

## Absorptive, Broadband PIN Switch

### 0.1-110 GHz/SPDT/1.0mm Female

Model: TLSPDT0.1G110G

The TLSPDT0.1G110G is an absorptive PIN diode based switch with a TTL driver that operates between 0.1 and 110 GHz. The SPDT switch offers 20 dB port-to-port isolation with a typical switching speed of 100 ns. The input and output connectors of the switch are 1.0mm Female.

#### Features:

- Ultra Wide Band: 0.1-110 GHz
- Low Insertion Loss: 6.5 dB Typ
- Power Handling : 20 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   | 0.1-110                    |     |     | GHz      |
| 插损 Insertion Loss      |                            | 6.5 |     | dB       |
| 隔离 Isolation           | 20                         |     |     | dB       |
| 切换速度 Switch Speed      |                            |     | 100 | ns       |
| 输入驻波 Input VSWR        |                            |     | 3.0 | :1       |
| 输出驻波 Output VSWR       |                            |     | 3.0 | :1       |
| 耐功率 Power Handling     |                            |     | 20  | dBm      |
| 直流电压 DC Voltage        |                            | +5  |     | V DC     |
| 控制电压 Control Voltage   | High (1) →0V Low (0) →-15V |     |     | V        |
| 直流电流 DC Supply Current |                            | 100 |     | mA       |
| 开关类型 Switch type       | Reflective                 |     |     |          |
| 阻抗 Impedance           | 50                         |     |     | Ohms     |

## 绝对最大值 Absolute Maximum Ratings :

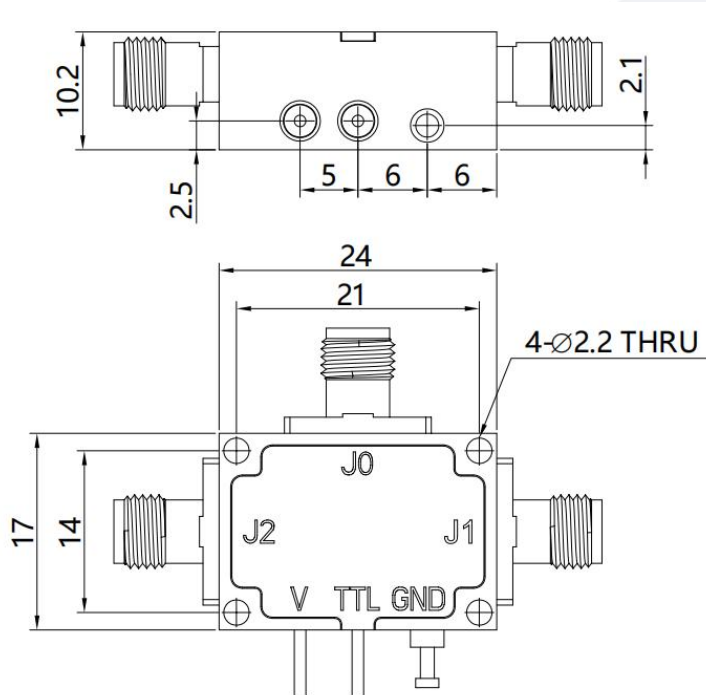
| 描述 Description               | 参数 Parameter         | 单位 Units |
|------------------------------|----------------------|----------|
| 供电偏置电压 Supply Bias Voltage   | +5V±10%              | V        |
| 射频输入功率 RF Input Power        | 23                   | dBm      |
| ESD灵敏度 ESD sensitivity (HBm) | 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 | 1.0mm Female/1.0mm 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             |

### TTL Control Voltages &VDD

| Stage    | Bias Condition    |
|----------|-------------------|
| VDD      | +5V (±5%)         |
| Low (0)  | -15.5 to -14.5Vdc |
| High (1) | 0 to 0.5Vdc       |



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 |
|------------------|-------------------------------------------------------------------|--------------|
| TLSPDT0.1G110G   | Reflective, Broadband PIN Switch<br>0.1-110 GHz,SPDT,1.0mm Female | Rev.1.0      |