating Cycles	5000
Max Insertion Force	1.4 N
Max Withdrawal Force	1.1 N
Max Recommended Torque	1.6 Nm
Inter-mate ability	1.85 mm

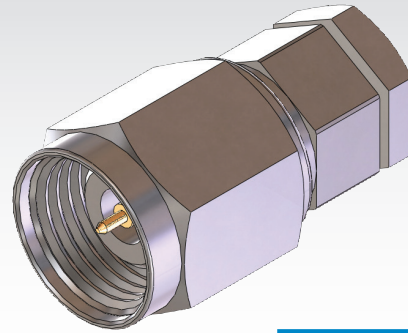
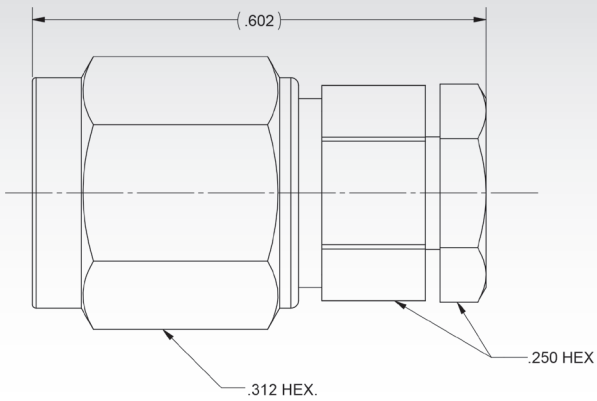
Environmental Specifications (General Precision Grade)

Temperature (operating)	13 to 33 °C
Temperature (non-operating)	-55 to 70 °C
Humidity	20 to 80% RH
Pressure	78 to 104 kPa

Note: Dimensions vary by P/N, data sheets available at www.svmicrowave.com or (561) 840-1800

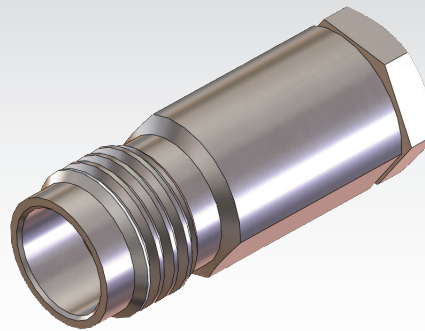
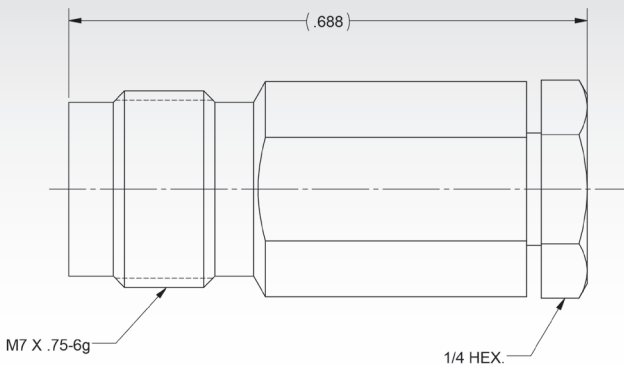
2.4 mm CONNECTORS

2.4 mm Cable Plug



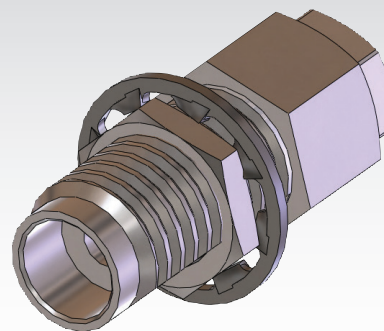
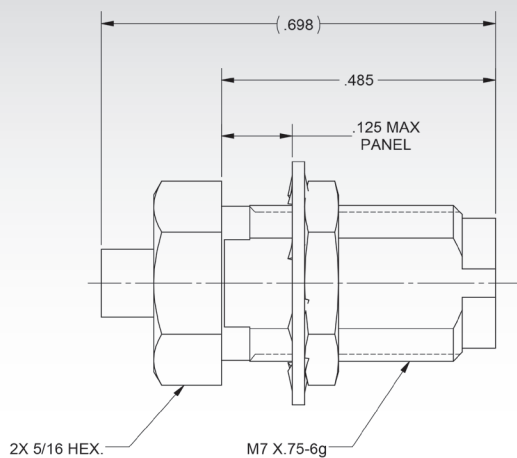
P/ N	CABLE
SF1611-60001	.047
SF1611-60003	.086

2.4 mm Cable Jack



P/ N	CABLE
SF1621-60014	.047
SF1621-60009	.086

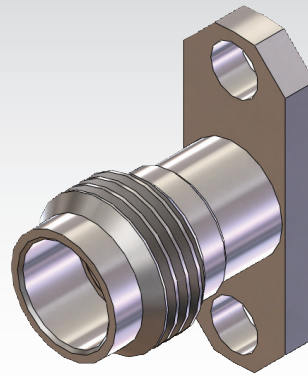
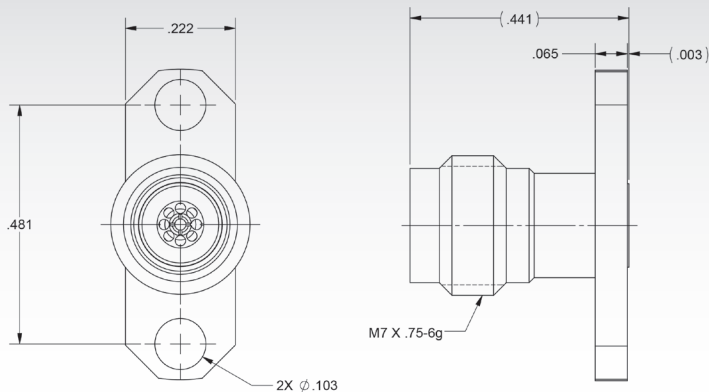
2.4 mm Bulkhead Cable Jack



P/ N	CABLE
SF1621-60005	.047
SF1644-6001	.086

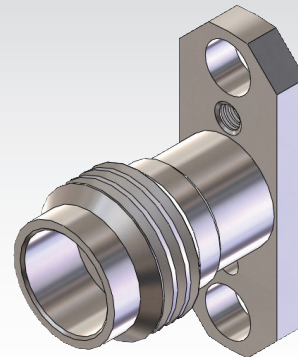
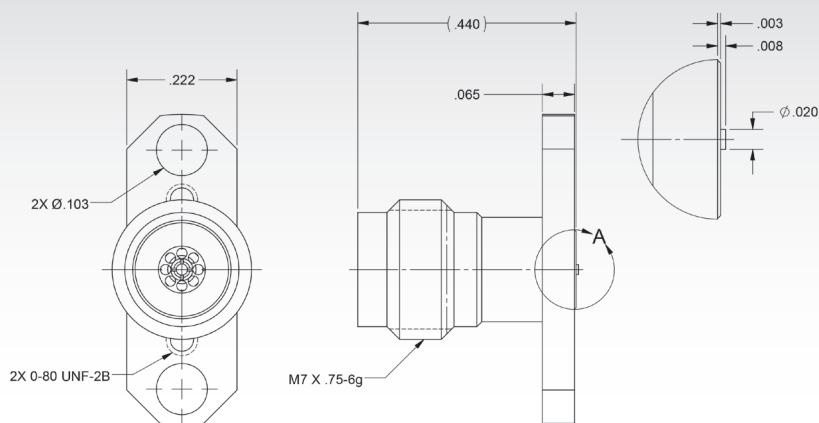
2.4 mm CONNECTORS

2.4 mm Jack Field Replaceable (Accepts Ø.012" Pin)



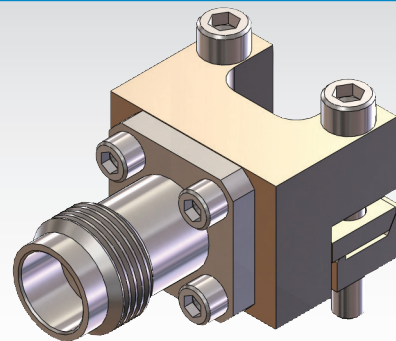
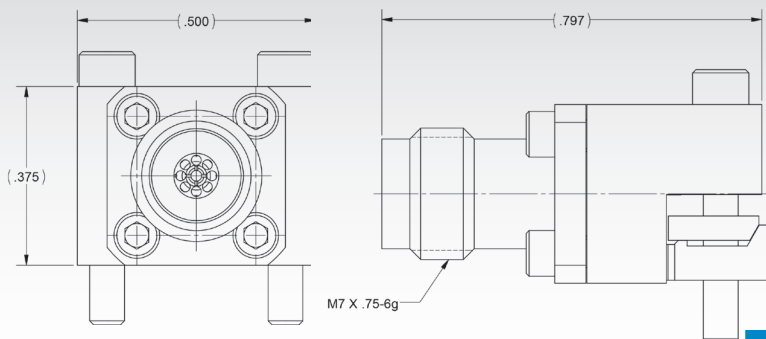
P/ N	Description
SF1621-60017	2 Hole Flange
SF1621-60018	4 Hole Flange

2.4 mm Flange Jack Compression Mount



P/ N	Description
SF1621-60003	2 Hole Flange
SF1621-60019	4 Hole Flange

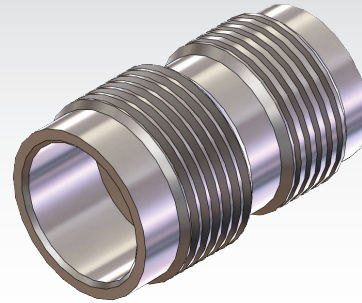
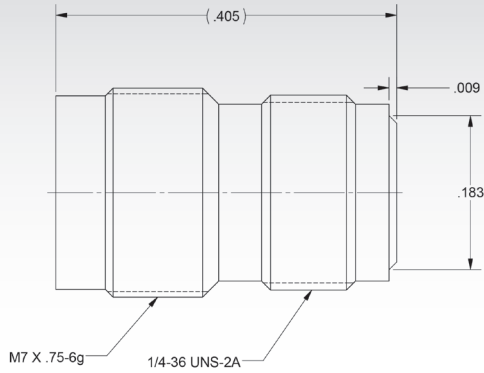
2.4 mm Edge Launch Jack



P/ N	Description
SF1621-60007	Adjustable PCB Thickness
1621-60008	Fixed PCB Thickness (.068)

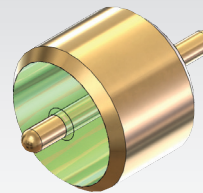
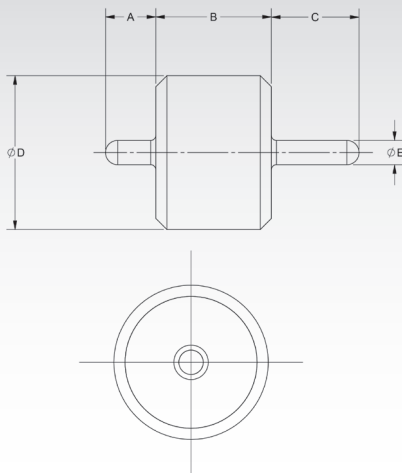
2.4 mm CONNECTORS

2.4 mm Jack Launcher (Sparkplug)



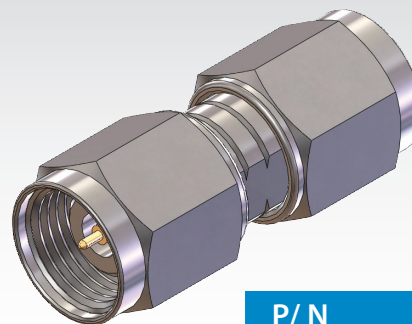
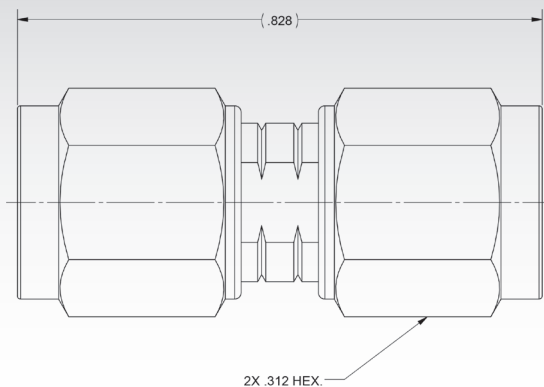
P/ N	Description
SF1675-6004	Accepts Ø .008" Pin

Glass Feedthru



P/ N	A	B	C	ØD	ØE
066-15-000	0.04	0.055	0.029	0.076	0.012
066-15-001	0.04	0.055	0.08	0.076	0.012
066-15-002	0.03	0.055	0.026	0.068	0.009
066-15-003	0.03	0.055	0.08	0.068	0.009
066-15-004	0.03	0.055	0.12	0.068	0.009
066-15-005	0.05	0.06	0.125	0.158	0.02

2.4 mm Adapters



P/ N	Description
SF1116-6039	Plug to Plug
SF1116-6037	Jack to Jack
SF1116-6040	Plug to Jack

1.85 mm SPECIFICATIONS

1.85 mm Interface at a Glance

The 1.85 mm connector was designed for mode free operation through 65 GHz. The interface uses a mostly air-dielectric with a support bead that is set back in the body of the connector to reduce bead interaction in a mated pair. Like the 2.92 mm and 2.4 mm connector, the body has been

designed to ensure that the outer conductors engage before the center conductors make contact. The 1.85 mm interface uses an M7 thread and is compatible only with the 2.4 mm interface. SV Microwave supplies adapters to mate 1.85 mm connectors to SMA and 2.92 mm connectors.

Electrical Specifications (General Precision Grade)

Impedance	50Ω
Delta Impedance	1.0%
Min Operating Frequency	65 GHz
Max Cut-off Frequency	73.3 GHz
Max Return Loss	22 dB
Max Insertion Loss	0.4 dB
Shielding Effectiveness	≥ 100 dB
Contact Resistance (Inner)	2.2 mΩ
Contact Resistance (Outer)	0.8 mΩ

Mechanical Specifications (General Precision Grade)

Outer Conductor I.D.	1.85 mm
Inner Conductor O.D.	1.8036 mm
Min Mating Cycles	5000
Max Insertion Force	0.9 N
Max Withdrawal Force	0.56 N
Max Recommended Torque	1.6 Nm
Inter-mate ability	2.4 mm

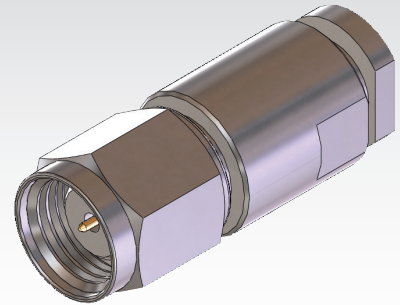
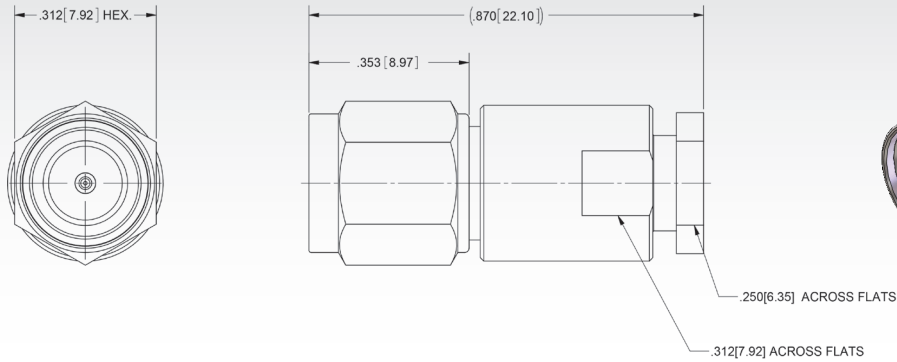
Environmental Specifications (General Precision Grade)

Temperature (operating)	13 to 33 °C
Temperature (non-operating)	-55 to 70 °C
Humidity	20 to 80% RH
Pressure	78 to 104 kPa

Note: Dimensions vary by P/N, data sheets available at www.svmicrowave.com or (561) 840-1800

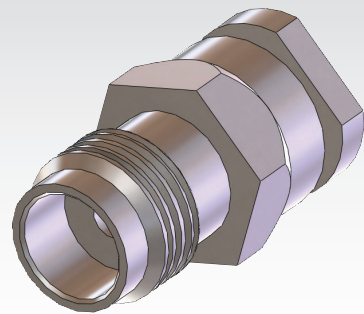
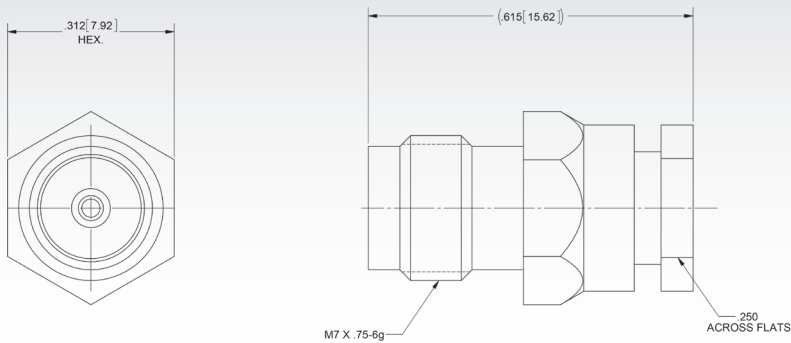
1.85 mm CONNECTORS

1.85 mm Cable Plug



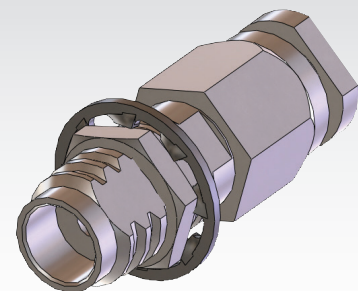
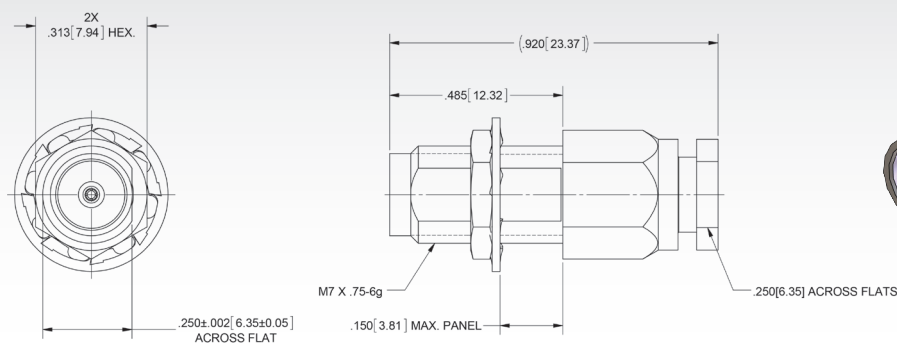
P/N	Cable
SF3311-60002	0.047"
SF3311-60003	0.047"

1.85 mm Cable Jack



P/N	Cable
SF3321-60005	0.047"
SF3321-60006	0.086"

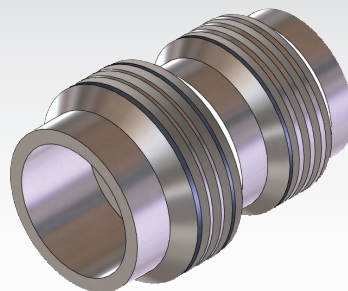
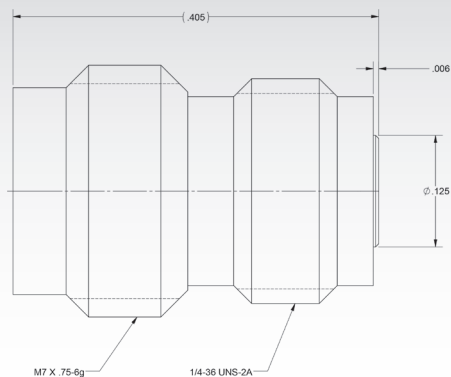
1.85 mm Bulkhead Cable Jack



P/N	Cable
SF3321-60004	0.047"
SF3321-60007	0.086"

1.85 mm CONNECTORS

1.85 mm Jack Launcher (Sparkplug)



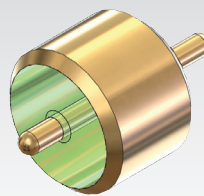
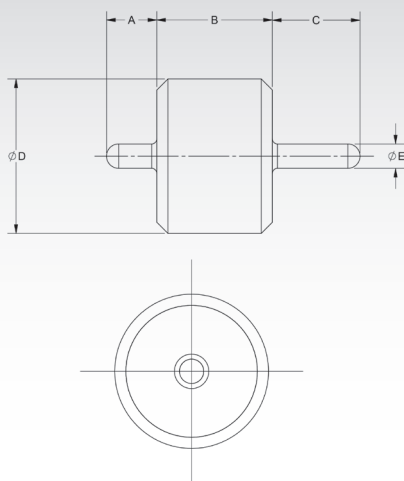
P/ N

Description

SF3375-6001

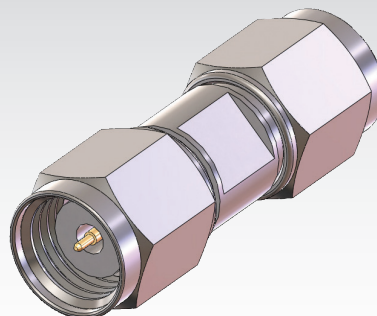
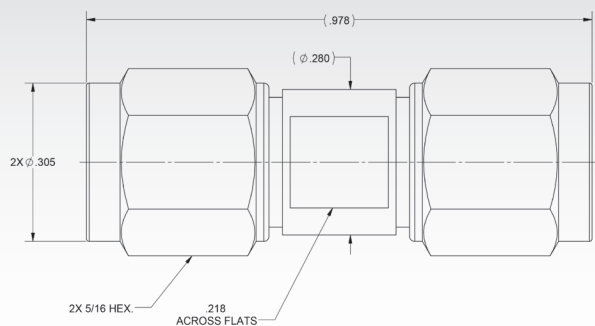
Accepts Ø .008" Pin

Glass Feedthru



P/ N	A	B	C	ØD	ØE
066-15-000	0.04	0.055	0.029	0.076	0.012
066-15-001	0.04	0.055	0.08	0.076	0.012
066-15-002	0.03	0.055	0.026	0.068	0.009
066-15-003	0.03	0.055	0.08	0.068	0.009
066-15-004	0.03	0.055	0.12	0.068	0.009
066-15-005	0.05	0.06	0.125	0.158	0.02

1.85 mm Adapters



P/ N

Description

SF1133-6009

Plug to Plug

SF1133-6008

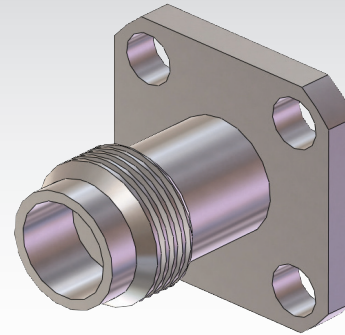
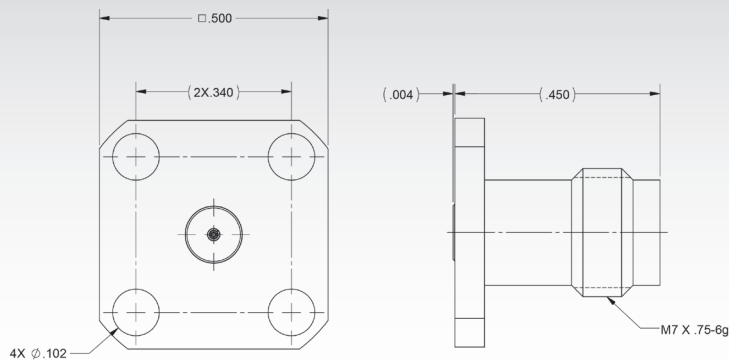
Jack to Jack

SF1133-6010

Plug to Jack

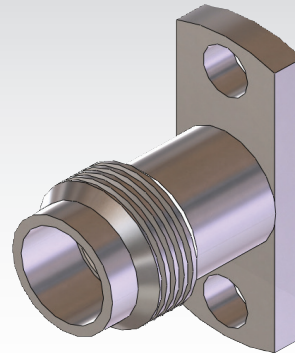
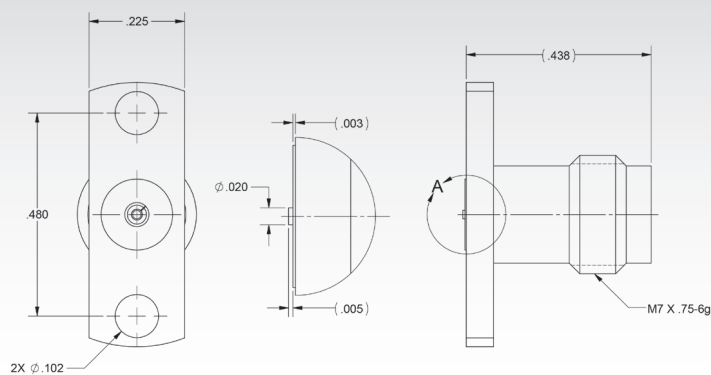
1.85 mm CONNECTORS

1.85 mm Jack Field Replaceable (Accepts Ø.009" Pin)



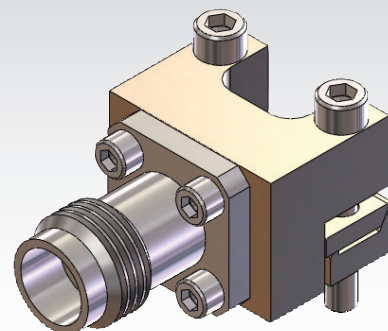
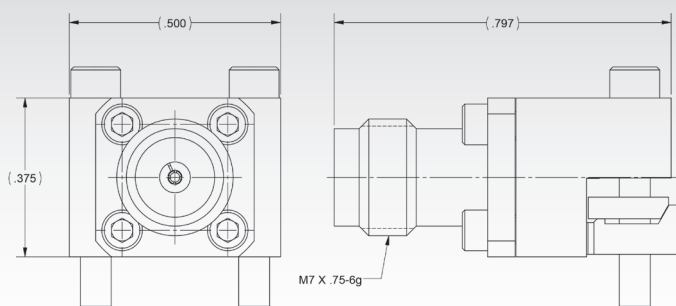
P/ N	Description
SF3321-60003	2 Hole Flange
SF3321-60010	4 Hole Flange

1.85 mm Flange Jack Compression Mount



P/ N	Description
SF3321-60011	2 Hole Flange
SF3321-60012	4 Hole Flange

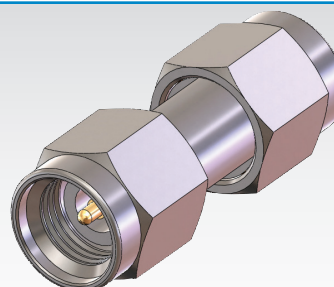
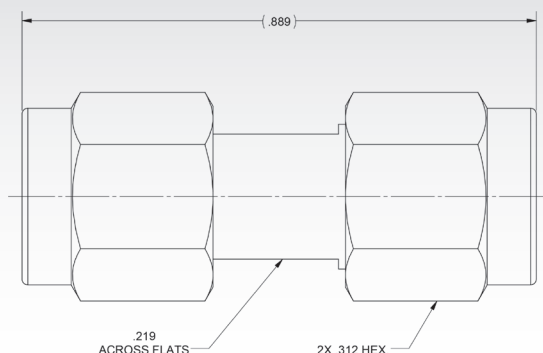
1.85 mm Edge Launch Jack



P/ N	Description
SF3321-60013	Adjustable PCB Thickness
3321-60001	Fixed PCB Thickness (.062")

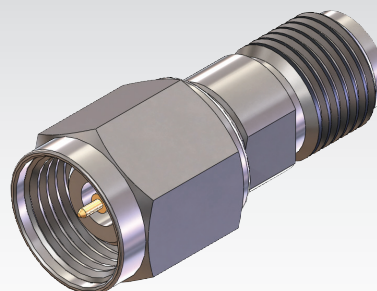
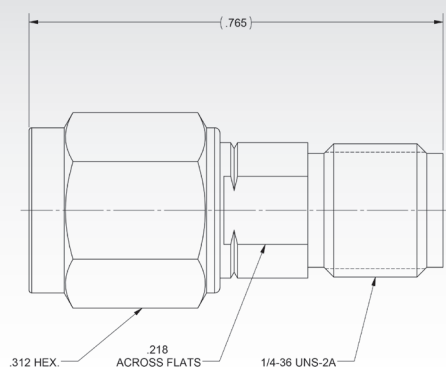
BETWEEN SERIES ADAPTERS

2.92 mm Adapters



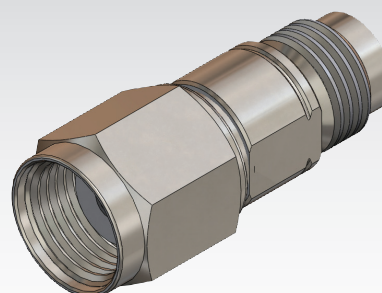
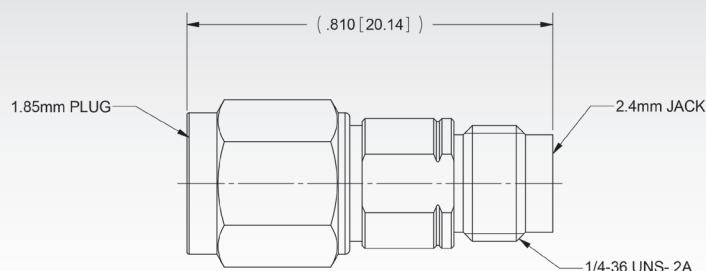
P/ N	Description
SF1115-6011	2.92 mm Male to SMA Male
SF1115-6009	2.92 mm Male to SMA Female
SF1115-6007	2.92 mm Female to SMA Male
SF1115-6005	2.92 mm Female to SMA Female

2.4 mm Adapters



P/ N	Description
SF1116-6007	2.4 mm Male to 2.92 mm Male
SF1116-6002	2.4 mm Male to 2.92 mm Female
SF1116-6003	2.4 mm Female to 2.92 mm Male
SF1116-6004	2.4 mm Female to 2.92 mm Female

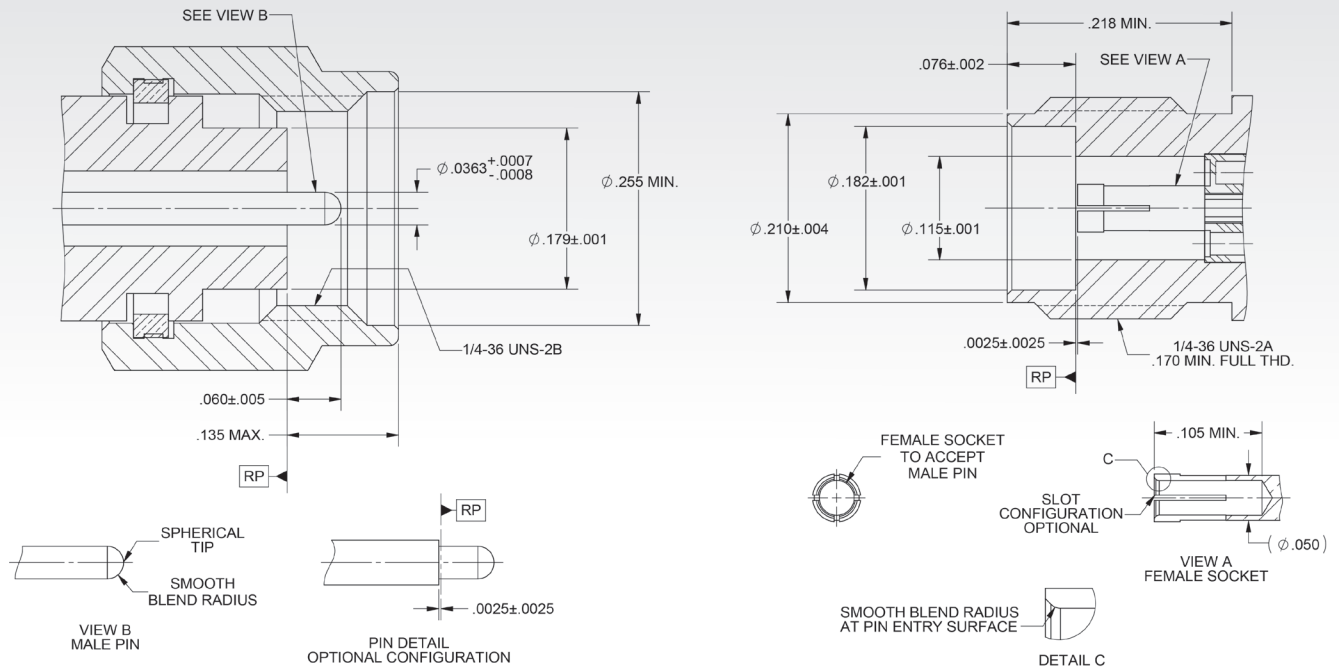
1.85 mm Adapters



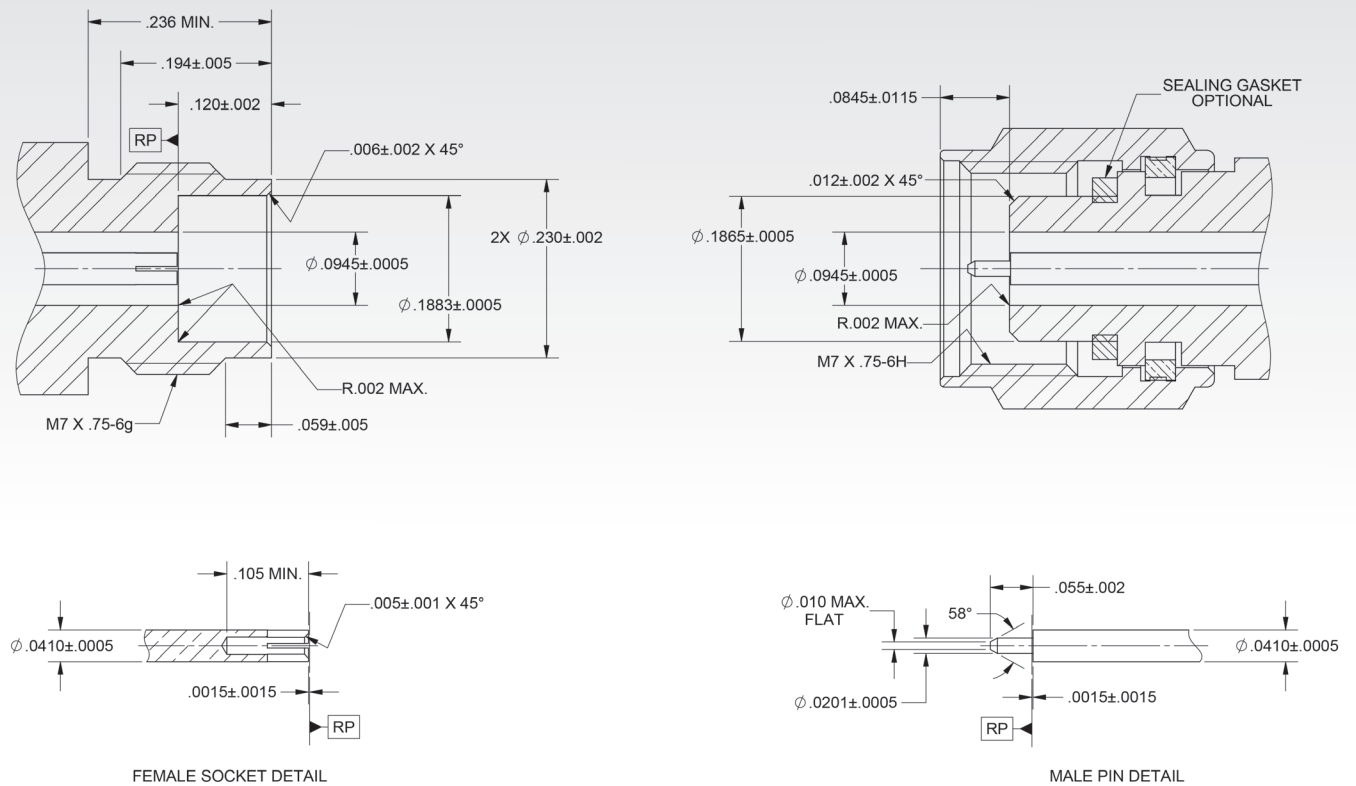
P/ N	Description
SF1133-6006	1.85 mm Male to 2.4 mm Male
SF1133-6004	1.85 mm Male to 2.4 mm Female
SF1133-6005	1.85 mm Female to 2.4 mm Male
SF1133-6003	1.85 mm Female to 2.4 mm Female

MATING END DIMENSIONS

2.92 mm MATING END DIMENSIONS

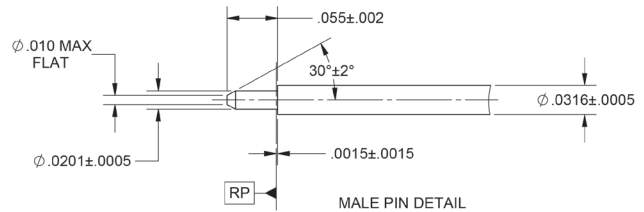
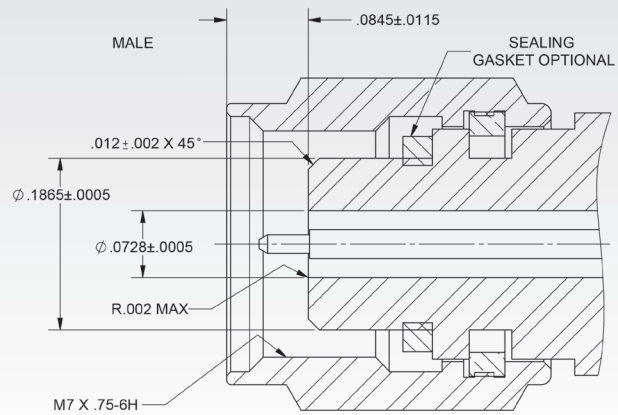
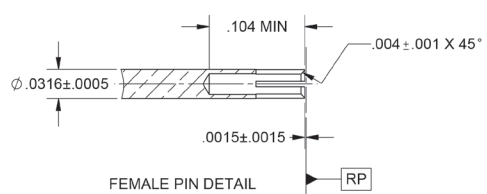
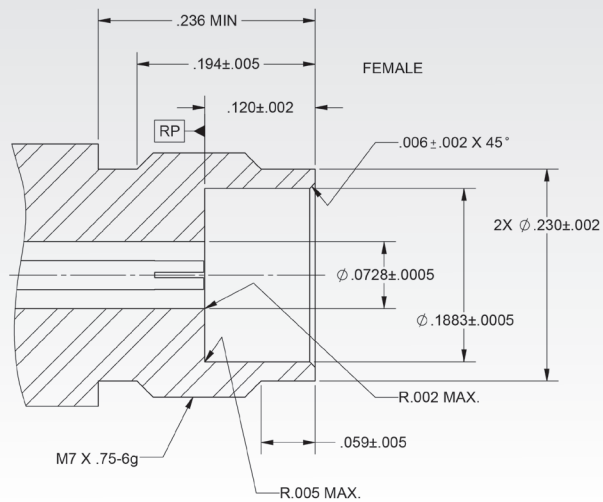


2.4 mm MATING END DIMENSIONS



MATING END DIMENSIONS

1.85 mm MATING END DIMENSIONS



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