

**THE BIG DEAL**

- Ultra Wideband, DC to 40 GHz
- Flat Response
- Low Insertion Loss, 0.11 dB typ.
- Excellent VSWR, 1.04:1 typ.

*Generic photo used for illustration purposes only***APPLICATIONS**

- Interconnection of RF cable and equipment

|            |                        |
|------------|------------------------|
| Model No.  | 185F-KM+               |
| Case Style | DJ2383-1               |
| Connectors | 1.85 mm-F to 2.92 mm-M |

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance.  
See our website for methodologies and qualifications

**PRODUCT OVERVIEW**

Mini-Circuits' 185F-KM+ is a coaxial 1.85 mm-F to 2.92 mm-M adapter supporting a wide range of applications from DC to 40 GHz. This model provides excellent VSWR, low insertion loss, and flat response versus frequency. The 185F-KM+ features passivated stainless steel construction and measures only 0.79" in length.

**KEY FEATURES**

| Features                                              | Advantages                                                                                                             |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Wideband, DC to 40 GHz                                | Wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use.     |
| Excellent VSWR, 1.04:1                                | Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range.                   |
| Low Insertion Loss, 0.11 dB                           | Provides excellent signal power transmission from input to output.                                                     |
| Passivated stainless steel construction.              | Stands up to wear and tear in demanding environments and provides excellent reliability.                               |
| Very wide operating temperature range, -55 to +100 °C | Withstands extreme operating conditions and is suitable for use near high power componentry where heat rise is common. |



COAXIAL

## Adapter

185F-KM+

50Ω DC to 40 GHz 1.85 mm-Female to 2.92 mm-Male

## ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter       | Condition (GHz) | Min. | Typ. | Max. | Units |
|-----------------|-----------------|------|------|------|-------|
| Frequency Range |                 | DC   |      | 40   | GHz   |
| Insertion Loss  | DC - 8          | —    | 0.05 | 0.3  | dB    |
|                 | 8 - 18          | —    | 0.11 | 0.3  |       |
|                 | 18 - 26.5       | —    | 0.15 | 0.3  |       |
|                 | 26.5 - 40       | —    | 0.20 | 0.6  |       |
| VSWR            | DC - 8          | —    | 1.01 | 1.15 | :1    |
|                 | 8 - 18          | —    | 1.04 | 1.15 |       |
|                 | 18 - 26.5       | —    | 1.06 | 1.15 |       |
|                 | 26.5 - 40       | —    | 1.05 | 1.15 |       |

## ABSOLUTE MAXIMUM RATINGS

| Parameter             | Ratings         |
|-----------------------|-----------------|
| Operating Temperature | -55°C to +100°C |
| Storage Temperature   | -55°C to +100°C |

Permanent damage may occur if any of these limits are exceeded.



COAXIAL

# Adapter

**185F-KM+**

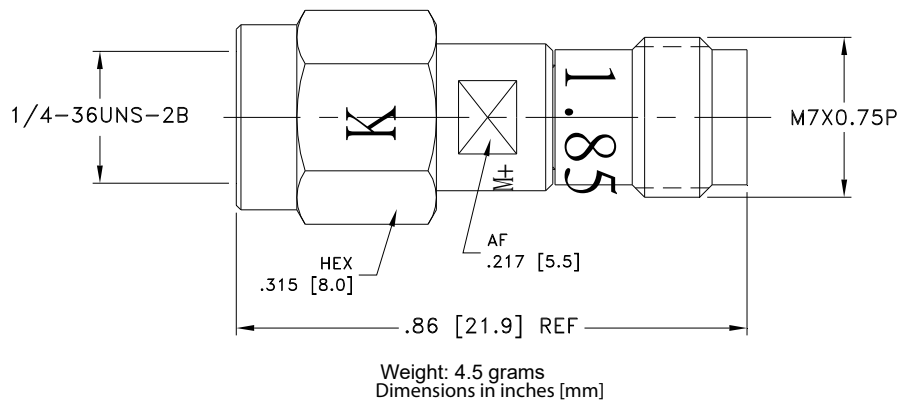
Mini-Circuits

50 $\Omega$  DC to 40 GHz 1.85 mm-Female to 2.92 mm-Male

## COAXIAL CONNECTIONS

|             |           |
|-------------|-----------|
| Connector 1 | 1.85 mm-F |
| Connector 2 | 2.92 mm-M |

## OUTLINE DRAWING





COAXIAL

## Adapter

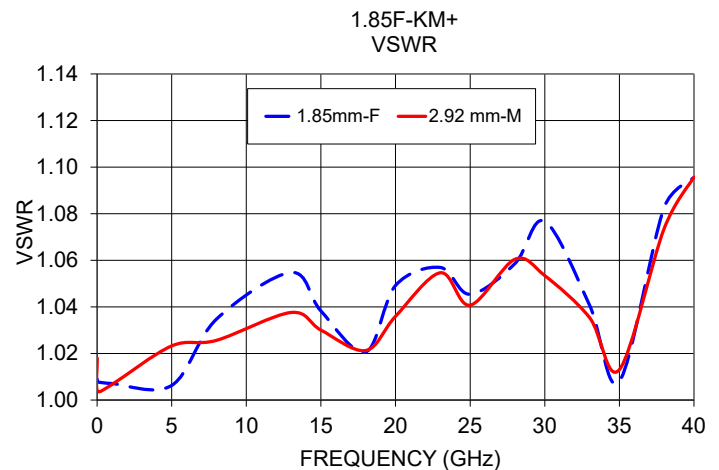
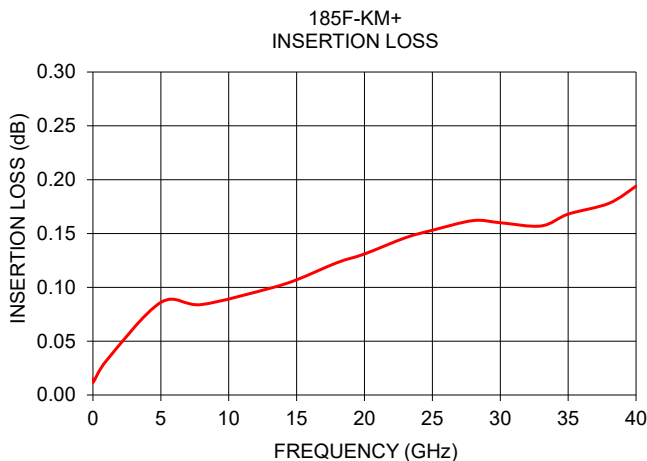
185F-KM+

Mini-Circuits

50Ω DC to 40 GHz 1.85 mm-Female to 2.92 mm-Male

## TYPICAL PERFORMANCE DATA AND CHARTS

| Frequency<br>(GHz) | Insertion Loss<br>(dB) | VSWR<br>(:1)   |              |
|--------------------|------------------------|----------------|--------------|
|                    |                        | 1.85 mm-Female | 2.92 mm-Male |
| 0.01               | 0.02                   | 1.01           | 1.02         |
| 0.03               | 0.01                   | 1.01           | 1.00         |
| 1.0                | 0.03                   | 1.01           | 1.01         |
| 5.0                | 0.09                   | 1.01           | 1.02         |
| 8.0                | 0.08                   | 1.03           | 1.03         |
| 13.0               | 0.10                   | 1.05           | 1.04         |
| 15.0               | 0.11                   | 1.04           | 1.03         |
| 18.0               | 0.12                   | 1.02           | 1.02         |
| 20.0               | 0.13                   | 1.05           | 1.04         |
| 23.0               | 0.15                   | 1.06           | 1.05         |
| 25.0               | 0.15                   | 1.05           | 1.04         |
| 28.0               | 0.16                   | 1.06           | 1.06         |
| 30.0               | 0.16                   | 1.08           | 1.05         |
| 33.0               | 0.16                   | 1.04           | 1.04         |
| 35.0               | 0.17                   | 1.01           | 1.01         |
| 38.0               | 0.18                   | 1.08           | 1.07         |
| 40.0               | 0.19                   | 1.10           | 1.10         |



## NOTES

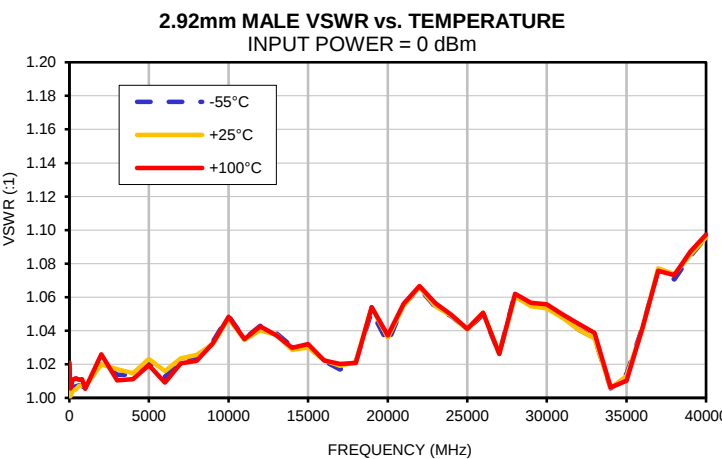
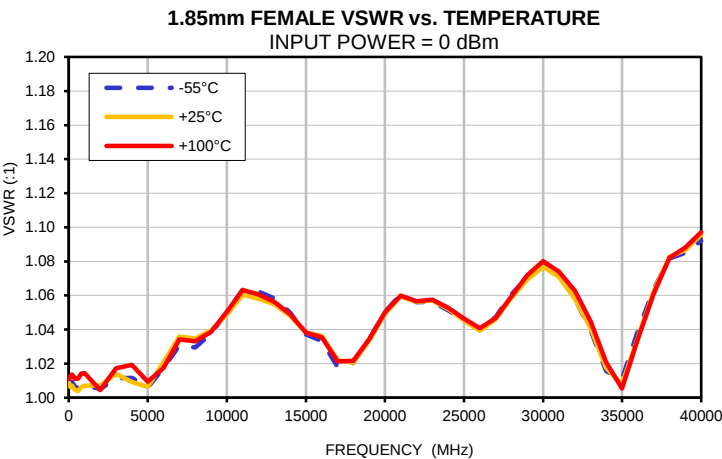
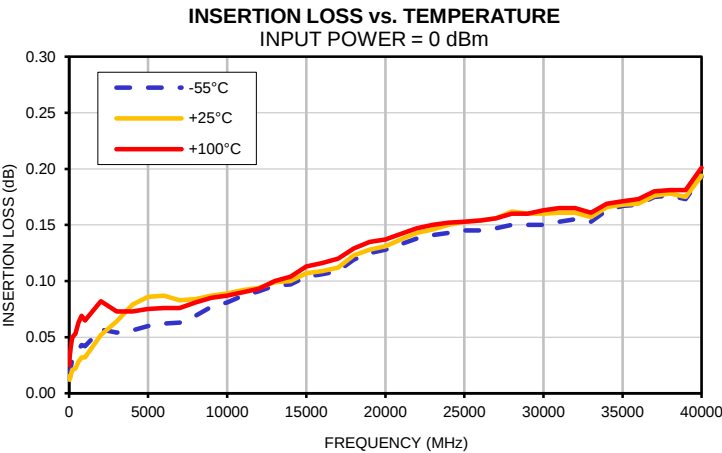
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



## Typical Performance Data

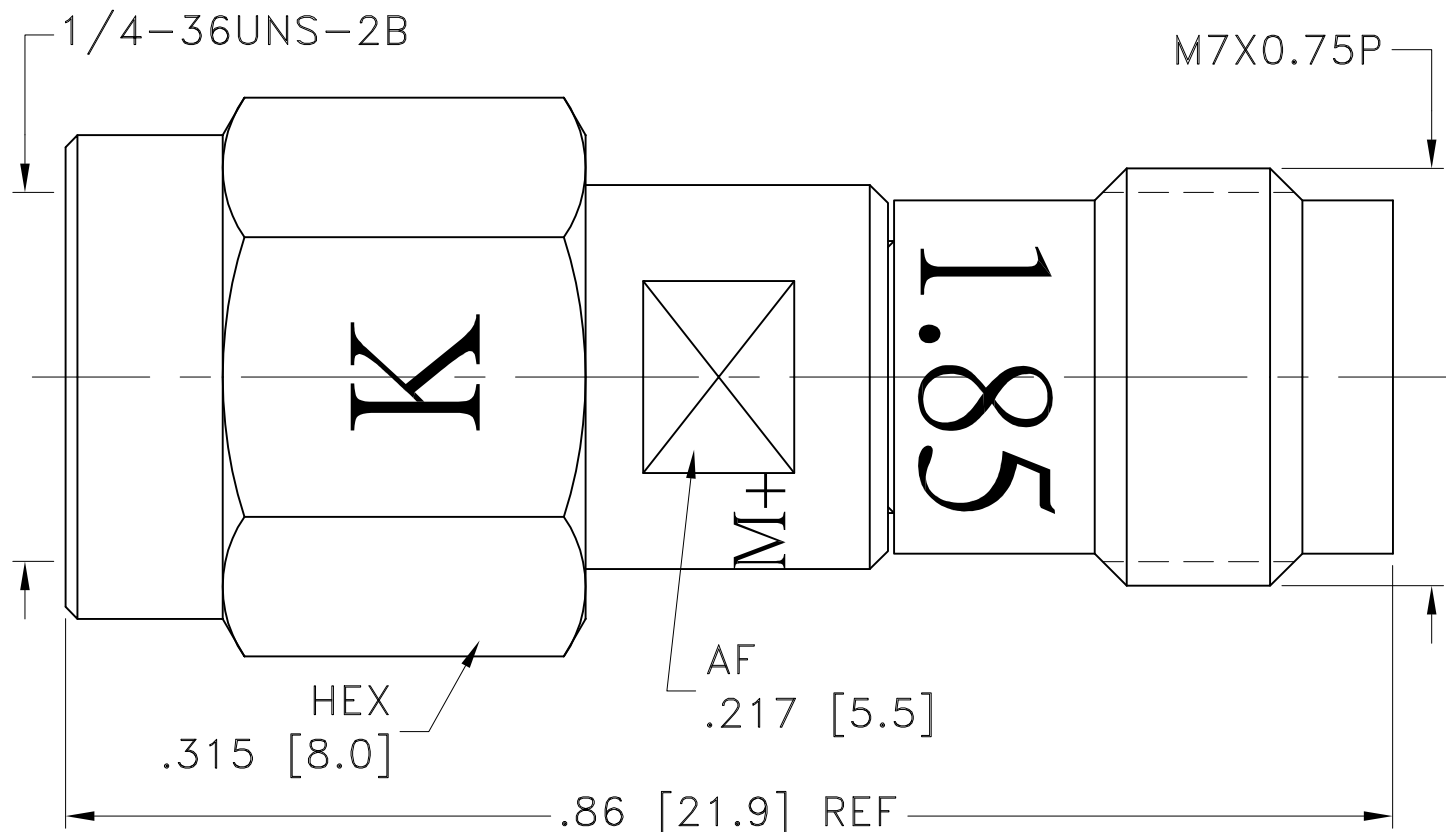
| FREQ. | INSERTION LOSS |       |         | 1.85mm-Female<br>VSWR |       |         | 2.92mm-Male<br>VSWR |       |         |
|-------|----------------|-------|---------|-----------------------|-------|---------|---------------------|-------|---------|
| (MHz) | (dB)           |       |         | (:1)                  |       |         | (:1)                |       |         |
|       | @-55°C         | @25°C | @+100°C | @-55°C                | @25°C | @+100°C | @-55°C              | @25°C | @+100°C |
| 10    | 0.02           | 0.02  | 0.03    | 1.01                  | 1.01  | 1.01    | 1.02                | 1.02  | 1.02    |
| 30    | 0.02           | 0.01  | 0.03    | 1.01                  | 1.01  | 1.01    | 1.00                | 1.00  | 1.01    |
| 50    | 0.02           | 0.01  | 0.03    | 1.01                  | 1.01  | 1.01    | 1.00                | 1.00  | 1.01    |
| 80    | 0.02           | 0.01  | 0.04    | 1.01                  | 1.01  | 1.01    | 1.00                | 1.00  | 1.01    |
| 100   | 0.02           | 0.02  | 0.04    | 1.01                  | 1.01  | 1.01    | 1.00                | 1.00  | 1.01    |
| 200   | 0.03           | 0.02  | 0.05    | 1.01                  | 1.01  | 1.01    | 1.01                | 1.00  | 1.01    |
| 400   | 0.03           | 0.02  | 0.05    | 1.01                  | 1.00  | 1.01    | 1.01                | 1.01  | 1.01    |
| 600   | 0.04           | 0.03  | 0.06    | 1.01                  | 1.00  | 1.01    | 1.01                | 1.01  | 1.01    |
| 800   | 0.04           | 0.03  | 0.07    | 1.01                  | 1.01  | 1.01    | 1.01                | 1.01  | 1.01    |
| 1000  | 0.04           | 0.03  | 0.07    | 1.01                  | 1.01  | 1.01    | 1.01                | 1.01  | 1.01    |
| 2000  | 0.06           | 0.05  | 0.08    | 1.01                  | 1.01  | 1.00    | 1.02                | 1.02  | 1.03    |
| 3000  | 0.05           | 0.06  | 0.07    | 1.01                  | 1.01  | 1.02    | 1.01                | 1.02  | 1.01    |
| 4000  | 0.06           | 0.08  | 0.07    | 1.01                  | 1.01  | 1.02    | 1.01                | 1.01  | 1.01    |
| 5000  | 0.06           | 0.09  | 0.08    | 1.01                  | 1.01  | 1.01    | 1.02                | 1.02  | 1.02    |
| 6000  | 0.06           | 0.09  | 0.08    | 1.02                  | 1.02  | 1.02    | 1.01                | 1.02  | 1.01    |
| 7000  | 0.06           | 0.08  | 0.08    | 1.03                  | 1.04  | 1.03    | 1.02                | 1.02  | 1.02    |
| 8000  | 0.07           | 0.08  | 0.08    | 1.03                  | 1.03  | 1.03    | 1.02                | 1.03  | 1.02    |
| 9000  | 0.08           | 0.09  | 0.09    | 1.04                  | 1.04  | 1.04    | 1.03                | 1.03  | 1.03    |
| 10000 | 0.08           | 0.09  | 0.09    | 1.05                  | 1.05  | 1.05    | 1.05                | 1.05  | 1.05    |
| 11000 | 0.09           | 0.09  | 0.09    | 1.06                  | 1.06  | 1.06    | 1.04                | 1.03  | 1.04    |
| 12000 | 0.09           | 0.09  | 0.09    | 1.06                  | 1.06  | 1.06    | 1.04                | 1.04  | 1.04    |
| 13000 | 0.10           | 0.10  | 0.10    | 1.06                  | 1.05  | 1.06    | 1.04                | 1.04  | 1.04    |
| 14000 | 0.10           | 0.10  | 0.10    | 1.05                  | 1.05  | 1.05    | 1.03                | 1.03  | 1.03    |
| 15000 | 0.10           | 0.11  | 0.11    | 1.04                  | 1.04  | 1.04    | 1.03                | 1.03  | 1.03    |
| 16000 | 0.11           | 0.11  | 0.12    | 1.03                  | 1.04  | 1.04    | 1.02                | 1.02  | 1.02    |
| 17000 | 0.11           | 0.11  | 0.12    | 1.02                  | 1.02  | 1.02    | 1.02                | 1.02  | 1.02    |
| 18000 | 0.12           | 0.12  | 0.13    | 1.02                  | 1.02  | 1.02    | 1.02                | 1.02  | 1.02    |
| 19000 | 0.13           | 0.13  | 0.14    | 1.03                  | 1.03  | 1.03    | 1.05                | 1.05  | 1.05    |
| 20000 | 0.13           | 0.13  | 0.14    | 1.05                  | 1.05  | 1.05    | 1.03                | 1.04  | 1.04    |
| 21000 | 0.13           | 0.14  | 0.14    | 1.06                  | 1.06  | 1.06    | 1.06                | 1.05  | 1.06    |
| 22000 | 0.14           | 0.14  | 0.15    | 1.06                  | 1.06  | 1.06    | 1.07                | 1.07  | 1.07    |
| 23000 | 0.14           | 0.15  | 0.15    | 1.06                  | 1.06  | 1.06    | 1.05                | 1.05  | 1.06    |
| 24000 | 0.14           | 0.15  | 0.15    | 1.05                  | 1.05  | 1.05    | 1.05                | 1.05  | 1.05    |
| 25000 | 0.15           | 0.15  | 0.15    | 1.05                  | 1.05  | 1.05    | 1.04                | 1.04  | 1.04    |
| 26000 | 0.15           | 0.15  | 0.15    | 1.04                  | 1.04  | 1.04    | 1.05                | 1.05  | 1.05    |
| 27000 | 0.15           | 0.16  | 0.16    | 1.05                  | 1.05  | 1.05    | 1.03                | 1.03  | 1.03    |
| 28000 | 0.15           | 0.16  | 0.16    | 1.06                  | 1.06  | 1.06    | 1.06                | 1.06  | 1.06    |
| 29000 | 0.15           | 0.16  | 0.16    | 1.07                  | 1.07  | 1.07    | 1.06                | 1.05  | 1.06    |
| 30000 | 0.15           | 0.16  | 0.16    | 1.08                  | 1.08  | 1.08    | 1.05                | 1.05  | 1.06    |
| 31000 | 0.15           | 0.16  | 0.17    | 1.07                  | 1.07  | 1.07    | 1.05                | 1.05  | 1.05    |
| 32000 | 0.16           | 0.16  | 0.17    | 1.06                  | 1.06  | 1.06    | 1.04                | 1.04  | 1.04    |
| 33000 | 0.15           | 0.16  | 0.16    | 1.04                  | 1.04  | 1.04    | 1.04                | 1.04  | 1.04    |
| 34000 | 0.16           | 0.17  | 0.17    | 1.02                  | 1.02  | 1.02    | 1.01                | 1.01  | 1.01    |
| 35000 | 0.17           | 0.17  | 0.17    | 1.01                  | 1.01  | 1.01    | 1.01                | 1.01  | 1.01    |
| 36000 | 0.17           | 0.17  | 0.17    | 1.04                  | 1.04  | 1.03    | 1.04                | 1.04  | 1.04    |
| 37000 | 0.18           | 0.18  | 0.18    | 1.06                  | 1.06  | 1.06    | 1.08                | 1.08  | 1.08    |
| 38000 | 0.18           | 0.18  | 0.18    | 1.08                  | 1.08  | 1.08    | 1.07                | 1.07  | 1.07    |
| 39000 | 0.17           | 0.18  | 0.18    | 1.08                  | 1.09  | 1.09    | 1.08                | 1.09  | 1.09    |
| 40000 | 0.19           | 0.19  | 0.20    | 1.09                  | 1.10  | 1.10    | 1.10                | 1.10  | 1.10    |

Typical Performance Curves



## Outline Dimensions

DJ2383-1



Weight: 4.5 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

### Notes:

1. Case material: Stainless steel.
2. Finish: Passivation.



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The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification         | Test/Inspection Condition                              | Reference/Spec                                                      |
|-----------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| Operating Temperature | -55° to 100° C or -55° to 85° C<br>Ambient Environment | Individual Model Data Sheet                                         |
| Storage Temperature   | -55° to 100° C<br>Ambient Environment                  | Individual Model Data Sheet                                         |
| Thermal Shock         | -55° to 100°C, 5 cycles                                | MIL-STD-202, Method 107, conditionB-3,except over -<br>55° to 100°C |
| Connector Durability  | 500 mating/unmating cycles                             | MIL-PRF-39012E, PARAGRAPH 4.6.12                                    |