

Absorptive, Broadband PIN Switch

1-18 GHz/SP3T/ SMA Female

Model: TLSP3T1G18GA

The TLSP3T1G18GA is an absorptive PIN diode based switch with a TTL driver that operates between 1 and 18 GHz. The SP3T switch offers 70 dB port-to-port isolation with a typical switching speed of 100 ns. The input and output connectors of the switch are SMA female.

Features:

- Ultra Wide Band: 1-18GHz
- Low Insertion Loss: 2.5 dB
- Power Handling : 30 dBm
- High Isolation
- Switch Type: Absorptive

Applications:

- Communication Systems
- Automatic Test Equipment
- Switching Network

电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------|------------|--------|-----|----------|
| 频率范围 Frequency range | 1-18 | | | GHz |
| 插损 Insertion Loss | | 2.5 | 4 | dB |
| 隔离 Isolation | 60 | 70 | | dB |
| 切换速度 Switch Speed | | | 100 | ns |
| 输入驻波 Input VSWR | | 1.5 | 2 | :1 |
| 输出驻波 Output VSWR | | 1.5 | 2 | :1 |
| 耐功率 Power Handling | | | 30 | dBm |
| 直流电压 DC Voltage | | +5/-5 | | V DC |
| 直流电流 DC Supply Current | | 120/50 | | mA |
| 开关类型 Switch type | Absorptive | | | |
| 阻抗 Impedance | 50 | | | Ohms |

绝对最大值 Absolute Maximum Ratings :

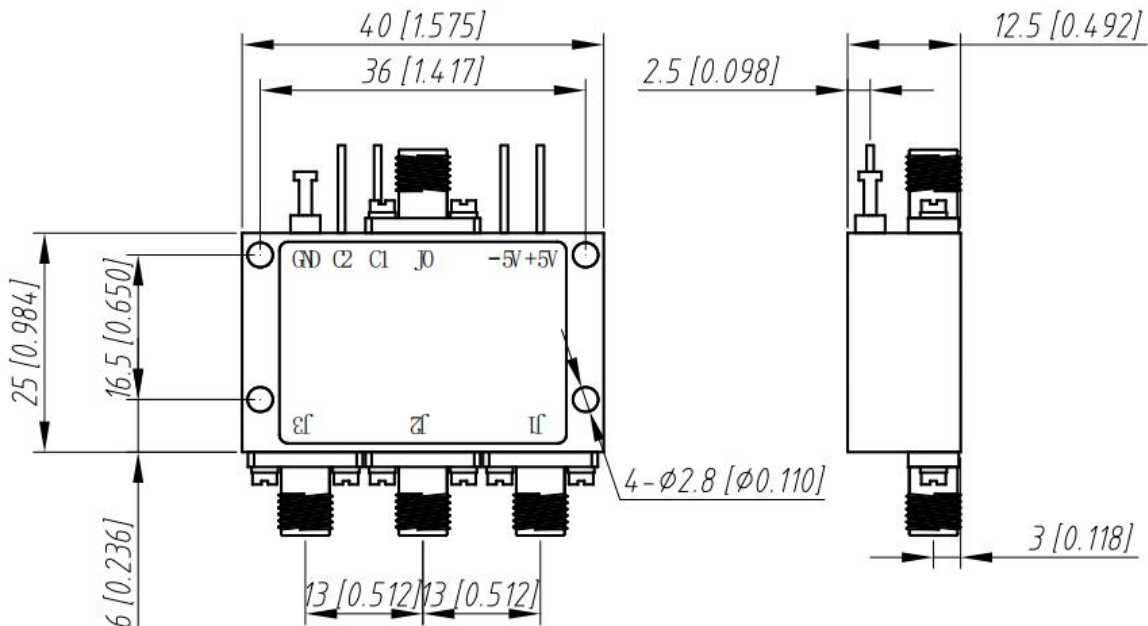
| 描述 Description | 参数 Parameter | 单位 Units |
|------------------------------|----------------------|----------|
| 供电偏置电压 Supply Bias Voltage | ±5% | V |
| 射频输入功率 RF Input Power | 30 | dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V | |

机械特性 Mechanical Specifications:

| 描述 Description | 参数 Parameter | 单位 Units |
|---------------------------------|-----------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female | |
| 直流控制接口 Control Bias | Solder Pin | |
| 尺寸 Size | 40*25*12.5 | mm |

外形图 Outline Drawing:

Unit:mm



| 真值表 Truth Table | | |
|-------------------|----|-------------|
| TTL Control Input | | Signal Path |
| C1 | C2 | State |
| 0 | 0 | J0-J1 |
| 0 | 1 | J0-J2 |
| 1 | 0 | J0-J3 |
| 1 | 1 | OFF |

| TTL Control Voltages &VDD | |
|---------------------------|----------------|
| Stage | Bias Condition |
| VDD | +5V (±5%) |
| VEE | -5V (±5%) |
| Low (0) | 0 to 0.8Vdc |
| High (1) | 2.0 to +5.0Vdc |

温度环境 Environmental Conditions:

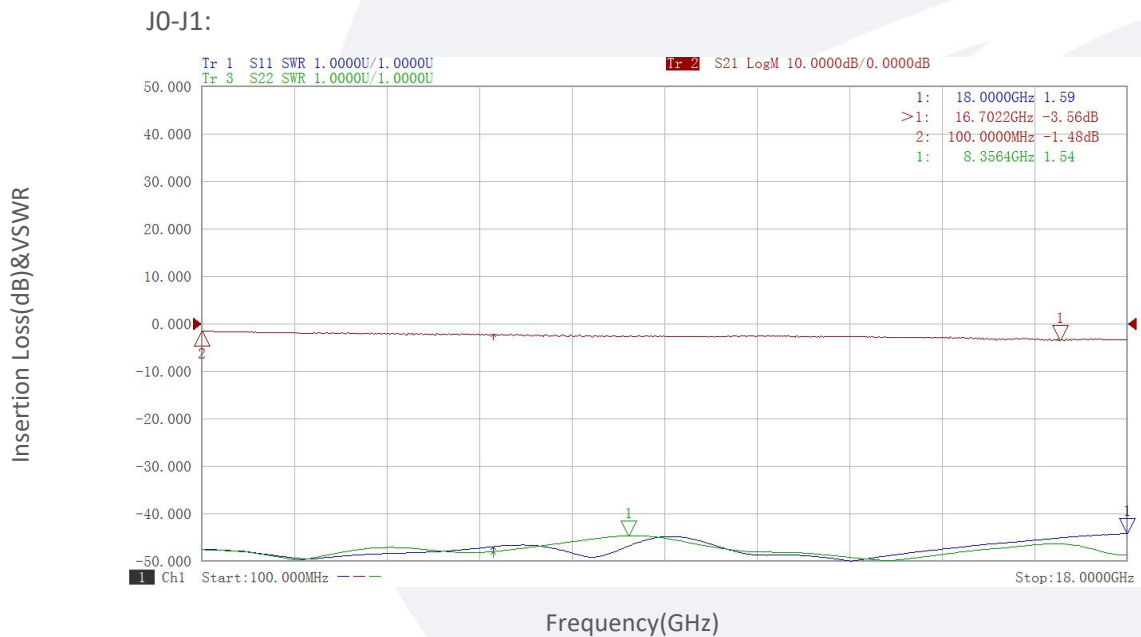
| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature | -10 | | +65 | °C |
| 存储温度 Non-operating Temperature | -45 | | +85 | °C |
| 相对湿度 Relative humidity | | 95 | | % |
| 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 |
|------------------|---------------------------------------------------------|--------------|
| TLSP3T1G18GA | Absorptive, Broadband PIN Switch 1-18 GHz, SP3T, SMA | Rev.1.1 |

典型曲线 Typical Performance Data:

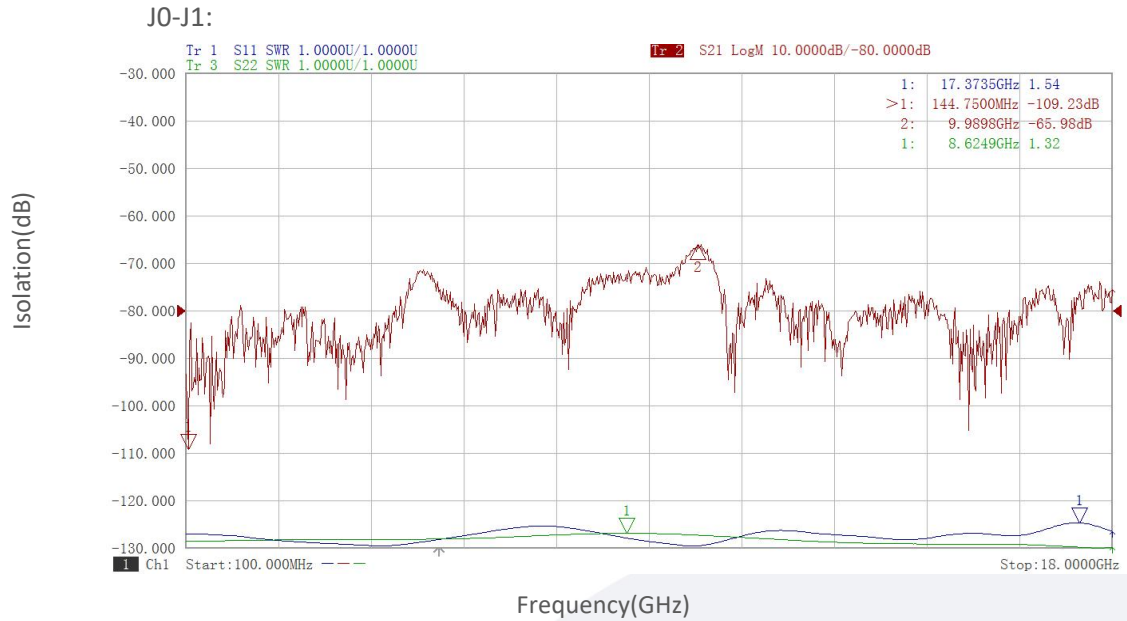
Insertion Loss & VSWR vs Frequency



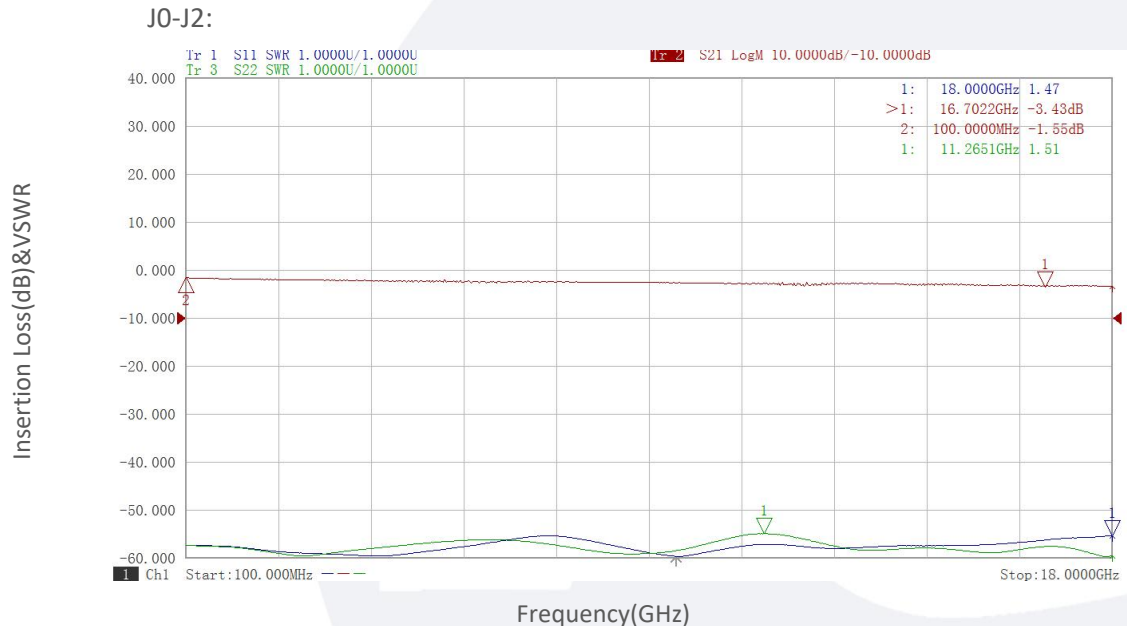
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

Isolation vs Frequency



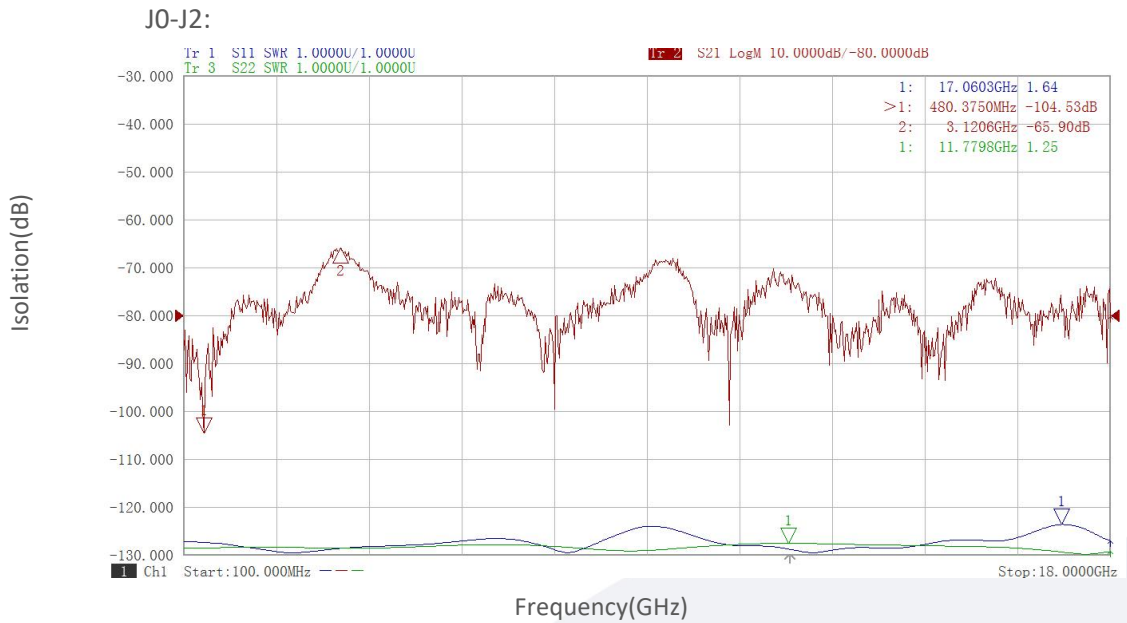
Insertion Loss&VSWR vs Frequency



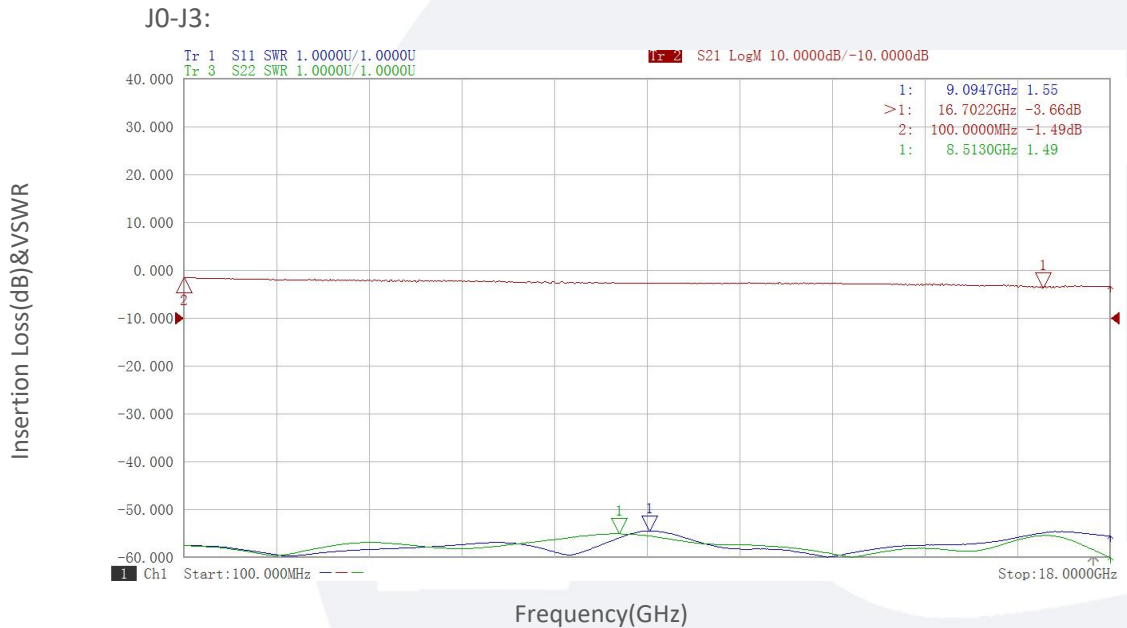
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典型曲线 Typical Performance Data:

Isolation vs Frequency



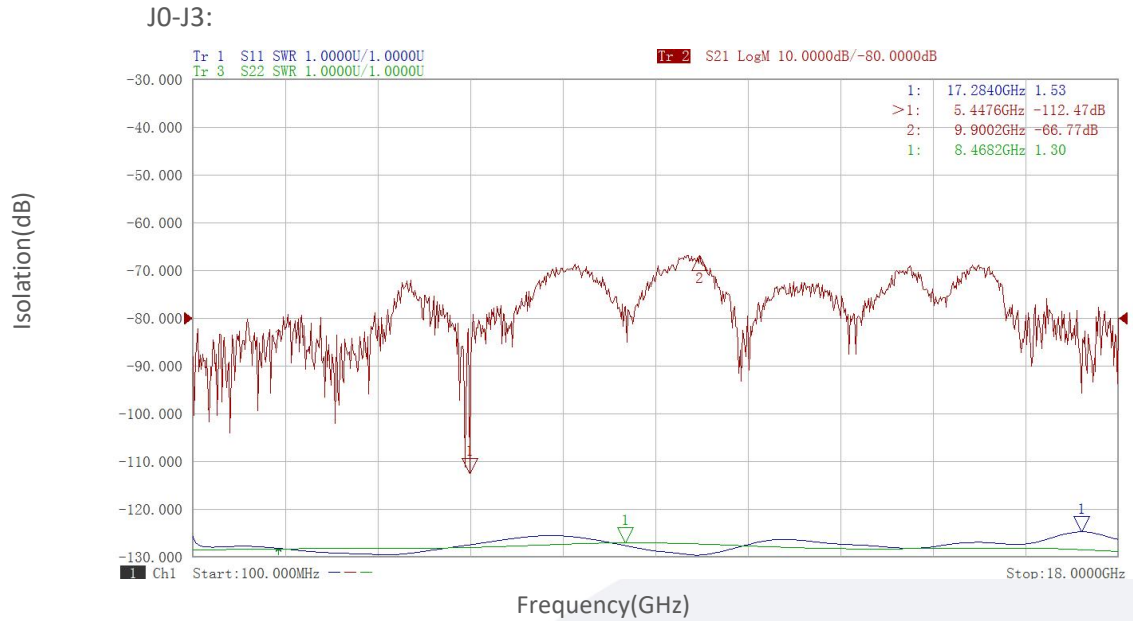
Insertion Loss&VSWR vs Frequency



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Isolation vs Frequency



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