

# PIN DIODE SWITCHES – SP1T

## G.T. Microwave Features:

**Frequency Ranges:** From 100 MHz to 20 GHz any optimized bandwidth is available.

**TTL Compatible Logic:** Logic '0' = Isolation and Logic '1' = Insertion Loss. For switches without TTL driver; +1VDC @ +50mA = Isolation and -1VDC @ -50mA = Insertion Loss. For logic options, please consult factory.

**High Speed Switching:** Switches listed are measured from 50% TTL to 10%/90% RF.

**Low DC Power Consumption:** Switches with TTL drivers require ?5VDC @ ?50mA.

**High RF Power Handling:** For power levels greater than listed, please consult factory.

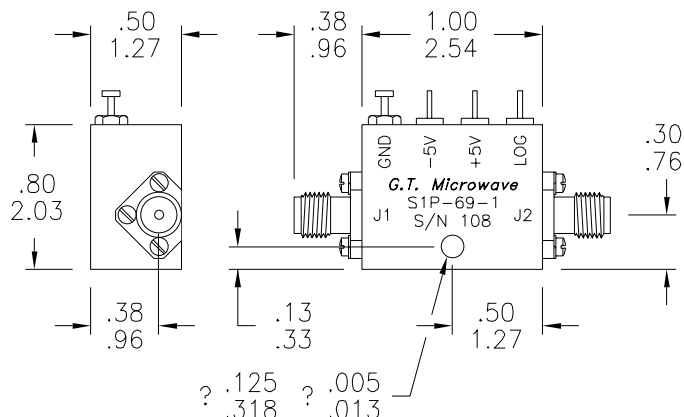
**Absorptive Switches:** On these models the J1 port is NON-REFLECTIVE.

**Standard Interfaces:** RF port connectors are 'SMA', female per MIL-C-39012. DC/LOGIC connections are solder terminals. Call factory for optional connectors.

**Matched Phase & Amplitude:** Models listed can be matched unit to unit. Please consult factory.

**Life Time Integrity:** G.T.M.I.'s switches are designed to meet MIL-E-16400, Range 1 and MIL-E-5400, Class 2 environments operating within the -55? to +85?C temperature range. MIL-STD-883 screening, -90 dBc RFI/EMI shielding, video filtering and 10<sup>-6</sup>cc/SEC hermeticity are available. Page 8 has Environmental Ratings.

Actual Size Shown



SP1T Switch Outline Drawing

DIMENSIONS ARE EXPRESSED  $\frac{\text{IN}}{\text{CM}}$  TOLERANCES ? .02 ? .010  
? .05 ? .025

## Microwave Products Available

Switches BP/QPSK & Vector Modulators Couplers  
Attenuators Gain Equalizers D.C. Blocks  
Hybrids Power Dividers/Combiners Bias Tees  
Phase Shifters Custom Sub-Assemblies Detectors  
Passive, Linearized Voltage or Current Controlled Analog,  
Digital, Programmable and Temperature Compensated

## Electrical Specifications for REFLECTIVE and ABSORPTIVE switches – SP1T

| FREQ. RANGE GHz | ISOLATION dB | INSERTION LOSS dB & SWITCHING SPEED REFL ABSP uSEC |     |     | INSERTION LOSS dB & SWITCHING SPEED REFL ABSP nSEC |     |     | INSERTION LOSS dB & SWITCHING SPEED REFL ABSP nSEC |     |    | V.S.W.R. MAX | INPUT POWER WATTS TYP MAX |     |
|-----------------|--------------|--|-----|-----|--|-----|-----|--|-----|----|--------------|---------------------------|-----|
|                 |              |  |     |     |  |     |     |  |     |    |              |                           |     |
| 0.5-2.0         | 30           | 0.4  | 0.8 | 1.0 | 0.6  | 1.0 | 100 | 0.7  | 1.1 | 30 | 1.4:1        | 0.1                       | 1.0 |
|                 | 60           | 0.6  | 1.0 |     | 0.8  | 1.2 |     | 0.9  | 1.3 |    |              |                           |     |
|                 | 80           | 0.7  | 1.1 |     | 0.9  | 1.3 |     | 1.0  | 1.4 |    |              |                           |     |
| 2.0-8.0         | 30           | 0.8  | 1.2 | 1.0 | 1.0  | 1.4 | 100 | 1.1  | 1.5 | 30 | 1.6:1        | 0.2                       | 1.0 |
|                 | 60           | 0.9  | 1.3 |     | 1.1  | 1.5 |     | 1.2  | 1.6 |    |              |                           |     |
|                 | 80           | 1.0  | 1.4 |     | 1.2  | 1.6 |     | 1.3  | 1.7 |    |              |                           |     |
| 6.0-18.0        | 30           | 1.6  | 2.0 | 1.0 | 1.8  | 2.2 | 100 | 1.9  | 2.3 | 30 | 2.0:1        | 0.2                       | 1.0 |
|                 | 60           | 1.8  | 2.2 |     | 2.0  | 2.4 |     | 2.1  | 2.5 |    |              |                           |     |
|                 | 80           | 2.0  | 2.4 |     | 2.2  | 2.6 |     | 2.3  | 2.7 |    |              |                           |     |
| 2.0-18.0        | 30           | 1.7  | 2.1 | 1.0 | 1.9  | 2.3 | 100 | 2.0  | 2.4 | 30 | 2.0:1        | 0.2                       | 1.0 |
|                 | 60           | 1.9  | 2.3 |     | 2.1  | 2.5 |     | 2.2  | 2.6 |    |              |                           |     |
|                 | 80           | 2.1  | 2.5 |     | 2.3  | 2.7 |     | 2.4  | 2.8 |    |              |                           |     |

For substantial improvement in performance; ask for OPTIMIZED NARROWBAND models