

Cryogenic Bias Tee

100KHz-18GHz /18V DC/SMA

Model: TLBT-100K18G-18-SS-Cryo

TLBT-100K18G-18-SS-Cryo is a cryogenic bias tee that operates from 100 KHz to 18 GHz. The cryogenic bias tee offers 2.0 dB insertion loss and -15 dB typical return loss. The cryogenic RF choke can handle up to +18 VDC bias voltage and 700 mA current. The all ports are equipped with SMA female connectors.

Features:

- Frequency range:100KHz-18GHz
- Low Insertion Loss
- High Voltage
- High Current Capacity

Applications:

- Test Lab
- Sub-assemblies
- System Integrations

电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|----------------------|--------------|-----|-----|----------|
| 频率范围 Frequency range | 100KHz-18GHz | | | |
| 插损 Insertion Loss | | | 2 | dB |
| 回波损耗 Return Loss | | -15 | | dB |
| 隔离 Isolation | 35 | | | dB |
| 直流电压 DC Voltage | | | 18 | V DC |
| 直流电阻 DC Resistance | | 4 | | Ω |
| 直流电流 DC Current | | | 700 | mA |
| 射频功率 RF Power | | | 1 | W |

机械特性 Mechanical Specifications:

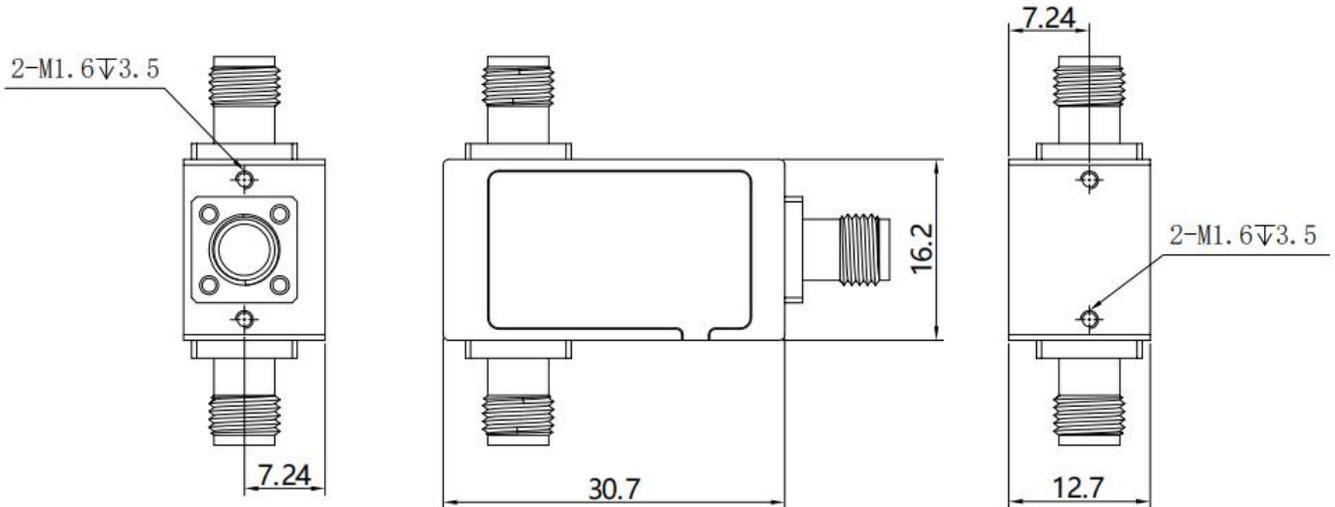
| 参数 Parameter | 指标 Value | 单位 Units |
|---------------------------------|-----------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female | |
| 直流接口 DC Connector | SMA Female | |
| 壳体材料 Case Material | OFC | |

绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage | +18 V |
| 输入功率 RF Input Power | +30 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

外形图 Outline Drawing:

Unit:mm



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

温度环境 Environmental Conditions:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-------|----------|
| 操作温度 Operating Temperature | 10mK | | +85°C | |
| 存储温度 Non-operating Temperature | -55 | | +125 | °C |
| 相对湿度 Relative humidity | | 95 | | % |
| 海拔 Altitude | 10,000 | | | feet |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| 冲击 Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|-------------------------|----------------------------------------------|--------------|
| TLBT-100K18G-18-SS-Cryo | Cryogenic Bias Tee SMA,100KHz-18 GHz,+18V | Rev.1.1 |

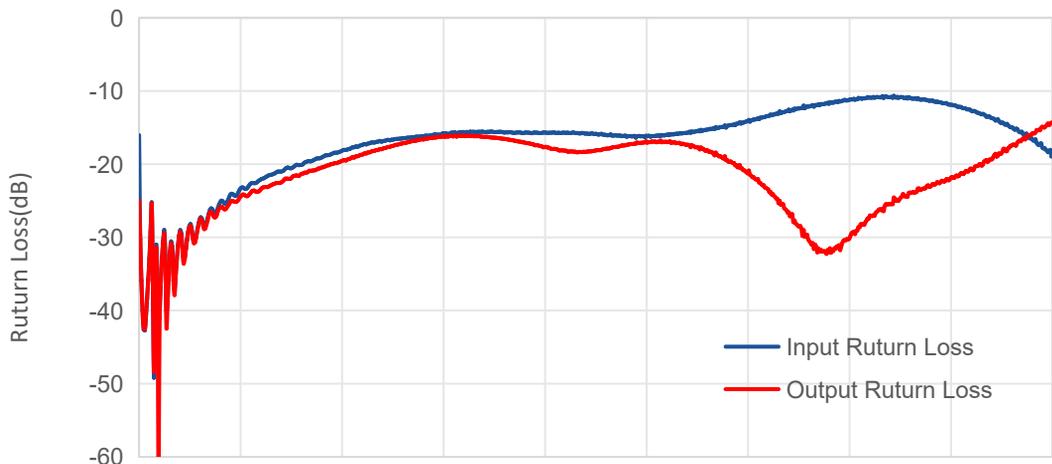
Notes:

1. All data taken @ +23° C unless otherwise specified.
2. Dimensions and specifications may be changed without prior notice.

典型曲线 Typical Performance Data:

298K:

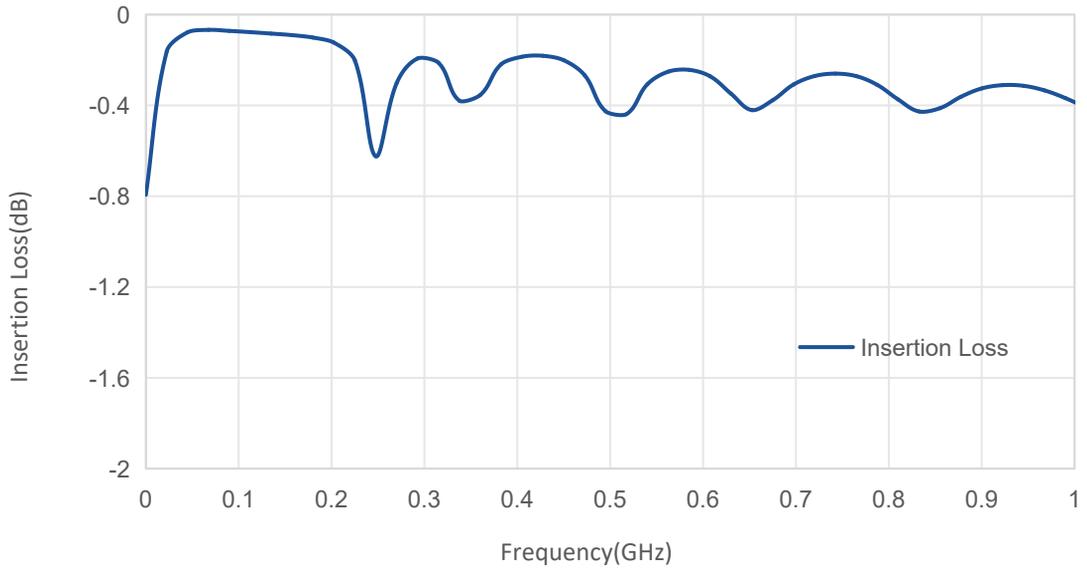
Return Loss vs Frequency



典型曲线 Typical Performance Data:

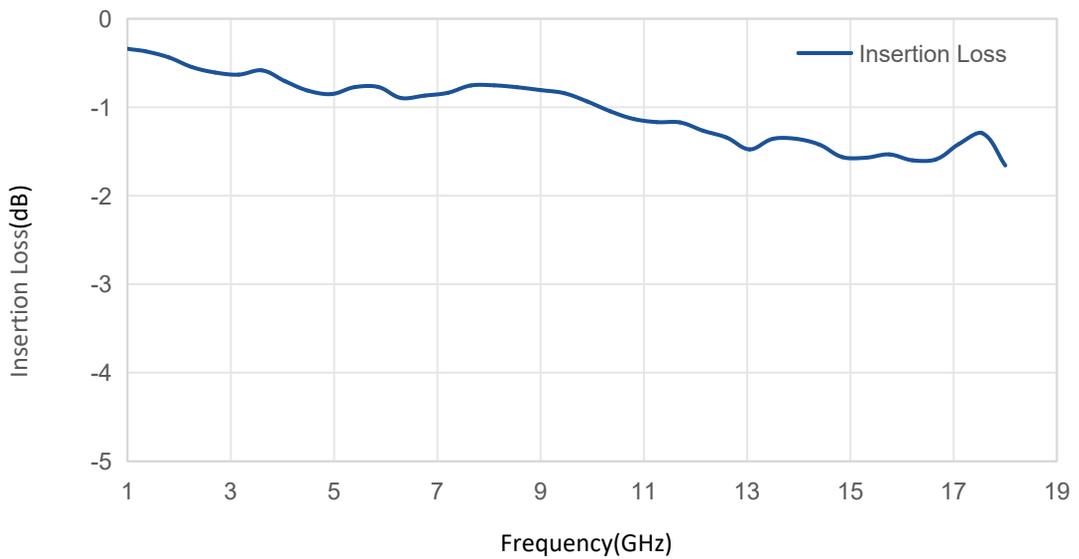
298K:

RF to Com Insertion Loss vs Frequency



298K:

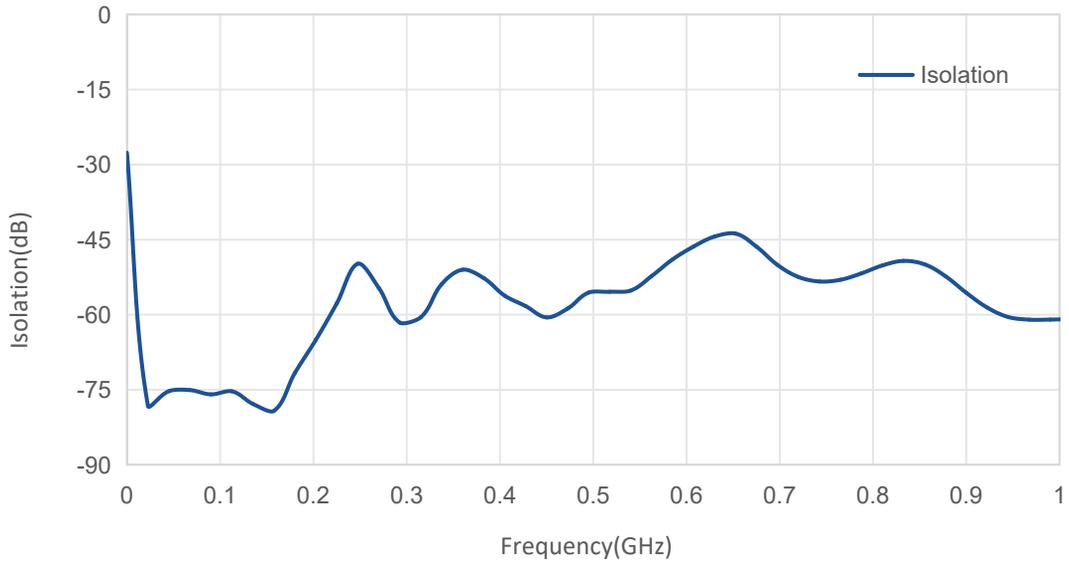
RF to Com Insertion Loss vs Frequency



典型曲线 Typical Performance Data:

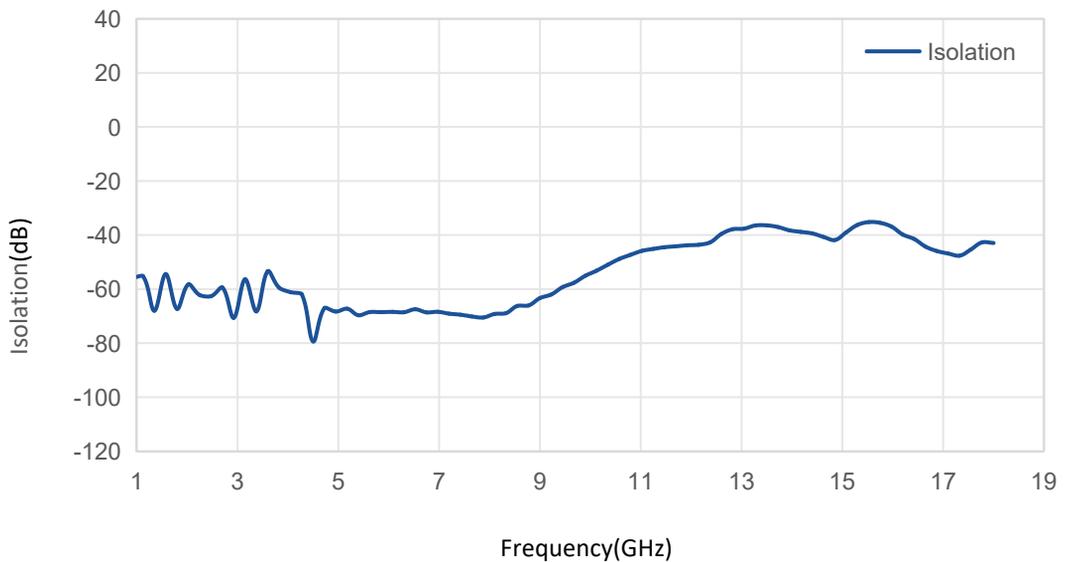
298K:

DC to Com Isolation vs Frequency



298K:

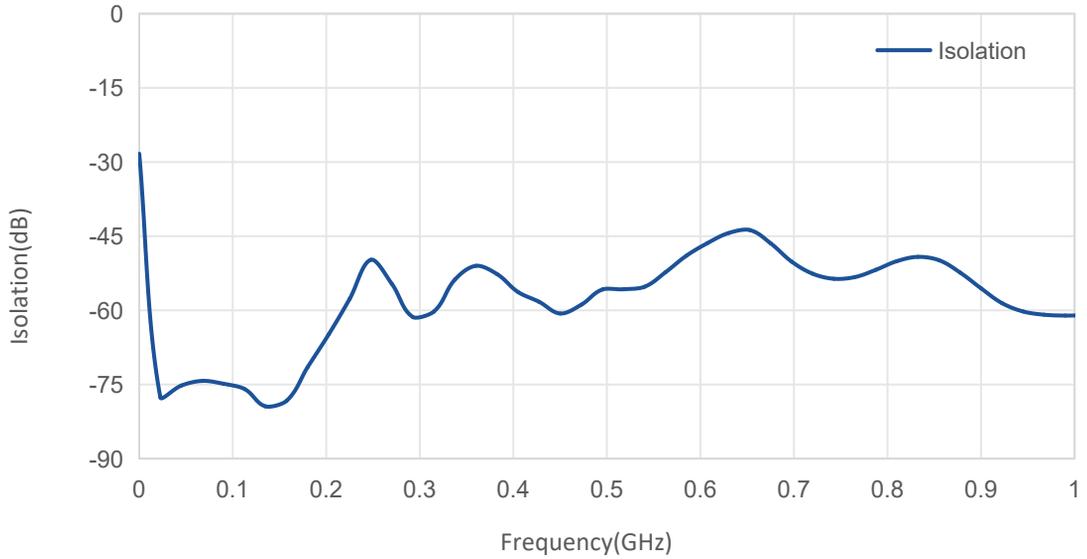
DC to Com Isolation vs Frequency



典型曲线 Typical Performance Data:

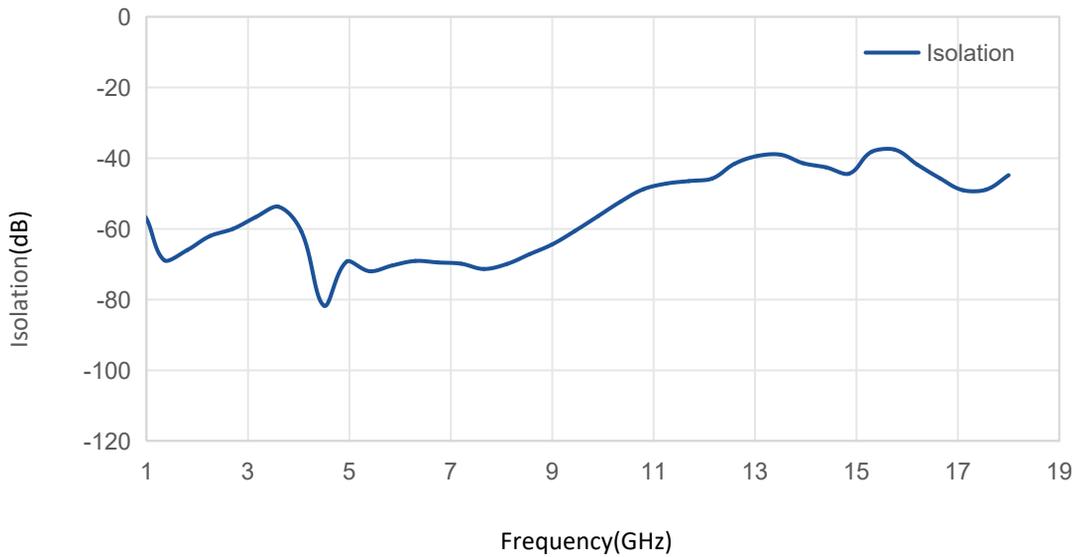
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DC to RF Isolation vs Frequency



298K:

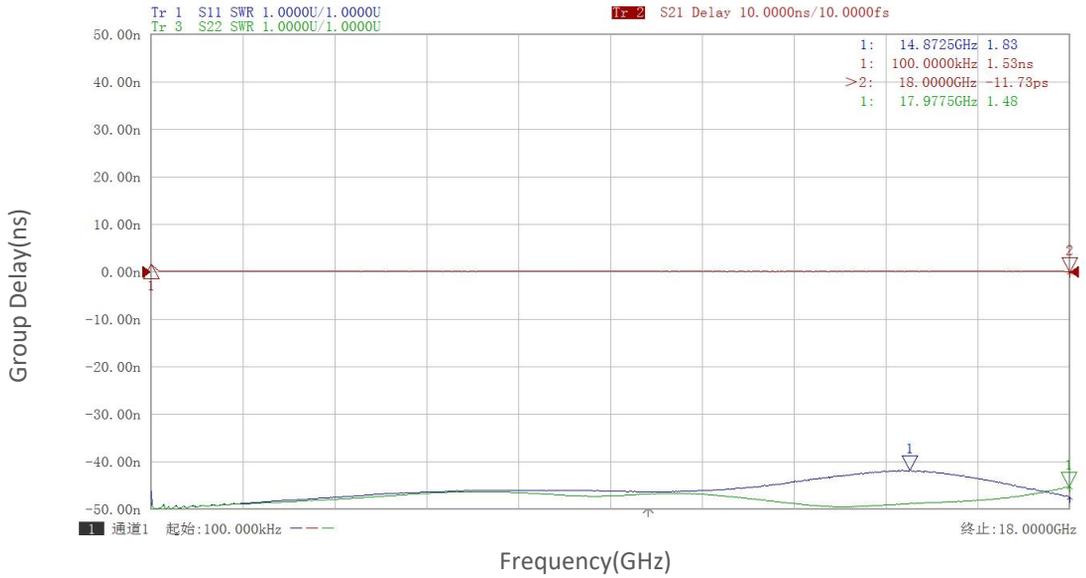
DC to RF Isolation vs Frequency



典型曲线 Typical Performance Data:

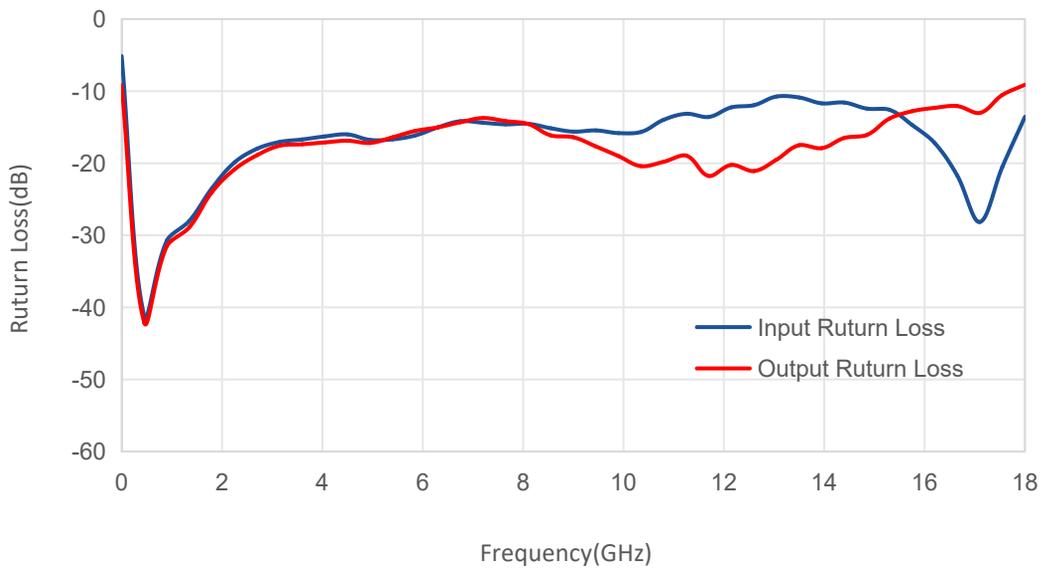
298K:

Group Delay vs Frequency



77K:

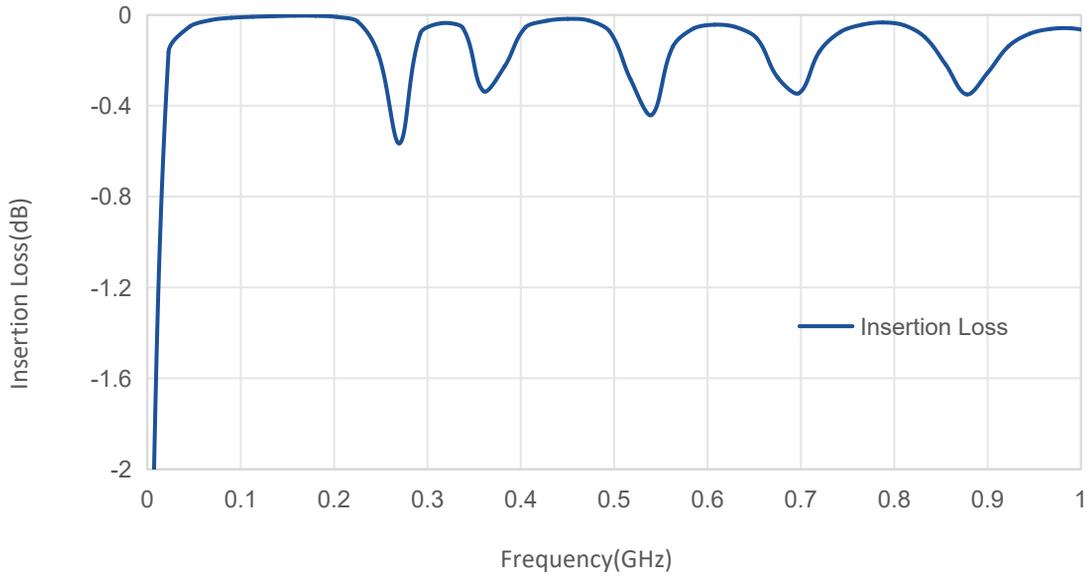
Ruturn Loss vs Frequency



典型曲线 Typical Performance Data:

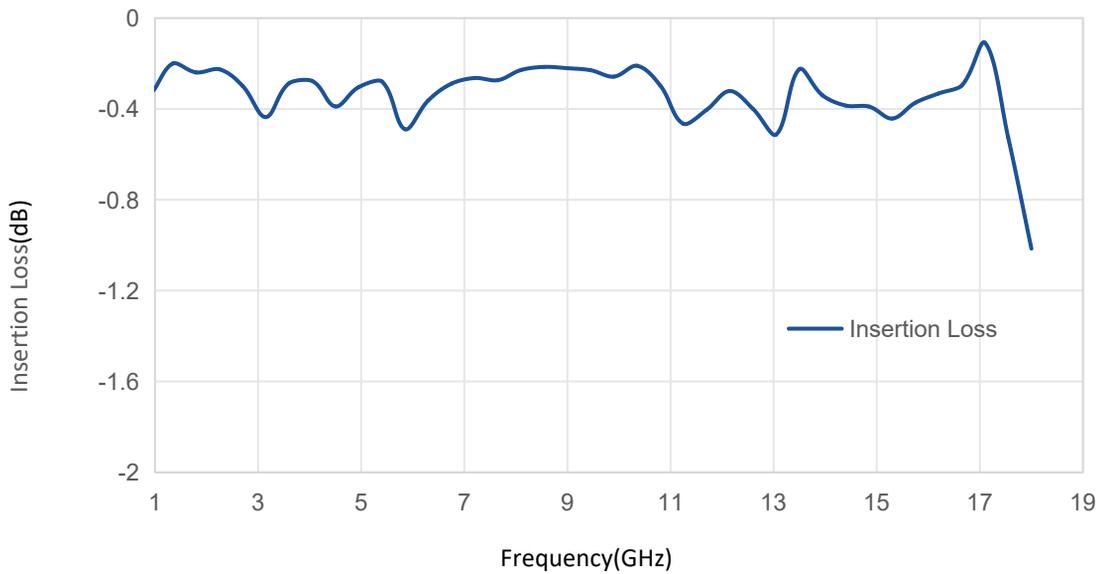
77K:

RF to Com Insertion Loss vs Frequency



77K:

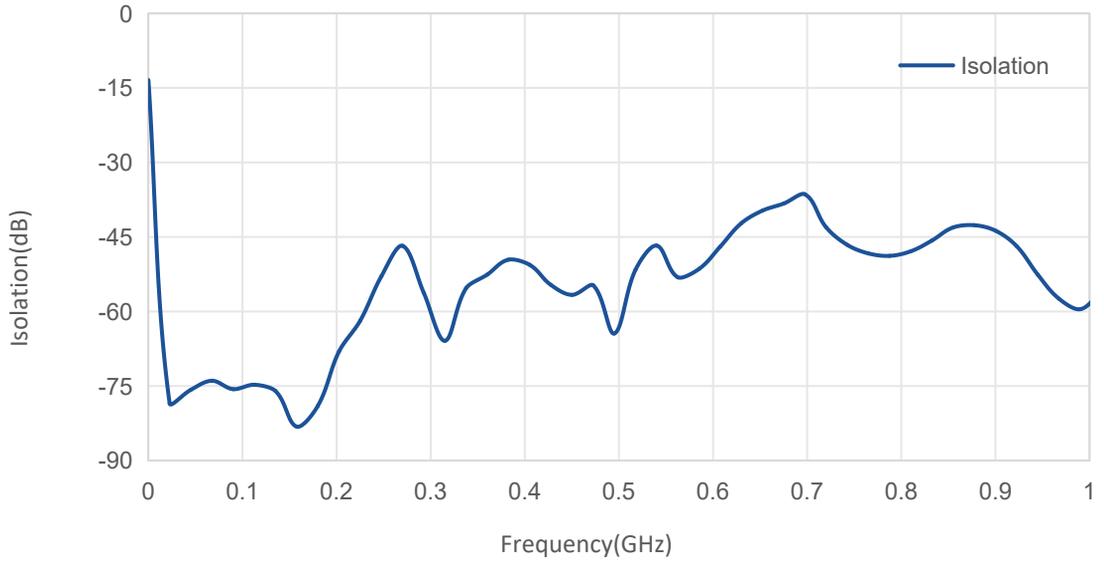
RF to Com Insertion Loss vs Frequency



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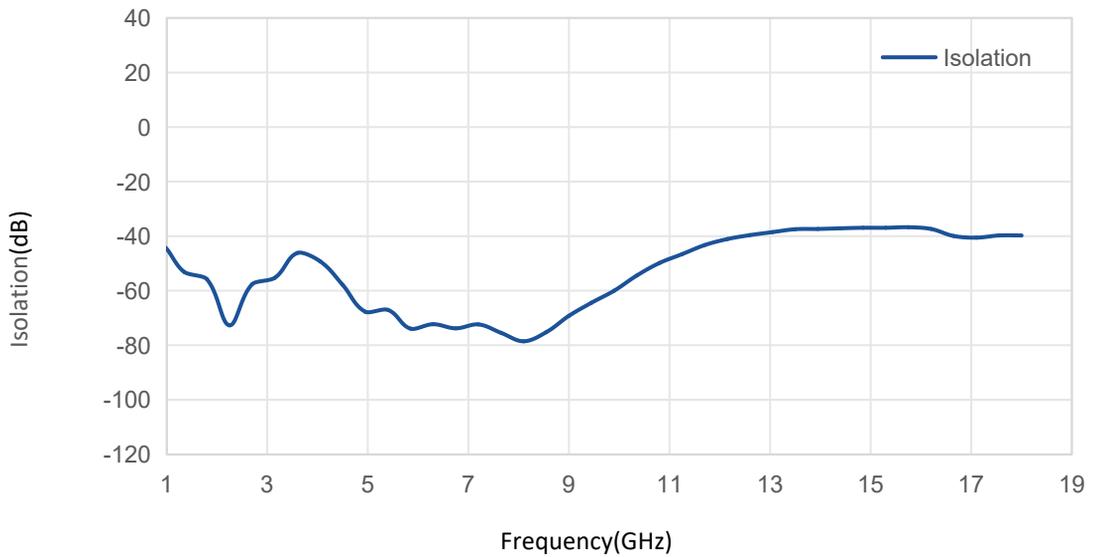
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DC to Com Isolation vs Frequency



77K:

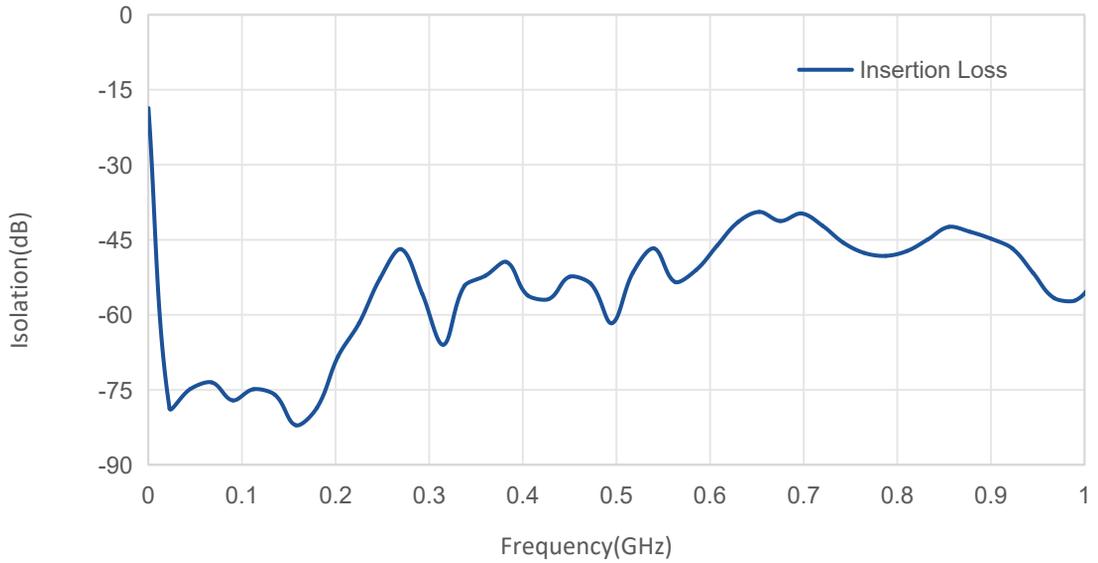
DC to Com Isolation vs Frequency



典型曲线 Typical Performance Data:

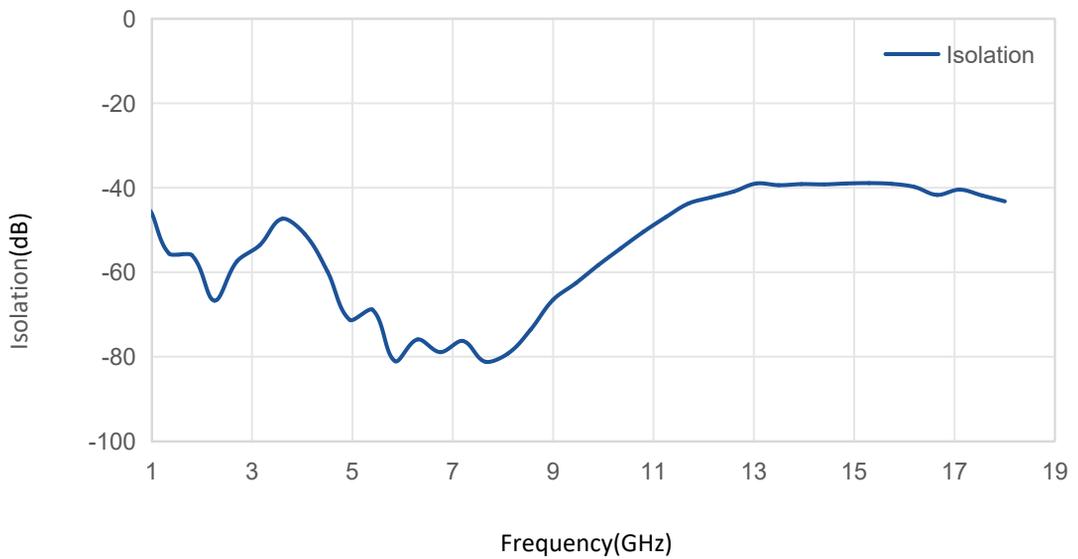
77K:

DC to RF Isolation vs Frequency



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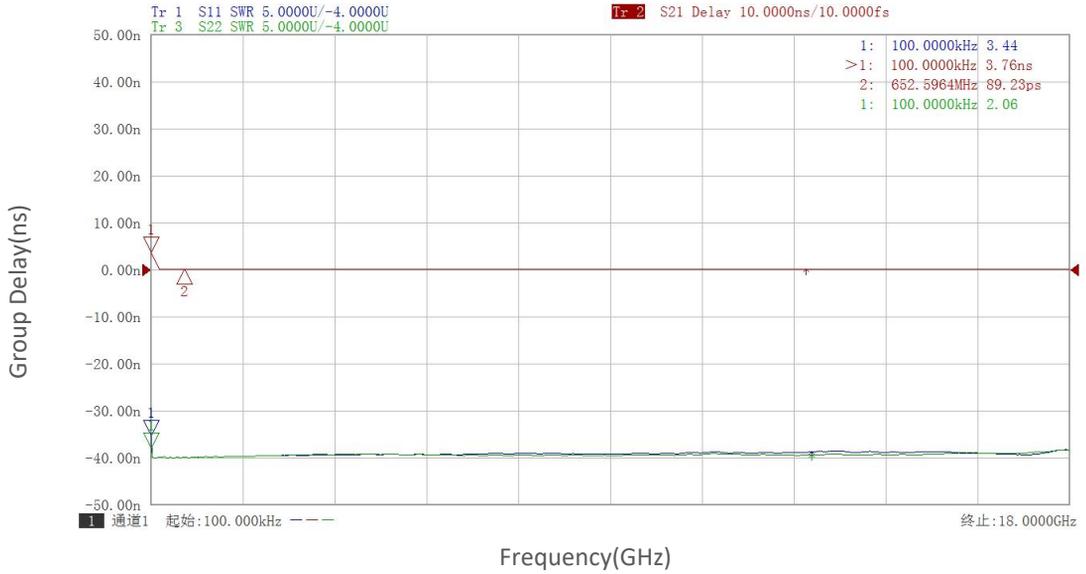
DC to RF Isolation vs Frequency



典型曲线 Typical Performance Data:

77K:

Group Delay vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.