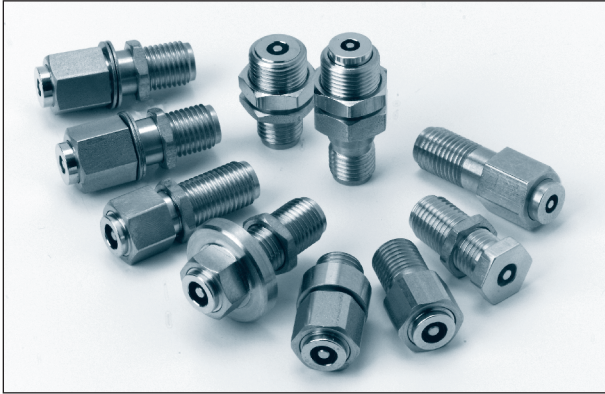


Planar Blind-Mate® Connectors

DC to 40 GHz

Models 7008, 7034, 7035, 7035R & 7041
Threadless Connector System / Space Saving / Long Life



Features

- /// **Threadless Connector Mating** - This blind-mate connector series provides threadless connector mating which is useful when mating an array of connectors on one RF module to another array within seconds.
- /// **Space Saving** - These connectors can simplify RF connections in the most inaccessible regions and high package density systems where conventional threaded connector mating is extremely difficult.
- /// **Long Life** - 1,000,000 typical matings. Excellent for ATE applications. Non-piloting spring loaded contact areas provided extremely long life and repeatability.
- /// **Connector Options** - Choose from many standard Connector options such as SMA per MIL-C-39012, SMK (2.92mm), 2.4mm and SMB.
- /// **Broad Frequency Range** - API / Weinschel offers a wide selection of frequency ranges from DC to 40 GHz including most wireless bands.
- /// **Blind-Mate Fixed Attenuator, Termination & DC Block Designs** - Blind-mates can be configured on other coaxial products such as Fixed Attenuators, terminations and even DC blocks.
- /// **Ideal for mass-mount and receiver interface subsystems** where hundreds of high frequency connections need to be made simultaneously.
- /// **New Front & Rear Locking Models** - New designs offer front or rear mounting options.
- /// **Optimized Designs for RF & Wireless Applications**

Description

Planar Blind-mates connectors are typically used as a pair or set which is comprised of two connector subassemblies that have a common mating interface. Generally, a pair contains one floating blind-mate interface with spring loaded inner/outer contacts and the other is a fixed blind-mate interface with fixed inner/outer contacts (Figure 1).

The Planar Blind-mate series provides threadless connector mating which is useful when mating an array of connectors on one RF module to another array within seconds. Each connector pair will tolerate typically 0.02 inches per pair radial and axial offset misalignment and still meet all of its electrical specifications.

Most API / Weinschel Planar Blind-mates designs conveniently mount on any panel using a standard panel D-hole or most any standardized hole pattern. Extra heavy construction for long life even with mistreatment makes these blind-mate products suitable for panel use.

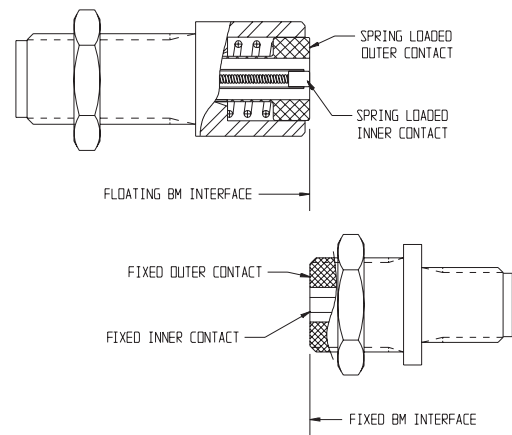






Figure 1. Common Blind-Mate Mating Interface

U.S. Patent Number 6,409,550

Planar Blind-Mate® Connectors

Connector Systems

| Blind-Mate Connectors...DC-40.0 GHz | | | | | | |
|-------------------------------------|---|-----------------------|---------------|-------------------|----------|---|
| Model Number | Connector Type | Frequency Range (GHz) | SWR (Maximum) | Loss (Maximum dB) | Page No. | |
| 7008 | Pressurized SMA Female | DC - 40.0 | 1.30-1.65* | 0.3-1.5* | 188 |  |
| 7034 | 2.92mm Female, Rear Lock, Floating | DC - 40.0 | 1.35-1.55* | 0.50 | 189 |  |
| 7034-1 | 2.92mm Female, Rear Lock, Fixed | DC - 40.0 | 1.35-1.55* | 0.85 | | |
| 7035 | 2.92mm Female, Front Locking Hex Nut, Floating | DC - 40.0 | 1.35-1.55* | 0.50 | 190 |  |
| 7035-1 | 2.92mm Female, Front Locking Hex Nut, Fixed | DC - 40.0 | 1.35-1.55* | 0.85 | | |
| 7035R | 2.92mm Female, Front Locking, Floating, Round Nut | DC - 40.0 | 1.35-1.55* | 0.85 | | |
| 7035R-1 | 2.92mm Female, Front Locking, Fixed, Round Nut | DC - 40.0 | 1.35-1.55* | 0.85 | | |
| 7041 | 2.92mm Female, Rear Locking, Fixed, Round Nut, Lower Cost | DC - 18.0 | 1.20-1.40* | 0.60 | 191 |  |

* Varies with frequency.

Applications

Ideal applications for these high quality/high frequency connectors range from mass-mount and receiver interface subsystems that house hundreds of high frequency connectors to single connector configurations. In either case these connectors allow threadless connector mating which is very useful when mating an array of connectors on one RF module to another array or connector within seconds.

Figure 2 shows a typical application where each connector half contains 7035R series connectors. These connectors contain spring loaded inner/outer contacts which allows for extremely long contact life as well as 0.02 per pair maximum radial and axial offset misalignment while still meeting all the specified electrical specifications.

API / Weinschel offers a variety of standard models which are designed to fit or be configured into a wide range of applications:

- /// **Pressurized Designs** - Model 7008 is equipped with a flange arrangement designed to withstand 1000 PSI of hydrostatic pressure. This model can be mated with another 7008 or any 7034 or 7035 series Planar Blind-mate.
- /// **Rear Locking** - Models 7034 & 7034-1 are beneficial in applications where there is easy access to the front of the connector for holding while the cable and connector is added or removed. Rotation is also prevented if the connector front is inserted in a slot which could allow for easier cable and connector assembly installation.
- /// **Front Locking** - Models 7035, 7035-1, 7035R, 7035R-1 & 7041 are beneficial in applications where the cable and connector will be inserted as an assembly into a panel or connector module from the rear.
- /// **Custom Configurations** - Other types of Planar Blind-mate connectors such as SMA, SMB, 3.5mm, flange, microstrip/pc board mount launch, test probes, frequency specific, arrays or interface subsystems can be designed for your particular application.

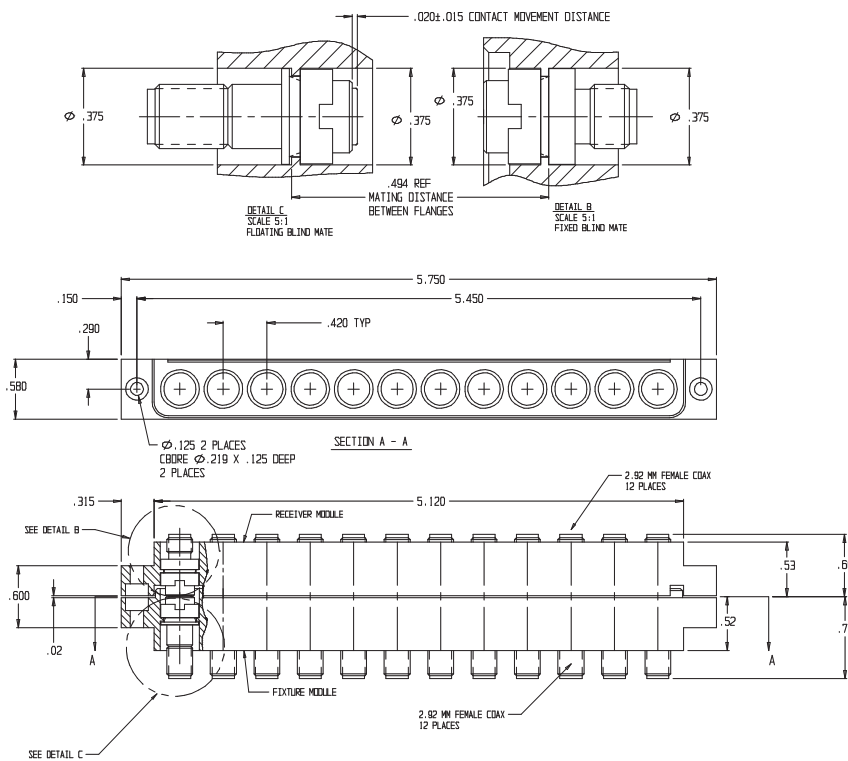
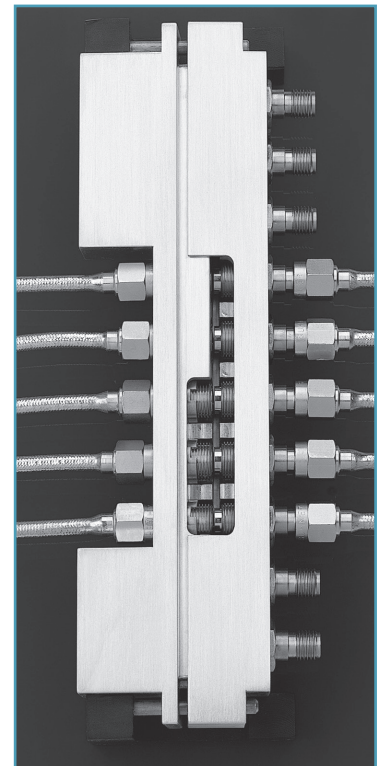


Figure 2. Typical Application



Planar Blind-Mate® Connectors

Pressurized PLANAR BLINDMATE® Connector

Model 7008

DC to 40.0 GHz



Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: DC to 40.0 GHz

POWER RATING: 50 Watts CW, 500 Watts peak

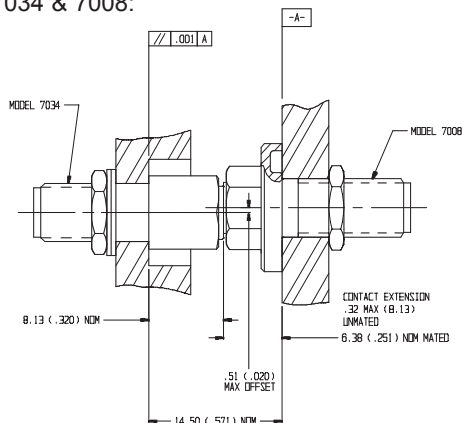
INSERTION LOSS (dB) & SWR*:

| Frequency (GHz) | SWR | | Loss | |
|-----------------|---------|---------|---------|---------|
| | typical | maximum | typical | maximum |
| DC - 18 | 1.20 | 1.30 | 0.3 | 0.5 |
| 18 - 26.5 | 1.30 | 1.40 | 0.6 | 0.8 |
| 26.5 - 40 | 1.45 | 1.65 | 1.0 | 1.5 |

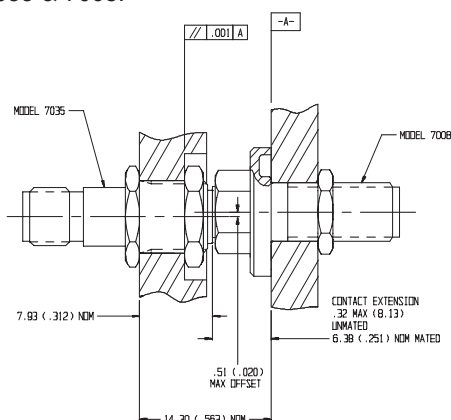
*Specifications are for mated pair (Mated pair can be any combination of Model 7008 and 7035).

Applications

Model 7034 & 7008:



Model 7035 & 7008:



HYDROSTATIC PRESSURE: 1000 PSI

STATIC PRESSURE: 50 PSI

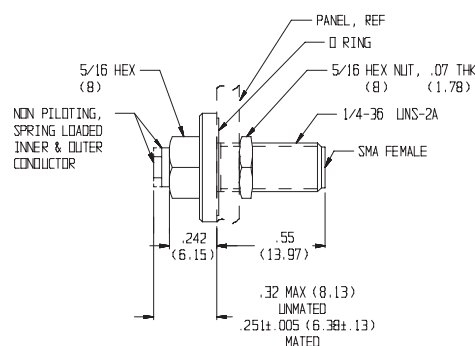
TEMPERATURE RANGE: -50°C to +125°C

RADIAL OFFSET ALLOWED: 0.02 per pair

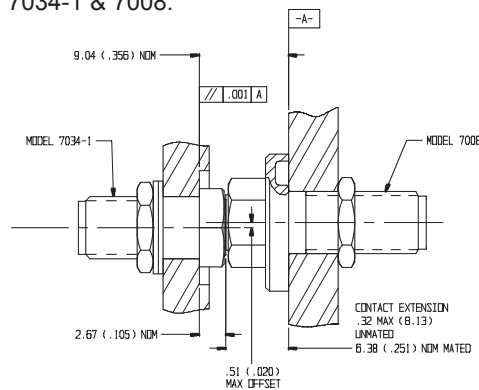
CONNECTORS: Stainless Steel SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

WEIGHT: 2 oz (56.7 g) maximum

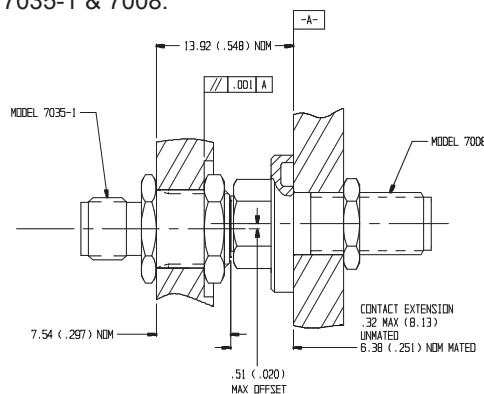
PHYSICAL DIMENSIONS:



Model 7034-1 & 7008:



Model 7035-1 & 7008:



NOTE: 1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

Planar Blind-Mate® Connectors

Rear Locking PLANAR BLINDMATE® Connectors

Models 7034 & 7034-1

DC to 40.0 GHz



Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: DC to 40.0 GHz

INSERTION LOSS REPEATABILITY: ±0.1 dB typical

MECHANICAL LIFE: 25,000 matings minimum

INSERTION LOSS (dB) & SWR:

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|-----------------|----------------|---------------|
| DC - 18 | 0.50 | 1.35 |
| 18 - 40 | 0.85 | 1.55 |

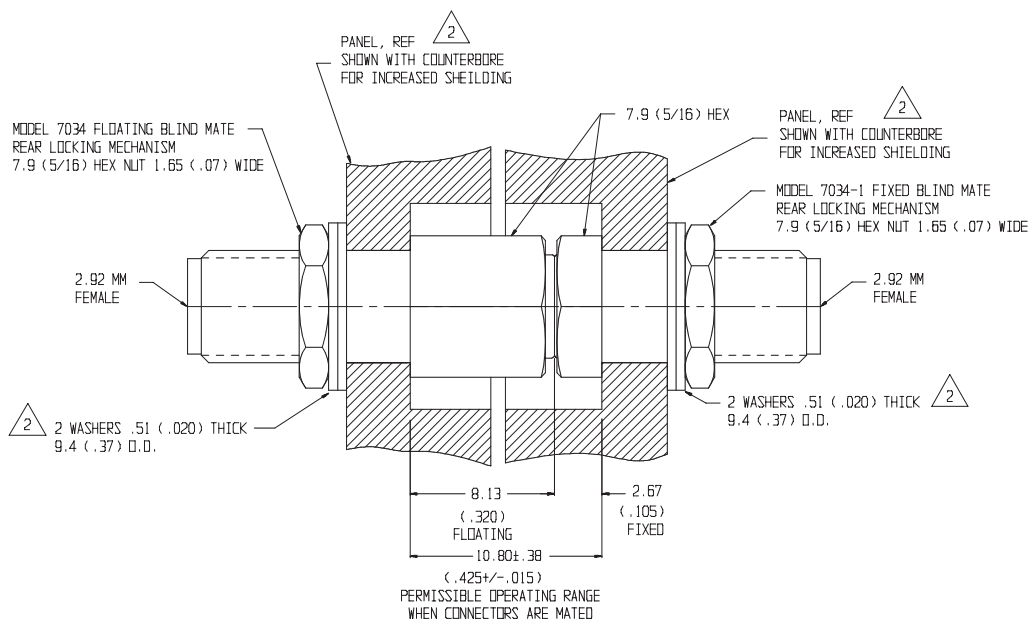
RADIAL OFFSET ALLOWED: ±0.02 inches per pair

TEMPERATURE RANGE: -50°C to +100°C

CONNECTORS: Stainless Steel 2.92mm connector with gold plated contacts - mate nondestructively with SMA connectors per MIL-C-39012, 3.5mm, SMK, and other 2.92mm connectors.

WEIGHT: 2 oz, (56.7 g) maximum

PHYSICAL DIMENSIONS:



- NOTES:
1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
 2. Maximum panel thickness for Model 7034 is 4.9 (0.195). For panels less than 4.2 (0.165) installation requires appropriate washer.
 3. Unit available with RoHS compliant materials, specify when ordering.

Planar Blind-Mate® Connectors

Front Locking PLANAR BLINDMATE® Connectors

Models 7035, 7035-1, 7035R & 7035R-1

DC to 40.0 GHz



INSERTION LOSS (dB) & SWR:

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|-----------------|----------------|---------------|
| DC - 18 | 0.50 | 1.35 |
| 18 - 40 | 0.85 | 1.55 |

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: DC to 40.0 GHz

INSERTION LOSS REPEATABILITY: ±0.1 dB typical

MECHANICAL LIFE: 25,000 matings minimum

PHYSICAL DIMENSIONS:

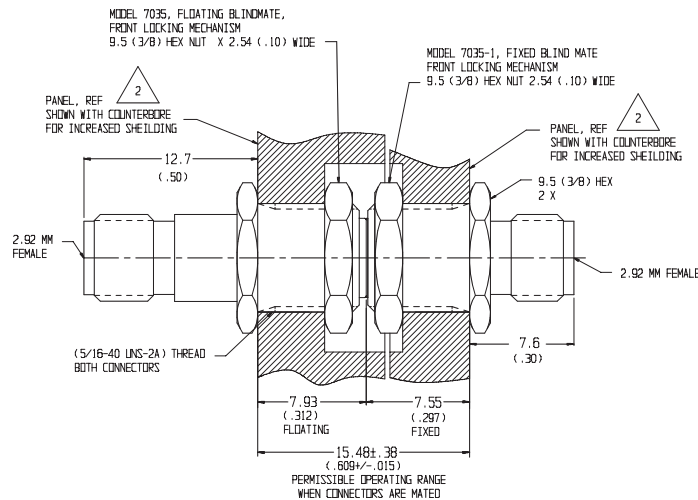
Models 7035 & 7035-1:

RADIAL OFFSET ALLOWED: ±0.02 inches per pair

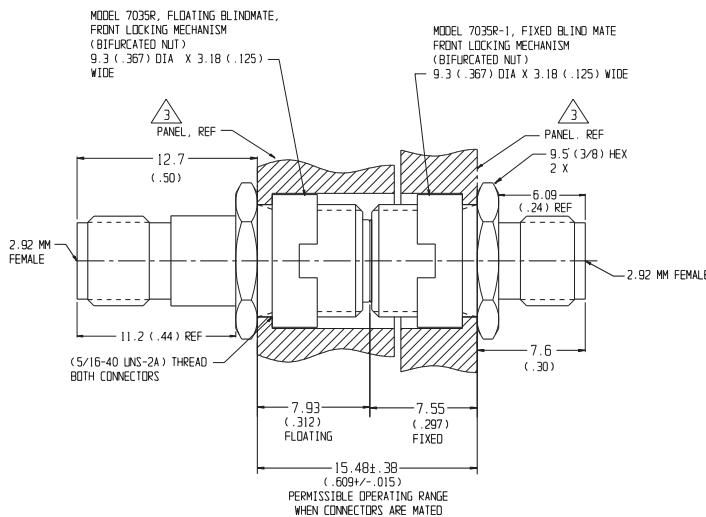
TEMPERATURE RANGE: -50°C to +100°C

CONNECTORS: Stainless Steel 2.92mm connector with gold plated contacts - mate nondestructively with SMA connectors per MIL-C-39012, 3.5mm, SMK, and other 2.92mm connectors.

WEIGHT: 2 oz (56.7 g) maximum



Models 7035R & 7035R-1:



- NOTES:
1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
 2. Maximum panel thickness for Model 7035 is 4.9 (0.195).
 3. Panel flange thickness of 1.0 (0.03) shown for 7035R. Connector Mating shown with counterbore for increased shielding effectiveness.
 4. Unit available with RoHS compliant materials, specify when ordering

Planar Blind-Mate® Connectors

Rear Locking PLANAR BLINDMATE® Connector

Models 7041
Lower Cost Design

DC to 18.0 GHz



Specifications

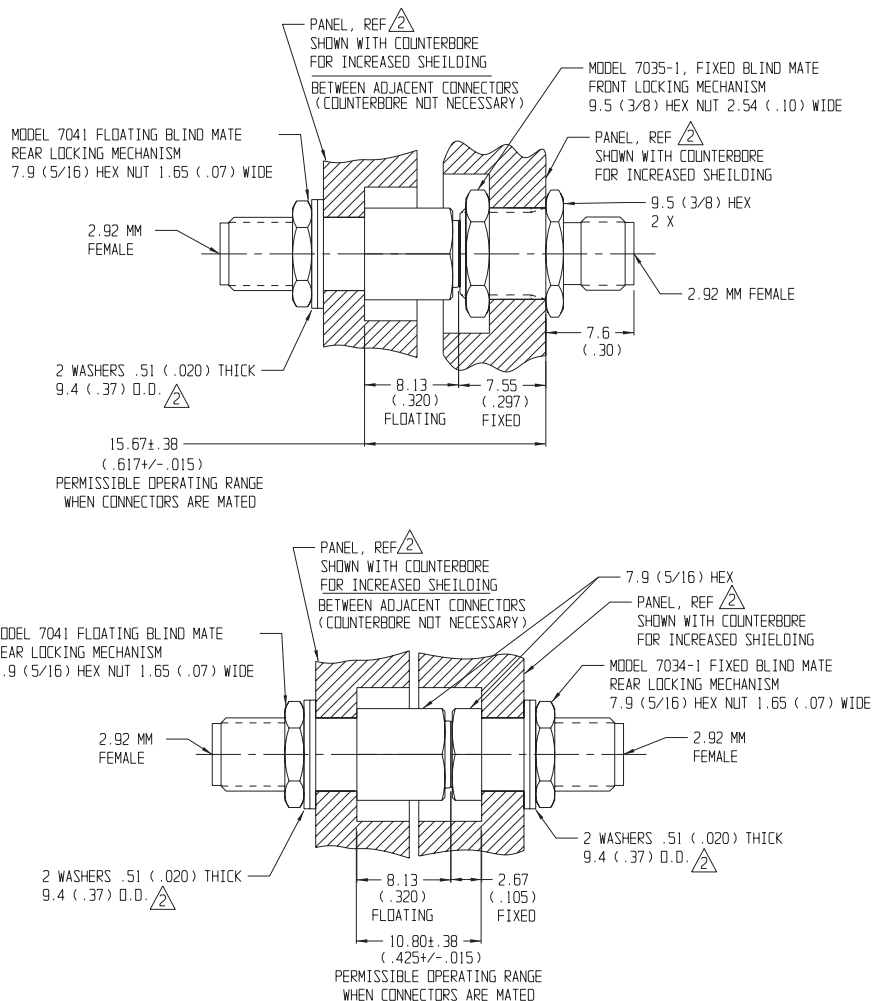
NOMINAL IMPEDANCE: 50 Ω nominal
FREQUENCY RANGE: DC to 18.0 GHz

INSERTION LOSS (dB) & SWR:

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|-----------------|----------------|---------------|
| DC - 6 | 0.40 | 1.20 |
| 6 - 18 | 0.60 | 1.40 |

PHYSICAL DIMENSIONS:

INSERTION LOSS REPEATABILITY: ±0.1 dB typical
MECHANICAL LIFE: 25,000 matings minimum
RADIAL OFFSET ALLOWED: ±0.02 inches per pair
TEMPERATURE RANGE: -50°C to +100°C
CONNECTORS: Stainless Steel 2.92mm connector with gold plated contacts - mate nondestructively with SMA connectors per MIL-C-39012, 3.5mm, SMK, and other 2.92mm connectors.
WEIGHT: 2 oz, (56.7 g) maximum



- NOTES: 1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
2. Maximum panel thickness for Model 7041 is 4.9 (0.195). Panel flange thickness less than 4.2 (0.165). Installation requires appropriate washer.
3. * when mating surface have been maintained and kept clean.