

## Absorptive, Broadband PIN Switch

0.5-40 GHz/SPDT/ 2.92mm Female

Model: TLSPDT0.5G40GA

The TLSPDT0.5G40GA is an absorptive PIN diode based switch with a TTL driver that operates between 0.5 and 40 GHz. The SPDT switch offers 75 dB port-to-port isolation with a typical switching speed of 60 ns. The input and output connectors of the switch are 2.92 mm female.

### Features:

- Ultra Wide Band: 0.5-40GHz
- Low Insertion Loss: 3.0 dB
- Power Handling : 23 dBm
- High Isolation
- Switch Type: Absorptive

### Applications:

- Communication Systems
- Automatic Test Equipment
- Switching Network

### Electrical Characteristics:

| Parameter         | Min        | Typ  | Max | Units |
|-------------------|------------|------|-----|-------|
| Frequency range   | 0.5-40     |      |     | GHz   |
| Insertion Loss    |            | 3    | 5   | dB    |
| Isolation         | 55         | 75   |     | dB    |
| Switch Speed      |            | 60   |     | ns    |
| Input VSWR        |            |      | 2.8 | :1    |
| Output VSWR       |            |      | 2.8 | :1    |
| Power Handling    |            |      | 23  | dBm   |
| DC Voltage        |            | +/-5 |     | V DC  |
| Control Logic TTL |            | 0/+5 |     | V DC  |
| DC Supply Current |            | 100  |     | mA    |
| Switch type       | Absorptive |      |     |       |
| Impedance         | 50         |      |     | Ohms  |

## Absolute Maximum Ratings :

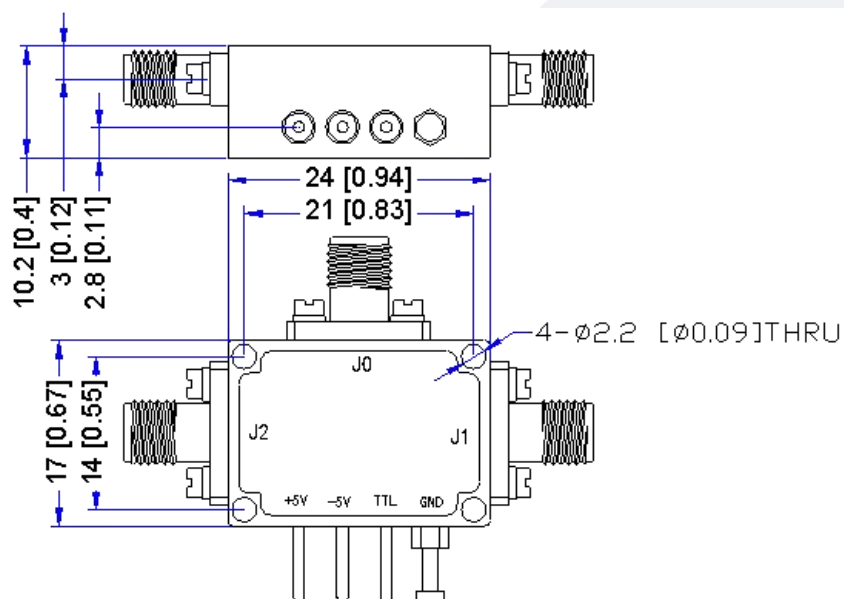
| Description           | Parameter            | Units |
|-----------------------|----------------------|-------|
| Supply Bias Voltage   | $\pm 5\%$            | V     |
| RF Input Power        | 23                   | dBm   |
| ESD sensitivity (HBm) | Class 0, passed 150V |       |

## Mechanical Specifications:

| Description             | Parameter                   | Units |
|-------------------------|-----------------------------|-------|
| Input /Output Connector | 2.92mm Female/2.92mm Female |       |
| Control Bias            | Solder Pin                  |       |
| Size                    | 27*17*10.2                  | mm    |

## Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## Environmental Conditions:

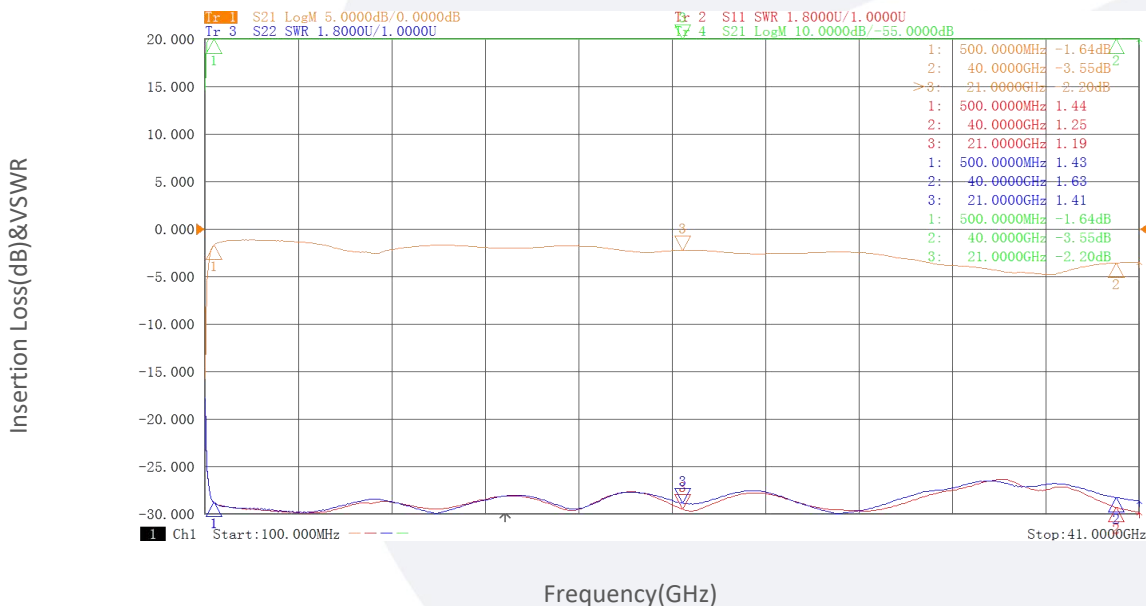
| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature           | -10                                                 |     | +65 | °C    |
| Non-operating Temperature       | -45                                                 |     | +85 | °C    |
| Relative humidity               |                                                     | 95  |     | %     |
| Altitude                        | 10,000                                              |     |     | feet  |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |     |       |
| Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |     |       |

## Ordering Information:

| Base Number    | Description                                               | Revision |
|----------------|-----------------------------------------------------------|----------|
| TLSPDT0.5G40GA | Absorptive,Broadband PIN Switch<br>0.5-40 GHz,SPDT,2.92mm | Rev.1.1  |

## Typical Performance Data:

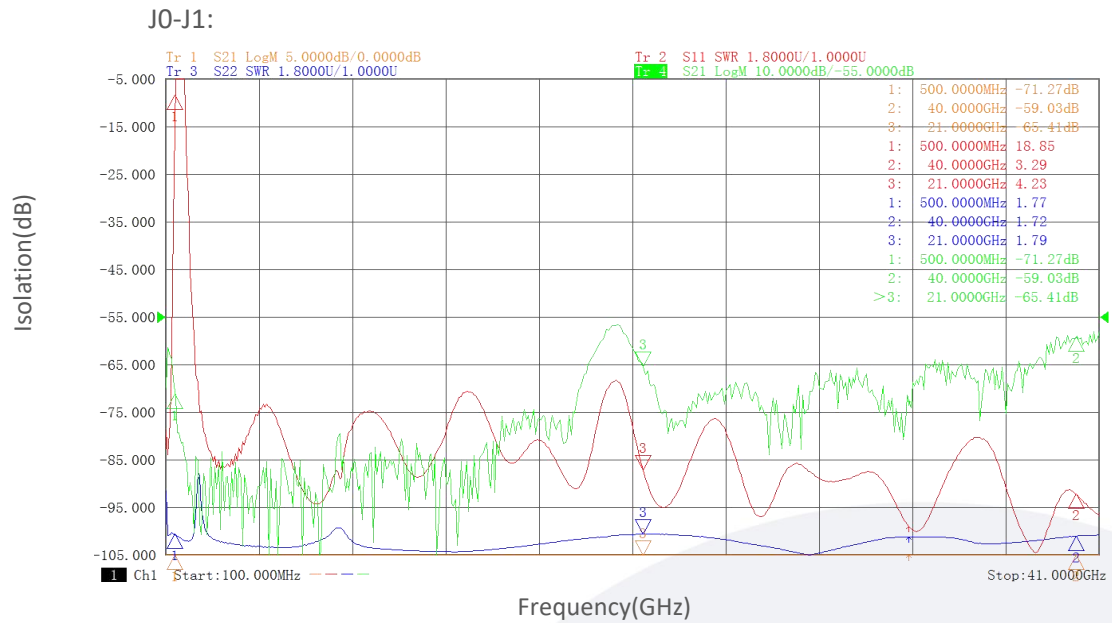
### Insertion Loss&VSWR vs Frequency



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.

## Typical Performance Data:

### Isolation vs Frequency



### 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.