

## Absorptive, Broadband PIN Switch

0.5-40 GHz/SP16T/2.92mm Female

Model: TLSP16T0.5G40GA

The TLSP16T0.5G40GA is an absorptive PIN diode based switch with a TTL driver that operates between 0.5 and 40 GHz. The SP16T switch offers 55 dB port-to-port isolation with a typical switching speed of 50 ns. The input and output connectors of the switch are 2.92 mm female.

### Features:

- Ultra Wide Band: 0.5-40GHz
- Low Insertion Loss: 10.0 dB
- Power Handling : 23 dBm
- High Isolation
- Switch Type: Absorptive

### Applications:

- Communication Systems
- Automatic Test Equipment
- Switching Network

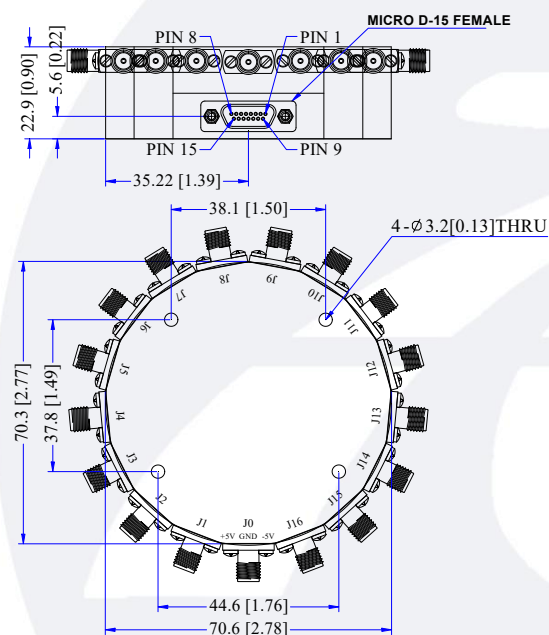
### 电气特性 Electrical Characteristics:

| 参数 Parameter           | Min        | Typ     | Max | 单位 Units |
|------------------------|------------|---------|-----|----------|
| 频率范围 Frequency range   | 0.5-40     |         |     | GHz      |
| 插损 Insertion Loss      |            | 10      | 14  | dB       |
| 隔离 Isolation           | 45         | 55      |     | dB       |
| 切换速度 Switch Speed      |            | 50      | 100 | ns       |
| 输入驻波 Input VSWR        |            | 2.2     | 2.5 | :1       |
| 输出驻波 Output VSWR       |            | 2.2     | 2.5 | :1       |
| 耐功率 Power Handling     |            |         | 23  | dBm      |
| 直流电压 DC Voltage        |            | +/-5    |     | V DC     |
| 控制电平 Control Logic TTL |            | 0/+5    |     | V DC     |
| 直流电流 DC Supply Current |            | 600/-50 |     | mA       |
| 开关类型 Switch type       | Absorptive |         |     |          |
| 阻抗 Impedance           | 50         |         |     | Ohms     |

| 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        | 23                   | dBm      |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |          |

| 描述 Description                  | 参数 Parameter                | 单位 Units |
|---------------------------------|-----------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.92mm Female/2.92mm Female |          |
| 直流控制接口 Control Bias             | Midro D-15 Female           |          |
| 材质 Material                     | Aluminium                   |          |
| 表面处理 Finish                     | Gold Painting               |          |
| 尺寸 Size                         | 70.6*70.3*22.9              | mm       |
| 重量 Weight                       | 210                         | g        |

Unit:mm



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

## 真值表 Truth Table :

| 真值表 Truth Table   |    |    |    |                   |
|-------------------|----|----|----|-------------------|
| TTL Control Input |    |    |    | Signal Path State |
| C4                | C3 | C2 | C1 |                   |
| 0                 | 0  | 0  | 0  | J0-J1             |
| 0                 | 0  | 0  | 1  | J0-J2             |
| 0                 | 0  | 1  | 0  | J0-J3             |
| 0                 | 0  | 1  | 1  | J0-J4             |
| 0                 | 1  | 0  | 0  | J0-J5             |
| 0                 | 1  | 0  | 1  | J0-J6             |
| 0                 | 1  | 1  | 0  | J0-J7             |
| 0                 | 1  | 1  | 1  | J0-J8             |
| 1                 | 0  | 0  | 0  | J0-J9             |
| 1                 | 0  | 0  | 1  | J0-J10            |
| 1                 | 0  | 1  | 0  | J0-J11            |
| 1                 | 0  | 1  | 1  | J0-J12            |
| 1                 | 1  | 0  | 0  | J0-J13            |
| 1                 | 1  | 0  | 1  | J0-J14            |
| 1                 | 1  | 1  | 0  | J0-J15            |
| 1                 | 1  | 1  | 1  | J0-J16            |

| 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 |

## 供电及控制接口 Power supply& Control Connector:

| MICRO D-15 FEMALE Define |     |
|--------------------------|-----|
| 1                        | C1  |
| 2                        | C2  |
| 3                        | C3  |
| 4                        | C4  |
| 5                        | NC  |
| 6                        | NC  |
| 7                        | NC  |
| 8                        | NC  |
| 9                        | GND |
| 10                       | +5V |
| 11                       | -5V |
| 12                       | GND |
| 13                       | +5V |
| 14                       | -5V |
| 15                       | NC  |

## 温度环境 Environmental Conditions:

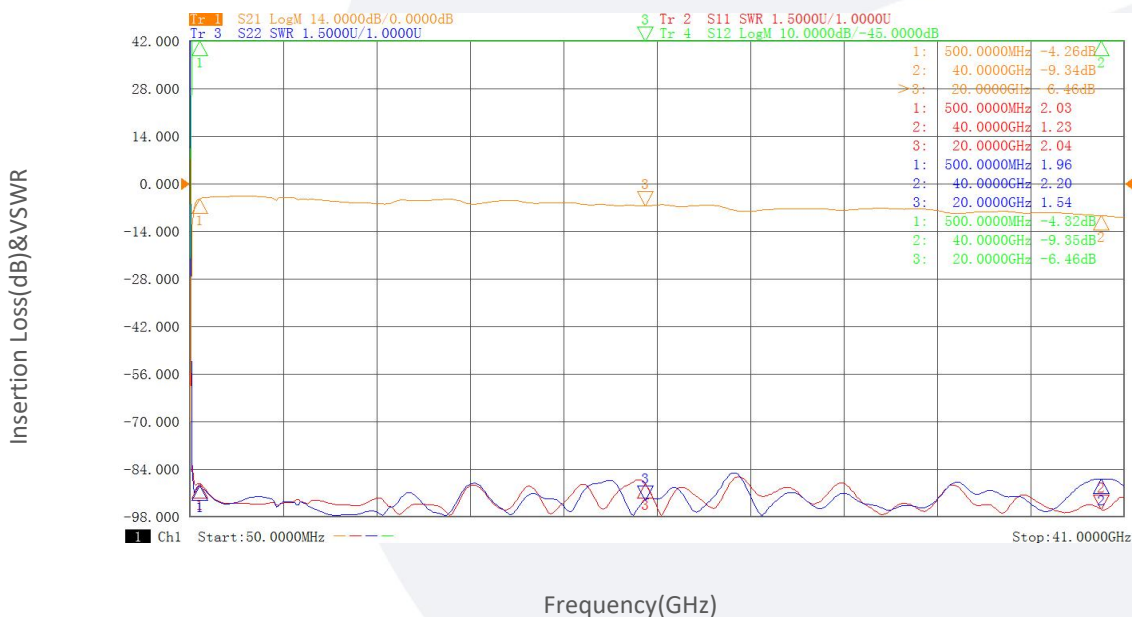
| 参数 Parameter                       | Min                                                 | Typ | Max  | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|------|----------|
| 操作温度 Operating Temperature         | -25                                                 |     | +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 |
|------------------|------------------------------------------------------------|--------------|
| TLSP16T0.5G40GA  | Absorptive,Broadband PIN Switch<br>0.5-40 GHz,SP16T,2.92mm | Rev.1.1      |

## 典型曲线 Typical Performance Data:

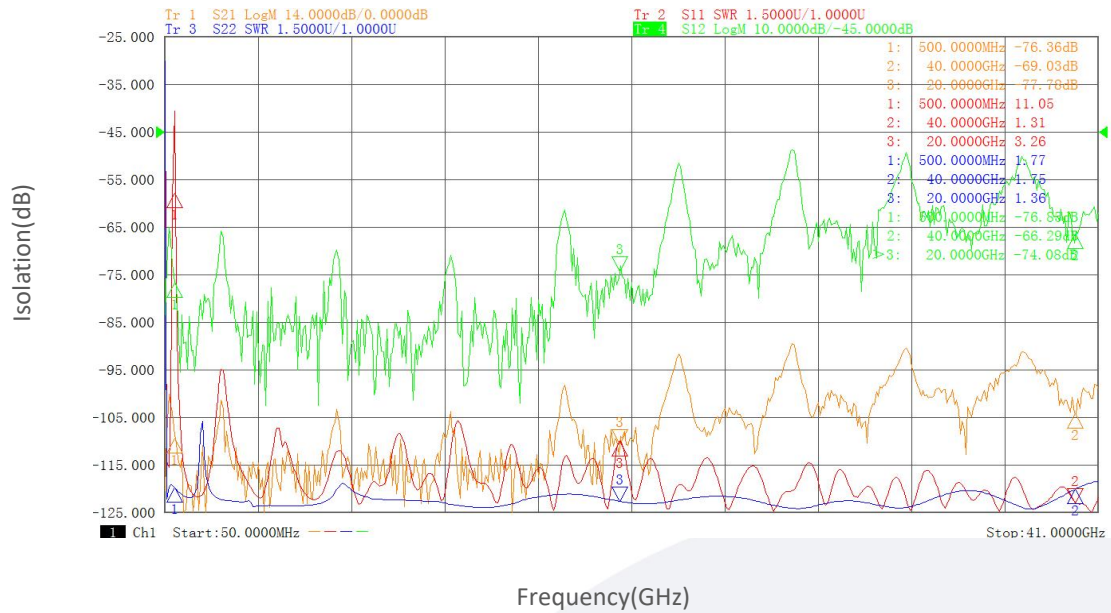
Insertion Loss&VSWR vs Frequency



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



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.