# PIN DIODE SWITCHES – SP4T

## *G.T. Microwave Features:*

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

***TTL Compatable Logic:*** Logic '1' = Isolation and Logic '0' = 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 @ +150/–65mA.

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

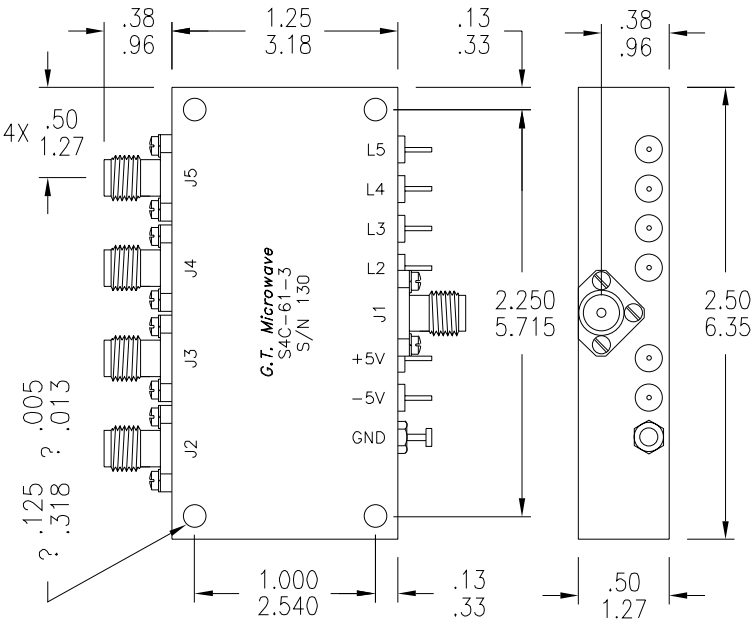
***Absorptive Switches:*** On these models the J2 – J5 ports are NON–REFLECTIVE.

***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 are available with matched ports. 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 $10^{-6}$ cc/SEC hermeticity are available. Page 8 has Environmental Ratings.

*Actual Size Shown*




SP4T Switch Outline Drawing

DIMENSIONS ARE EXPRESSED IN / CM TOLERANCES ? .02 / .05 ? .010 / .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 – SP4T

| 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 | 0.55 | 0.95 | 1.0 | 0.75 | 1.15 | 100 | 0.85 | 1.25 | 30 | 1.5:1 | 0.1 | 1.0 |
| | 60 | 0.75 | 1.15 | | 0.95 | 1.35 | | 1.05 | 1.45 | | | | |
| | 80 | 0.85 | 1.25 | | 1.05 | 1.45 | | 1.15 | 1.55 | | | | |
| 2.0–8.0 | 30 | 0.95 | 1.35 | 1.0 | 1.15 | 1.55 | 100 | 1.25 | 1.65 | 30 | 1.7:1 | 0.2 | 1.0 |
| | 60 | 1.2 | 1.6 | | 1.4 | 1.8 | | 1.5 | 1.9 | | | | |
| | 80 | 1.3 | 1.7 | | 1.5 | 1.9 | | 1.6 | 2.0 | | | | |
| 6.0–18.0 | 30 | 2.1 | 2.5 | 1.0 | 2.3 | 2.7 | 100 | 2.4 | 2.8 | 30 | 2.0:1 | 0.2 | 1.0 |
| | 60 | 2.3 | 2.7 | | 2.5 | 2.9 | | 2.6 | 3.0 | | | | |
| | 80 | 2.5 | 2.9 | | 2.7 | 3.1 | | 2.8 | 3.2 | | | | |
| 2.0–18.0 | 30 | 2.2 | 2.6 | 1.0 | 2.4 | 2.8 | 100 | 2.5 | 2.9 | 30 | 2.0:1 | 0.2 | 1.0 |
| | 60 | 2.4 | 2.8 | | 2.6 | 3.0 | | 2.7 | 3.1 | | | | |
| | 80 | 2.6 | 3.0 | | 2.8 | 3.2 | | 2.9 | 3.3 | | | | |

*For substantial improvement in performance; ask for OPTIMIZED NARROWBAND models*