

## Absorptive, Broadband MMIC Switch

9KHz-8GHz/SP8T/ SMA/Phase Matched

Model: TLSP8T9K8GA-PM

The TLSP4T1G40GA is an absorptive MMIC switch with a TTL driver that operates between 9KHz and 8 GHz. The SP8T switch offers 50 dB port-to-port isolation with a typical switching speed of 50 nanoseconds. The input and output connectors of the switch are SMA female.

### Features:

- Ultra Wide Band: 9KHz-8GHz
- Low Insertion Loss: 4.0 dB
- Power Handling : 30 dBm
- High Isolation
- Switch Type: Absorptive

### Applications:

- Communication Systems
- Automatic Test Equipment
- Switching Network

### Electrical Characteristics:

| Parameter         | Min        | Typ | Max | Units |
|-------------------|------------|-----|-----|-------|
| Frequency range   | 9KHz-8GHz  |     |     |       |
| Insertion Loss    |            | 4   | 5   | dB    |
| Isolation         |            | 50  |     | dB    |
| Switch Speed      |            | 50  | 100 | ns    |
| Input VSWR        |            | 1.5 | 2   | :1    |
| Output VSWR       |            | 1.5 | 2   | :1    |
| Power Handling    |            |     | 30  | dBm   |
| DC Voltage        |            | 5   |     | V DC  |
| DC Supply Current |            | 30  |     | mA    |
| Switch type       | Absorptive |     |     |       |
| Impedance         | 50         |     |     | Ohm   |

## Absolute Maximum Ratings :

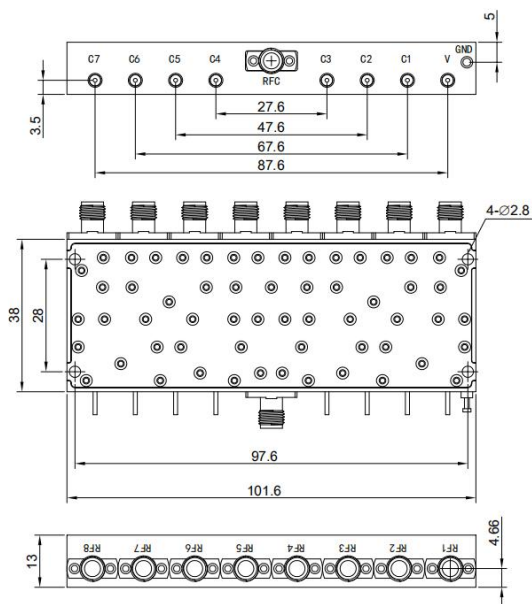
| Description           | Parameter            | Units |
|-----------------------|----------------------|-------|
| Supply Bias Voltage   | ±5%                  | V     |
| RF Input Power        | 30                   | dBm   |
| ESD sensitivity (HBm) | Class 0, passed 150V |       |

## Mechanical Specifications:

| Description             | Parameter             | Units |
|-------------------------|-----------------------|-------|
| Input /Output Connector | SMA Female/SMA Female |       |
| Control Bias            | Solder Pin            |       |
| Size                    | 101.6*38*13           | mm    |

## Outline Drawing:

Unit:mm



| Truth Table       |    |    |    |    |    |    |                   |
|-------------------|----|----|----|----|----|----|-------------------|
| TTL Control Input |    |    |    |    |    |    | Signal Path State |
| C1                | C2 | C3 | C4 | C5 | C6 | C7 |                   |
| 0                 | 0  | 0  | 0  | 0  | 0  | 0  | J0-J1             |
| 0                 | 0  | 0  | 1  | 0  | 0  | 0  | J0-J2             |
| 0                 | 1  | 0  | 0  | 0  | 0  | 0  | J0-J3             |
| 0                 | 1  | 0  | 0  | 1  | 0  | 0  | J0-J4             |
| 1                 | 0  | 0  | 0  | 0  | 0  | 0  | J0-J5             |
| 1                 | 0  | 0  | 0  | 0  | 1  | 0  | J0-J6             |
| 1                 | 0  | 1  | 0  | 0  | 0  | 0  | J0-J7             |
| 1                 | 0  | 1  | 0  | 0  | 0  | 1  | J0-J8             |

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



OBSERVE PRECAUTIONS  
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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 |
|----------------|----------------------------------------------------------|----------|
| TLSP8T9K8GA-PM | Absorptive,Broadband MMIC Switch<br>9 KHz-8 GHz,SP8T,SMA | Rev.1.1  |