

SJ1010

5 TO 1000 MHz 10-PIN GULLWING SPDT SWITCH

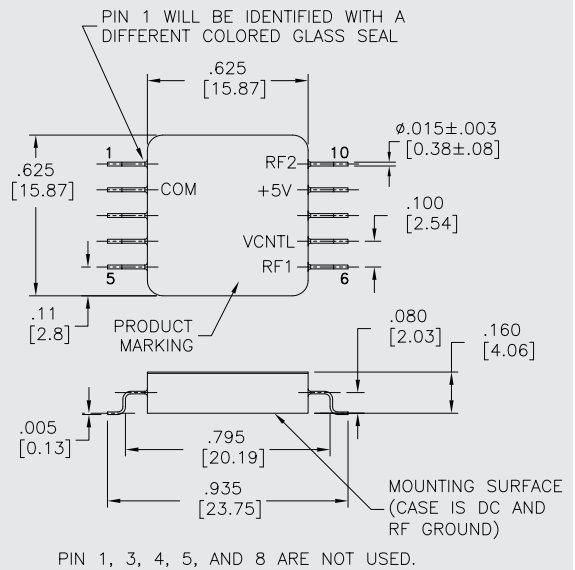
Typical Values

| | |
|------------------------------------|-------------------|
| Low Insertion Loss | <1.5 dB |
| High Isolation | >30 dB |
| High Output Power | +24.0 dBm |
| High Third Order I.P. | +49 dBm |
| Low Voltage | +5 Vdc |
| TTL Compatible | |
| 10-pin Gullwing Package | |

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10-pin Gullwing SPDT Switch Package



PIN 1, 3, 4, 5, AND 8 ARE NOT USED.

SPECIFICATIONS*

| Parameter | Typical | Guaranteed | |
|------------------------------|--------------------|-------------------|-------------------|
| | | 0 to 50 °C | -55 to +85 °C |
| Frequency (Min.) | 5-1100 MHz | 5-1000 MHz | 5-1000 MHz |
| Insertion Loss (Max.) | | | |
| 5-100 MHz | <0.7 dB | 1.0 dB | 1.2 dB |
| 100-500 MHz | <1.0 dB | 1.3 dB | 1.5 dB |
| 500-1000 MHz | <1.5 dB | 1.8 dB | 2.0 dB |
| Isolation (Min.) | | | |
| 5-100 MHz | 47 dB | 45.0 dB | 43.0 dB |
| 100-500 MHz | 37 dB | 35.0 dB | 34.0 dB |
| 500-1000 MHz | 30 dB | 28.0 dB | 27.0 dB |
| SWR (Max.) | | | |
| Input/Output | | | |
| 5-100 MHz | 1.1:1 [^] | 1.3:1 | 1.4:1 |
| 100-500 MHz | 1.1:1 [^] | 1.3:1 | 1.4:1 |
| 500-1000 MHz | 1.3:1 [^] | 1.5:1 | 1.6:1 |
| Power Output (Min.) | | | |
| @ 1dB comp. | | | |
| 100-500 MHz | >+19.0 dBm | +18.0 dBm | +17.0 dBm |
| 500-1000 MHz | >+24.0 dBm | +24.0 dBm | +23.0 dBm |
| Switching Time† | | | |
| 100-1000 MHz | 20† ηsec | 30 ηsec | 50 ηsec |
| DC Current (Max.) | 5 mA | 8 mA | 10 mA |

* Measured in a 50-ohm system at +5 Vdc unless otherwise specified.
[^] Insertion loss state. † 50% TTL control to 10% or 90% RF.

INTERMODULATION PERFORMANCE

Typical @ 25 °C, +5 Volts, and 400 MHz

| | |
|--|----------------|
| Second Order Two Tone Intercept Point | +65 dBm |
| Third Order Two Tone Intercept Point | +49 dBm |

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LOGIC TABLE

| TTL CONTROL | COM-RF1 | COM-RF2 |
|-------------|----------------|----------------|
| LOW | ISOLATION | INSERTION LOSS |
| HI | INSERTION LOSS | ISOLATION |

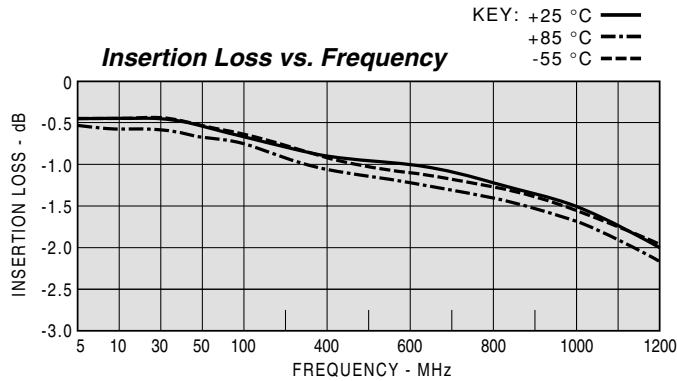
LOW is defined as 0 to +0.8V @ 20 μA MAX
 HI is defined as +2.0 V @ 50 μA typical to +5.5 V @ 300 μA MAX

ABSOLUTE MAXIMUM RATINGS

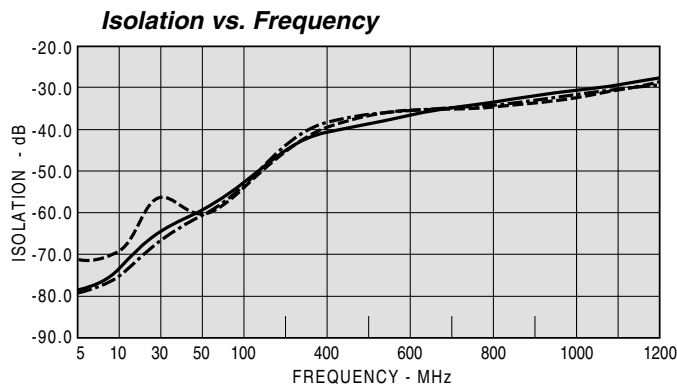
| | |
|---|-----------------------|
| Storage Temperature | -62 to +125 °C |
| Maximum Case Temperature | +150 °C |
| Maximum DC Voltage | +5 Volts |
| Maximum Continuous RF Input Power | +35 dBm |
| Maximum Short Term Input Power (1 Minute Max.) | +35 dBm |
| Maximum Peak Power (3 μsec Max.) | +37 dBm |
| Burn-in Temperature | +125°C |

DIMENSIONS ARE IN INCHES [MILLIMETERS]

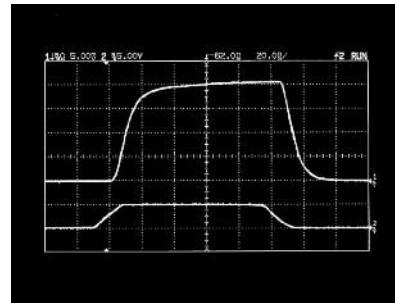
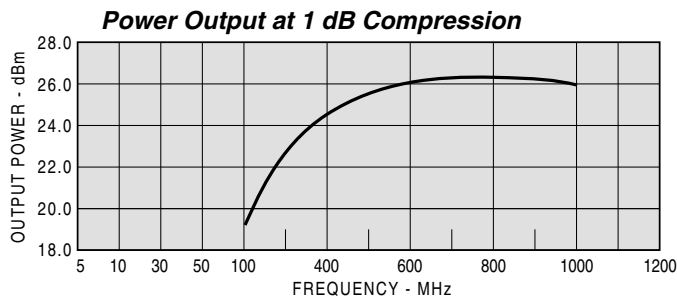
TYPICAL PERFORMANCE



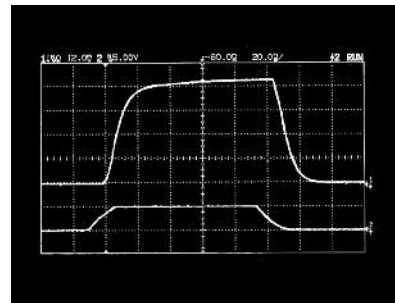
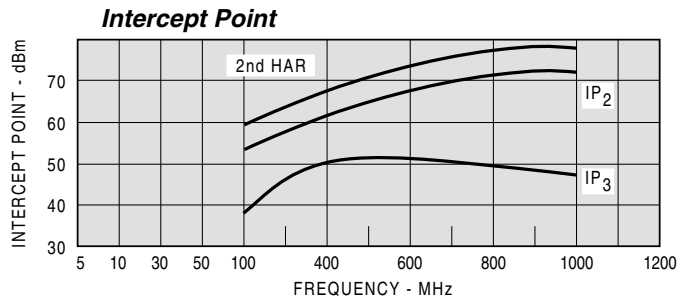
Switching speed @ 0.2 GHz, +6 dBm



Switching speed @ 0.2 GHz, +12 dBm



Switching speed @ 1 GHz, +6 dBm



Switching speed @ 1 GHz, +12 dBm

Top Trace: Switch Response
Bottom Trace: TTL Control
Time Base: 20 ns/div