

## 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   |     | $\Omega$ |
| 直流电流 DC Current      |              |     | 700 | mA       |
| 射频功率 RF Power        |              |     | 1   | W        |

### 机械特性 Mechanical Specifications:

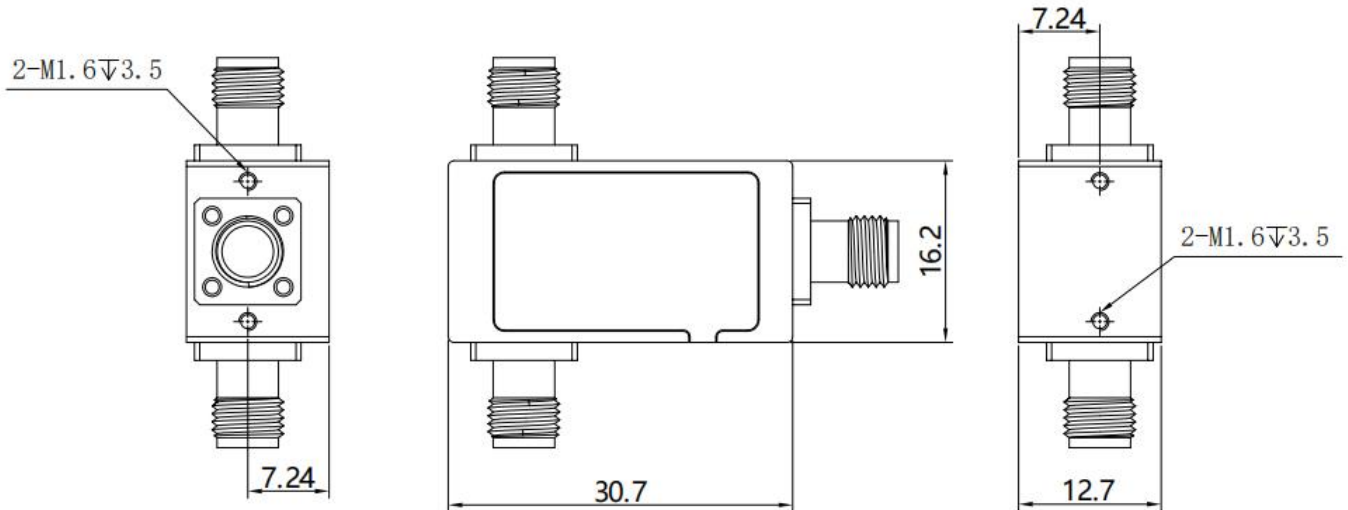
| 参数 Parameter                    | 指标 Value              | 单位 Units |
|---------------------------------|-----------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female |          |
| 直流接口 DC Connector               | SMA Female            |          |
| 壳体材料 Case Material              | OFHC,Gold plated      |          |
| 表面处理 Finish                     | Bue Paint             |          |
| 尺寸 Size                         | 30.7*16.2*12.7        | mm       |

## 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  |     |       |          |

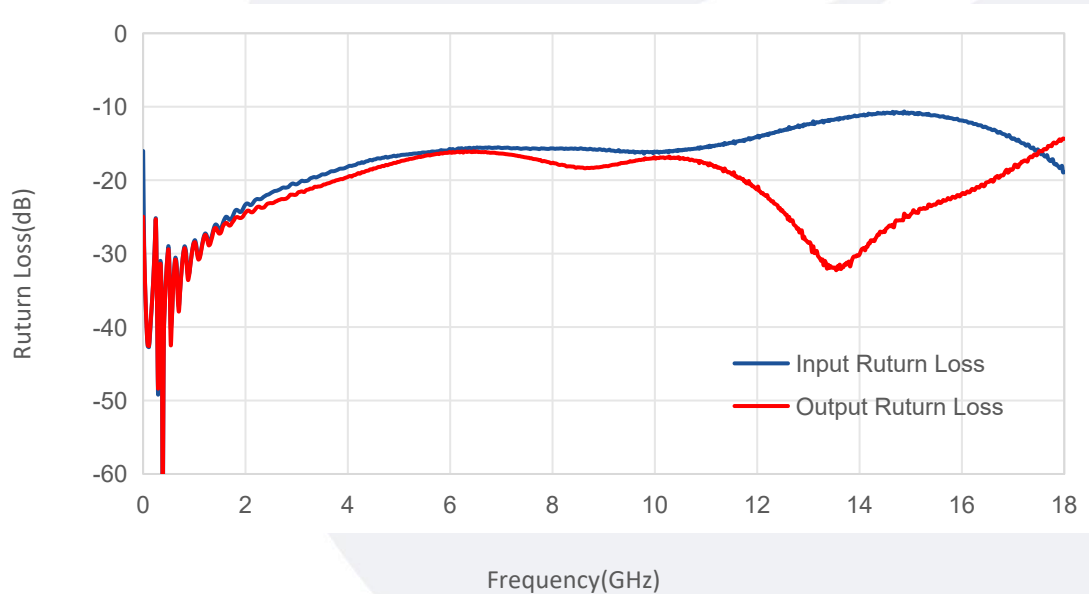
### 订货信息 Ordering Information:

| 标准型号 Base Number        | 描述 Description                               | 版本号 Revision |
|-------------------------|----------------------------------------------|--------------|
| TLBT-100K18G-18-SS-Cryo | Cryogenic Bias Tee<br>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**

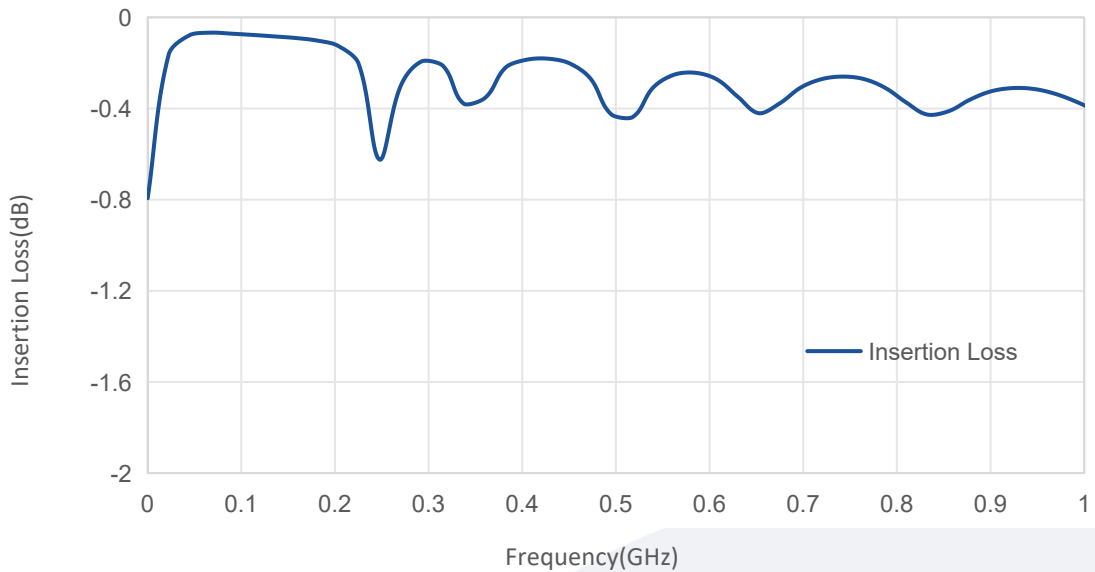


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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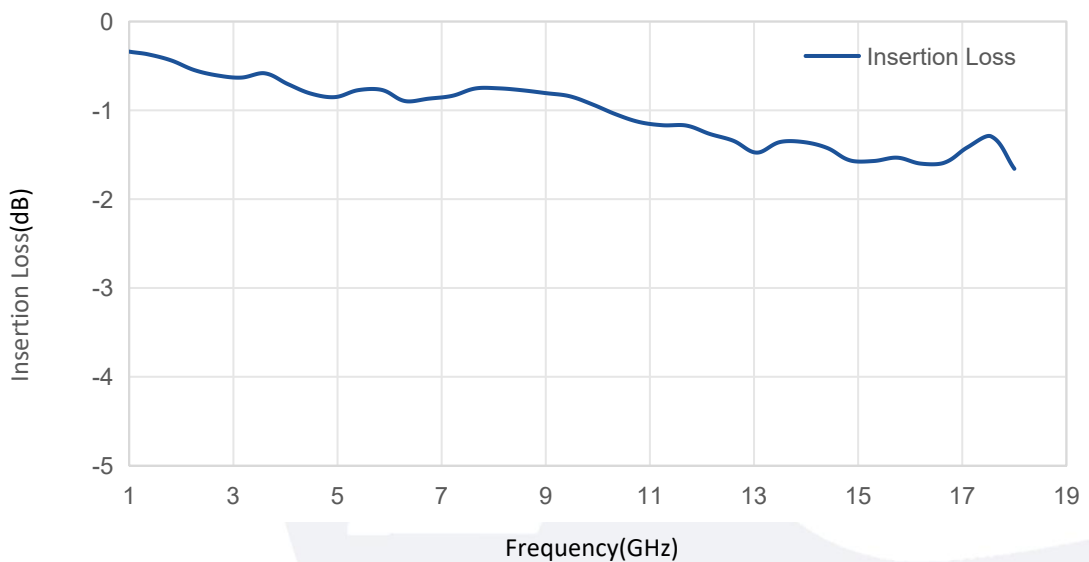
**298K:**

**RF to Com Insertion Loss vs Frequency**



**298K:**

**RF to Com Insertion Loss vs Frequency**

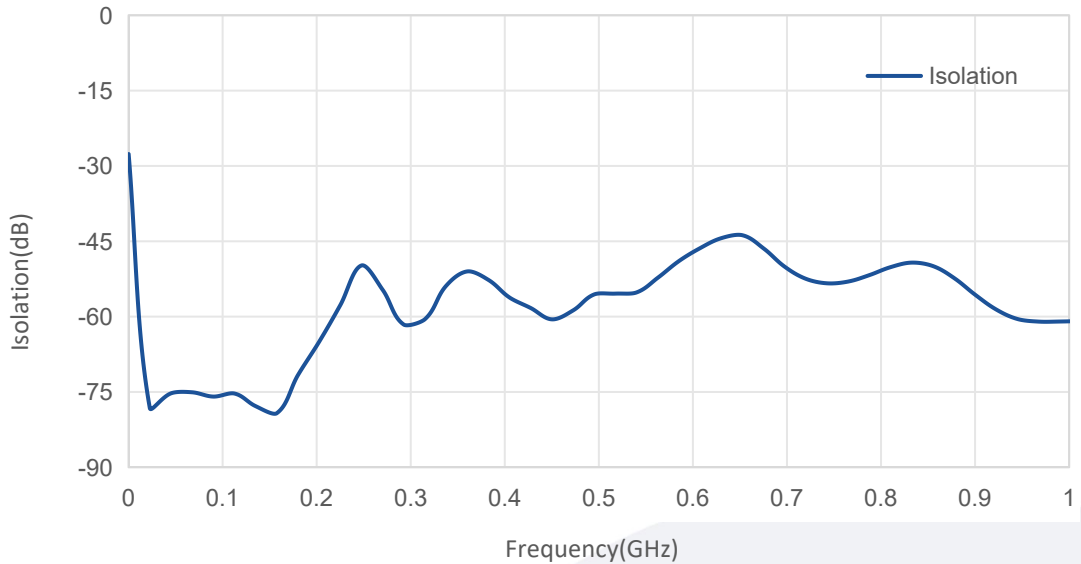


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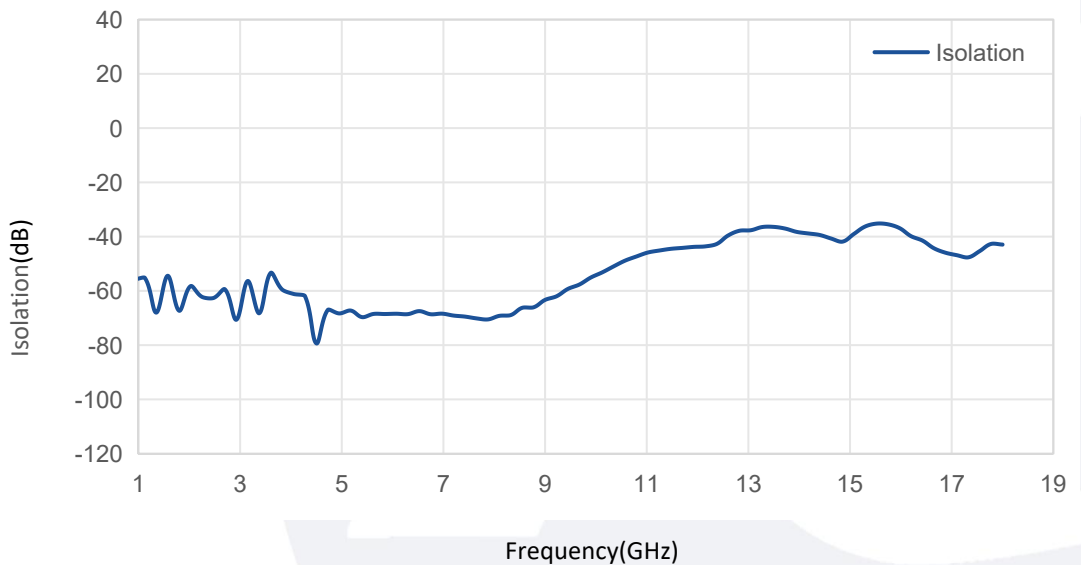
298K:

### DC to Com Isolation vs Frequency



298K:

### DC to Com Isolation vs Frequency

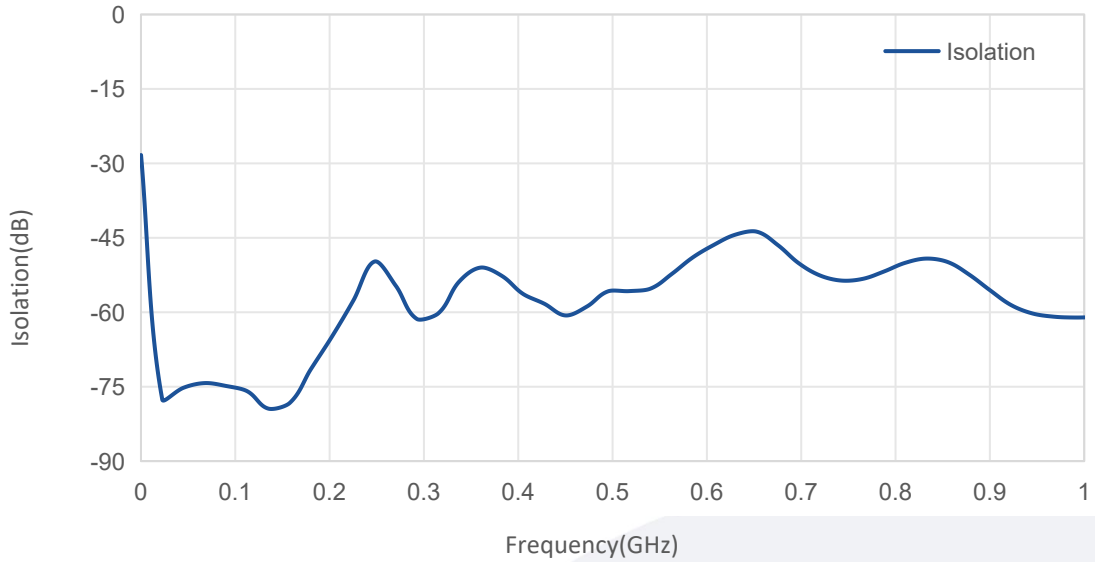


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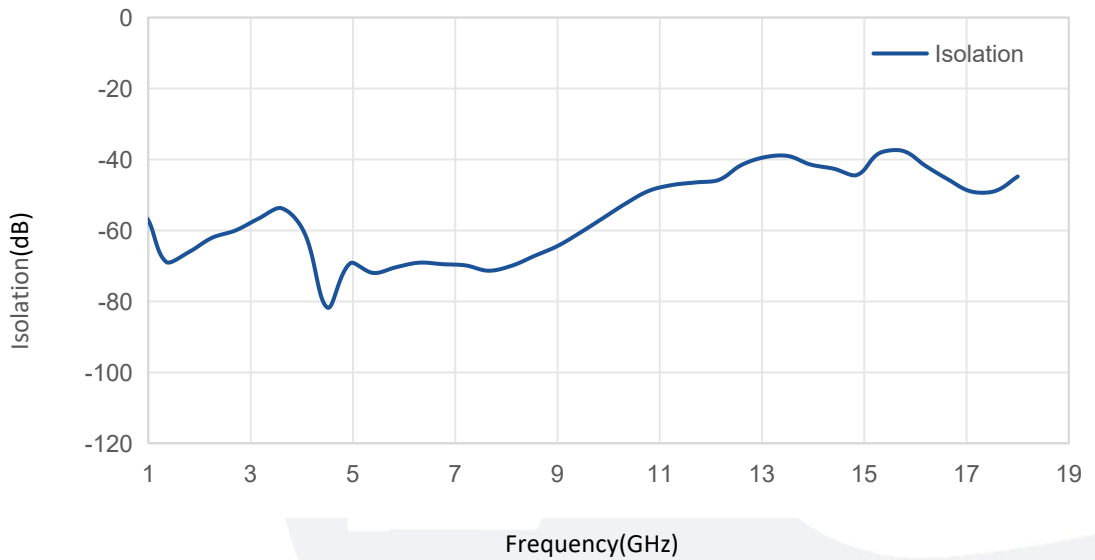
**298K:**

### DC to RF Isolation vs Frequency



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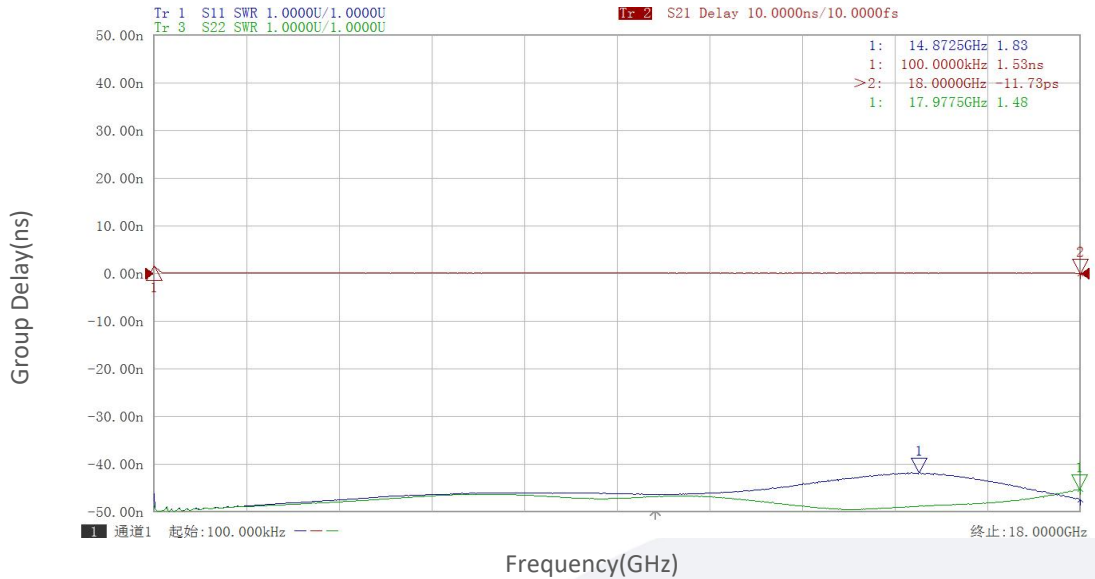


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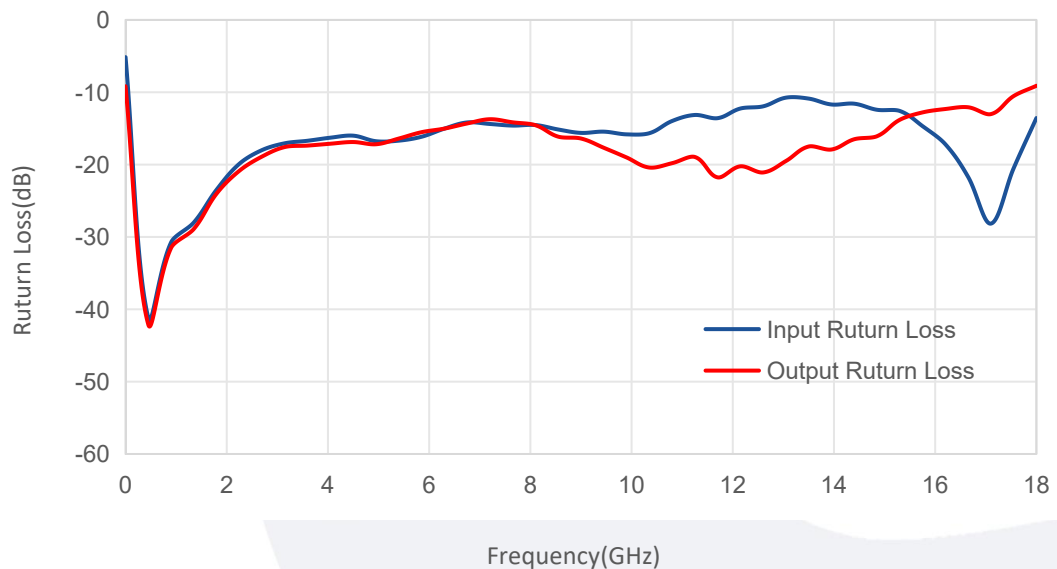
298K:

### Group Delay vs Frequency



77K:

### Return Loss vs Frequency

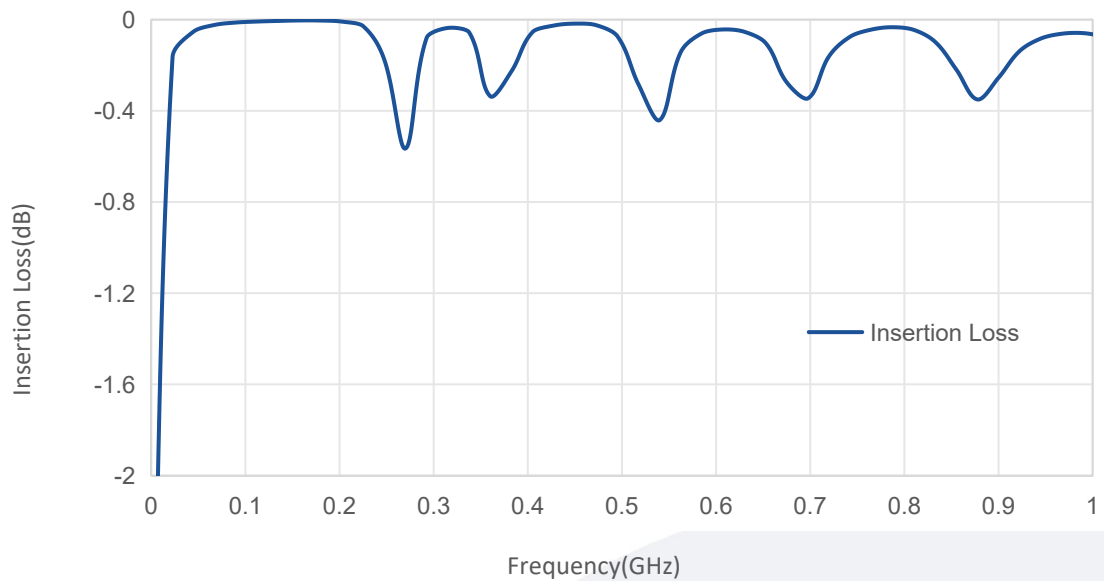


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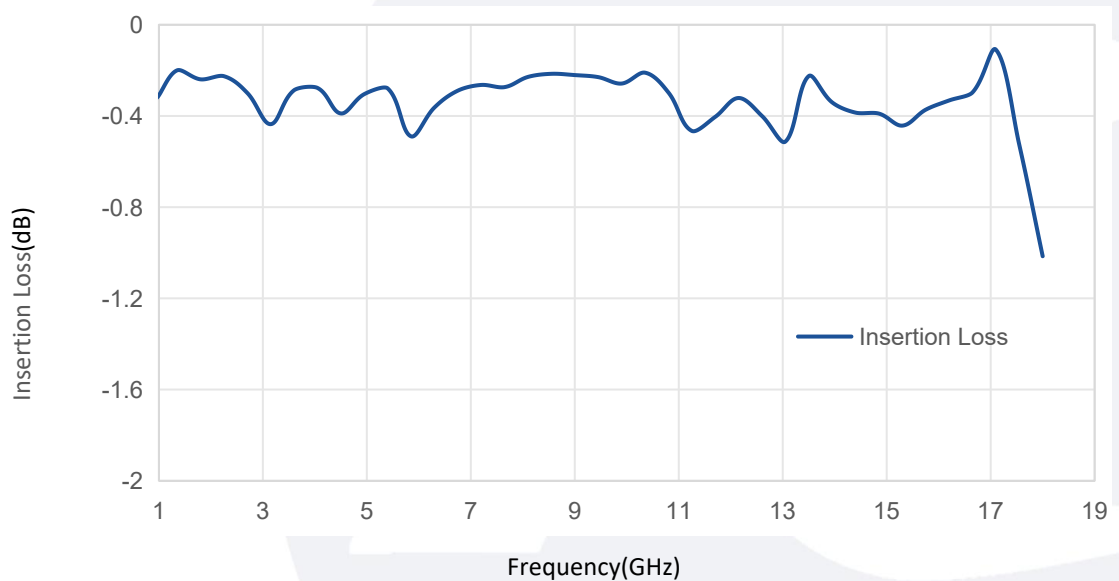
**77K:**

**RF to Com Insertion Loss vs Frequency**



**77K:**

**RF to Com Insertion Loss vs Frequency**

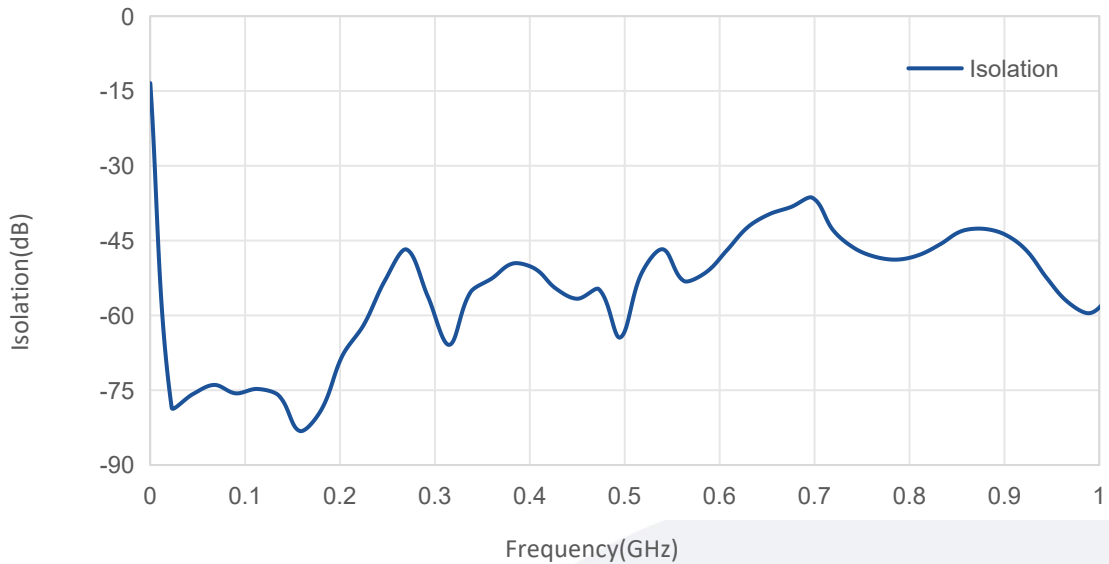


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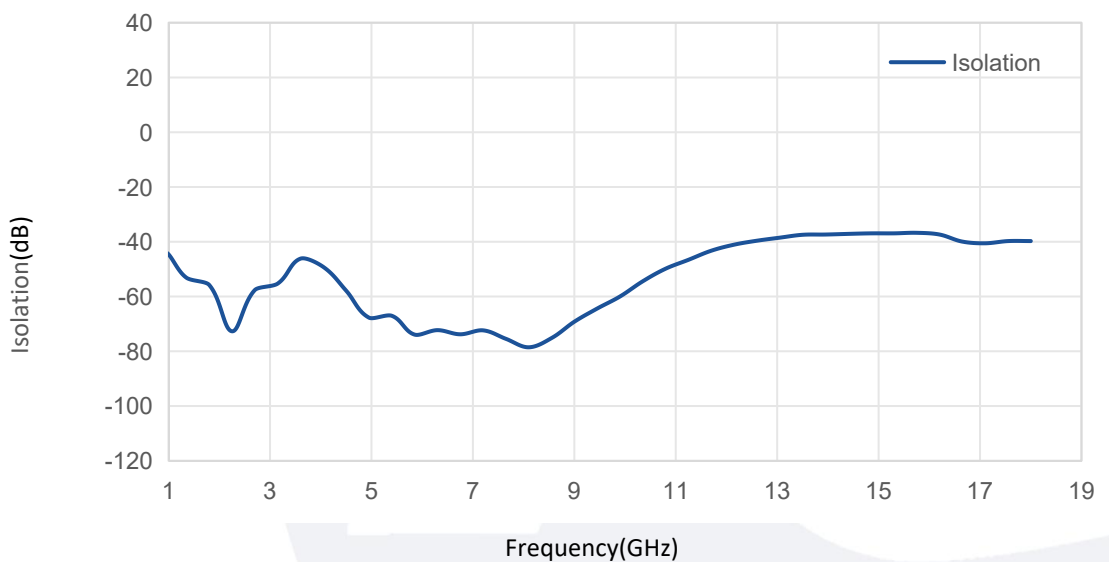
**77K:**

### DC to Com Isolation vs Frequency



**77K:**

### DC to Com Isolation vs Frequency

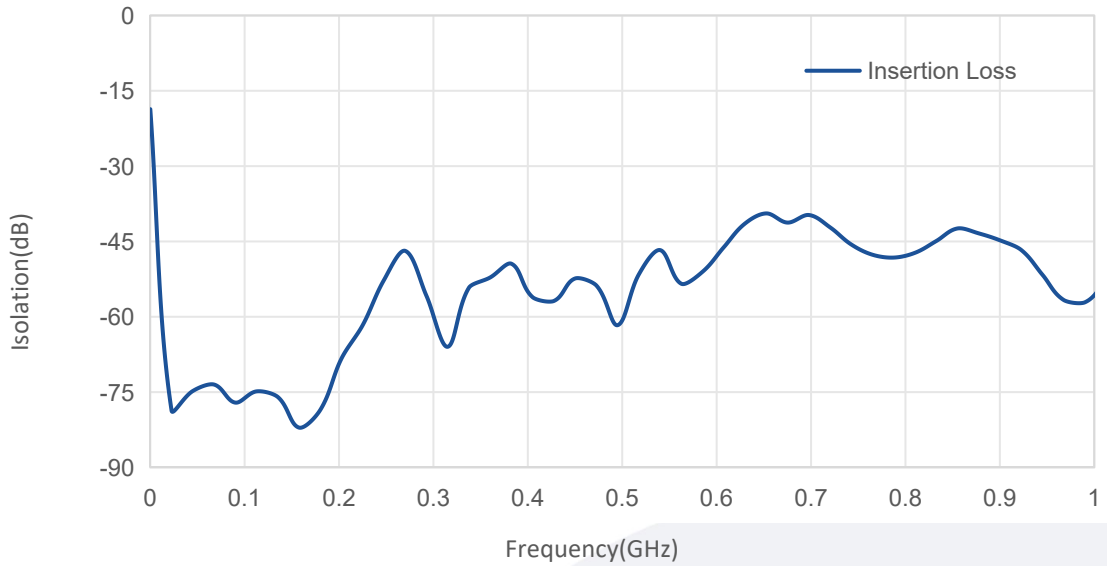


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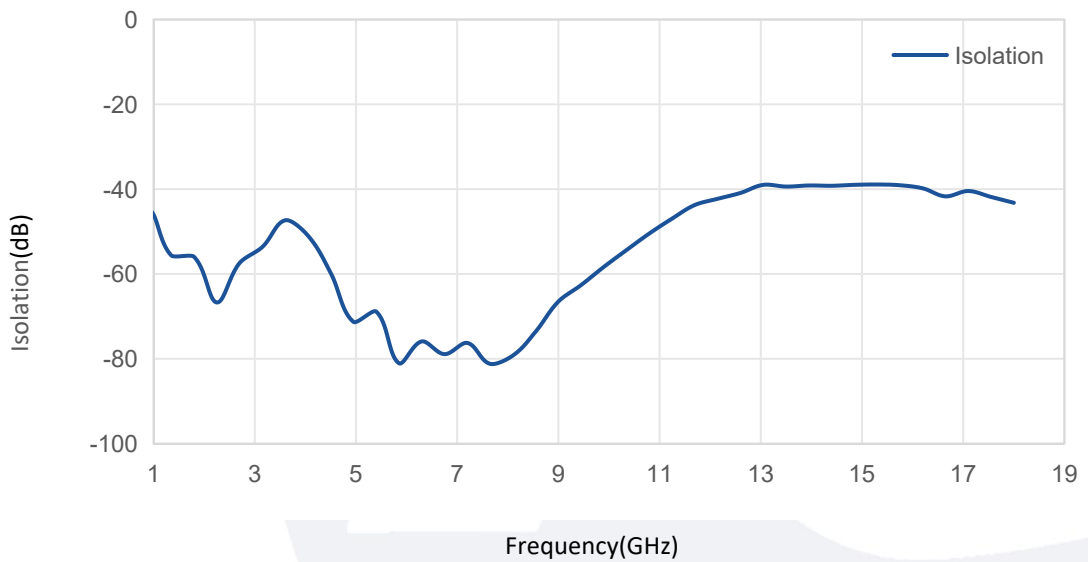
**77K:**

### DC to RF Isolation vs Frequency



**77K:**

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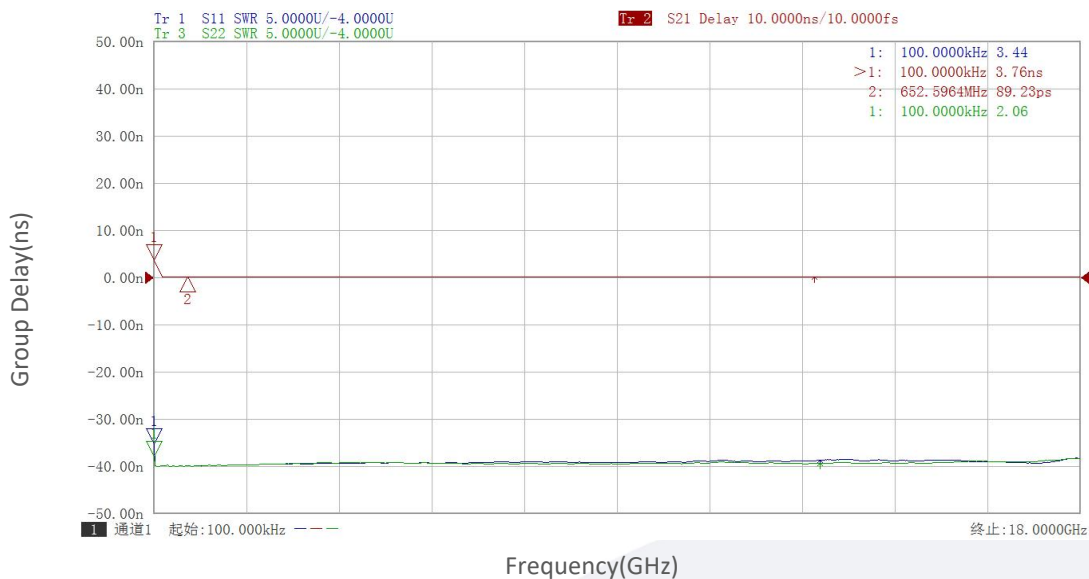


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## 典型曲线 Typical Performance Data:

77K:

### Group Delay vs Frequency



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