

## Absorptive, Broadband PIN Switch

### 0.1-18 GHz/SPDT/SMA Female

**Model: TLSPDT0.1G18GA**

The TLSPDT0.1G18GA is an absorptive PIN diode based switch with a TTL driver that operates between 0.1 and 18 GHz. The SPDT switch offers 70 dB port-to-port isolation with a typical switching speed of 50 ns. The input and output connectors of the switch are SMA female.

#### Features:

- Ultra Wide Band: 0.1-18 GHz
- Low Insertion Loss: 2.5 dB Typ
- Power Handling : 27 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   | 0.1-18     |      |     | GHz      |
| 插损 Insertion Loss      |            | 2.5  | 4.5 | dB       |
| 隔离 Isolation           |            | 70   |     | dB       |
| 切换速度 Switch Speed      |            | 50   | 100 | ns       |
| 输入驻波 Input VSWR        |            | 1.5  |     | :1       |
| 输出驻波 Output VSWR       |            | 1.5  |     | :1       |
| 耐功率 Power Handling     |            |      | 27  | dBm      |
| 直流电压 DC Voltage        |            | +5   |     | V DC     |
| 控制电平 Control Logic TTL |            | 0/+5 |     | V DC     |
| 开关类型 Switch type       | Absorptive |      |     |          |
| 阻抗 Impedance           | 50         |      |     | Ohms     |

## 绝对最大值 Absolute Maximum Ratings :

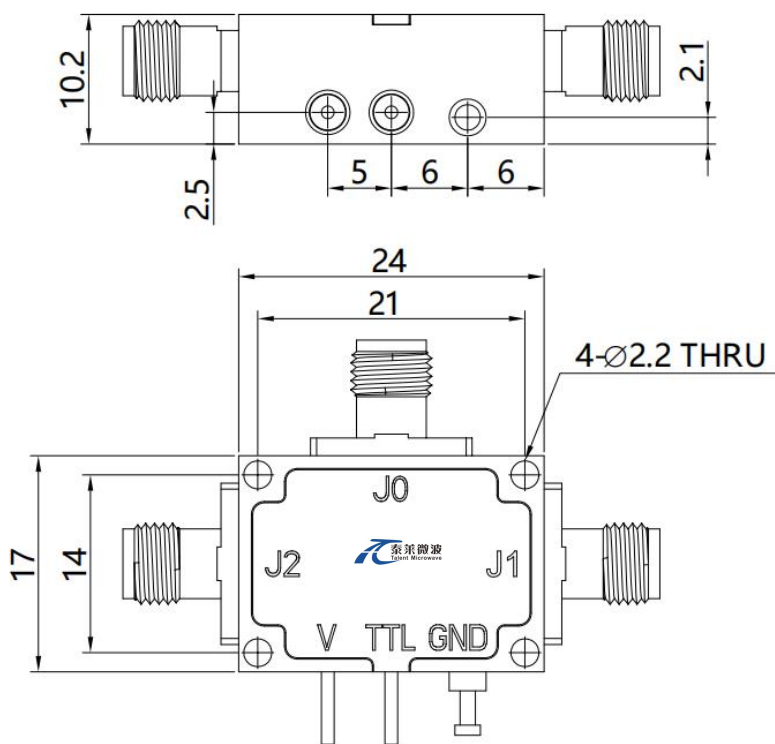
| 描述 Description               | 参数 Parameter         | 单位 Units |
|------------------------------|----------------------|----------|
| 供电偏置电压 Supply Bias Voltage   | ±5%                  | V        |
| 射频输入功率 RF Input Power        | 27                   | dBm      |
| ESD灵敏度 ESD sensitivity (HBm) | 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 | SMAMm Female/SMA Female |          |
| 直流控制接口 Control Bias             | Solder Pin              |          |
| 尺寸 Size                         | 24*17*10.2              | mm       |

## 外形图 Outline Drawing:

Unit:mm



真值表 Truth Table

| TTL Control Input | Signal Path State |
|-------------------|-------------------|
| 0                 | J0-J1             |
| 1                 | J0-J2             |



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

## 温度环境 Environmental Conditions:

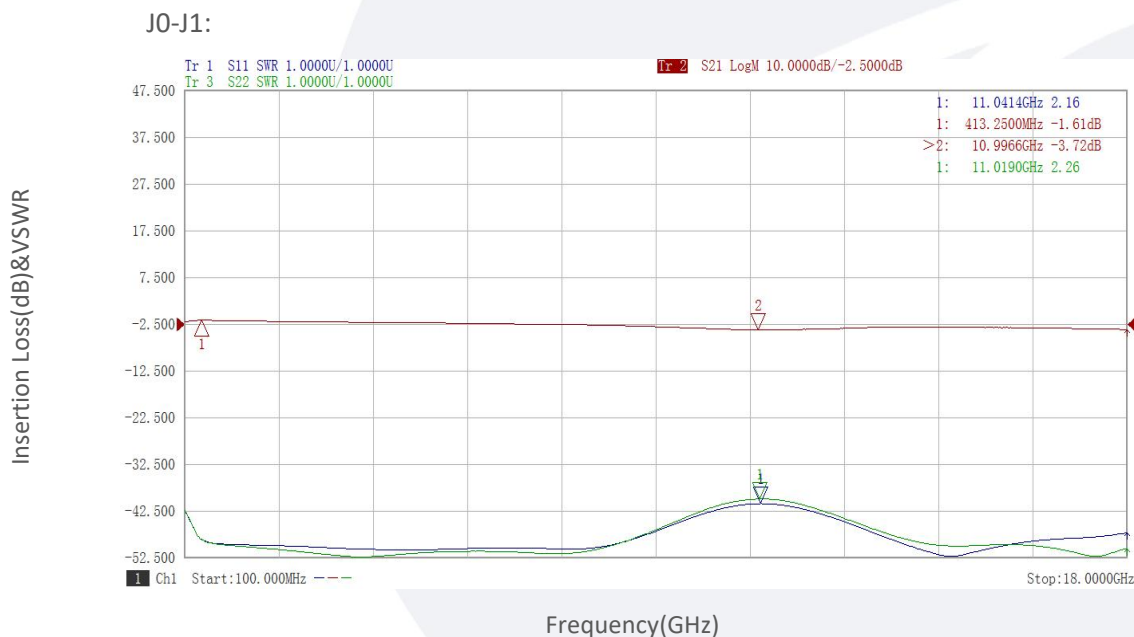
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                                                 |     | +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 |
|------------------|--------------------------------------------------------|--------------|
| TLSPDT0.1G18GA   | Absorptive,Broadband PIN Switch<br>0.1-18 GHz,SPDT,SMA | Rev.1.1      |

## 典型曲线 Typical Performance Data:

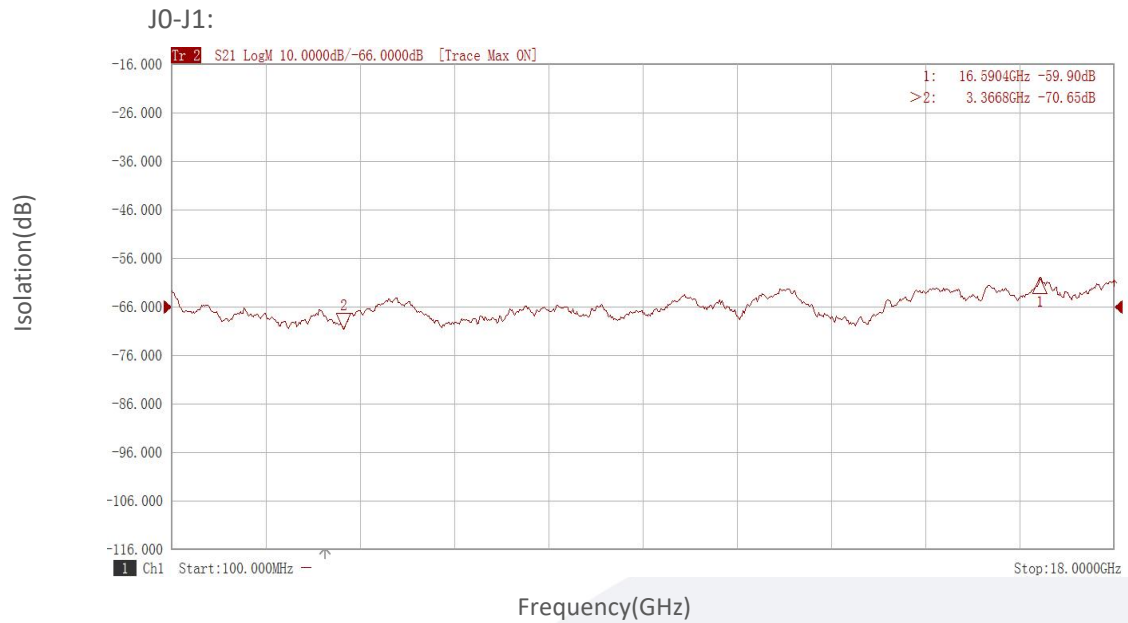
### Insertion Loss&VSWR vs Frequency



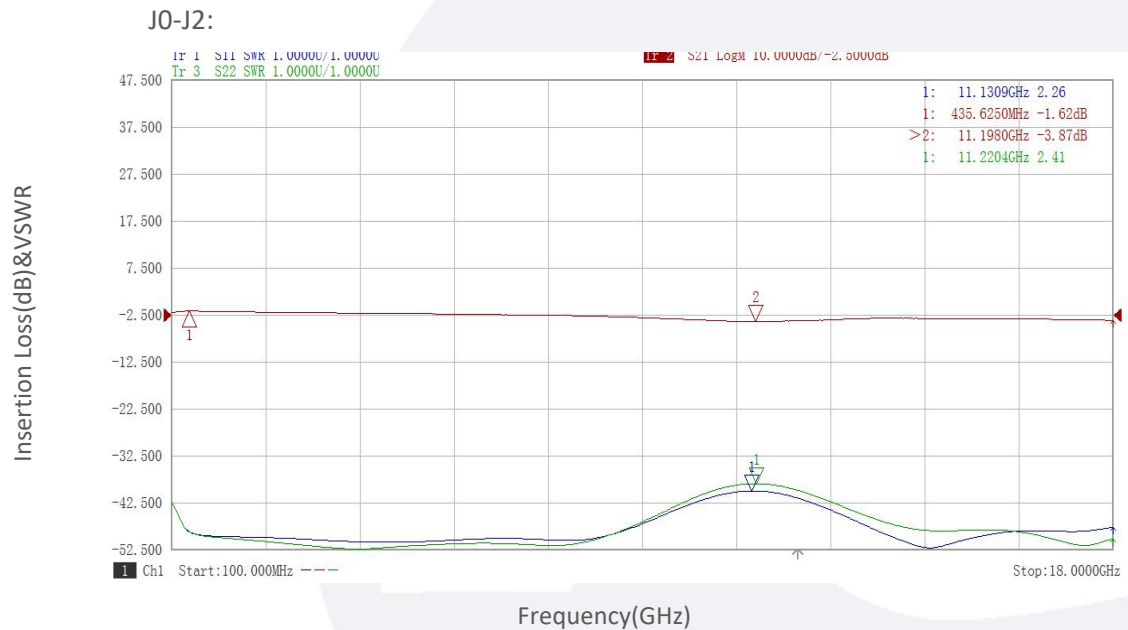
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

### Isolation vs Frequency



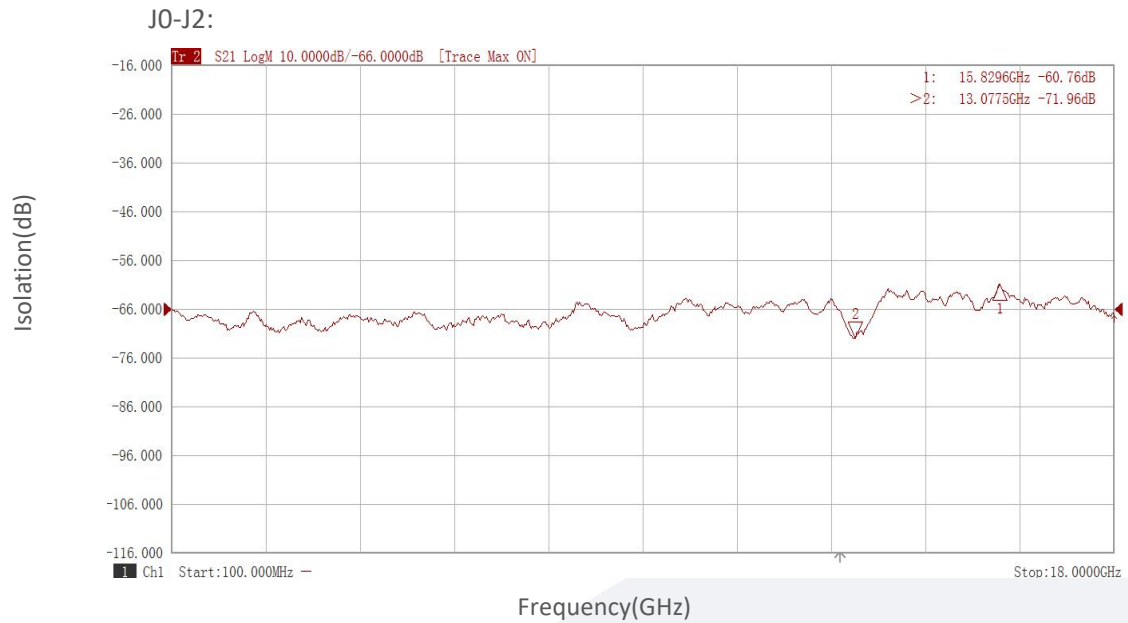
### Insertion Loss&VSWR vs Frequency



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



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