

# Threshold Detector

External Threshold Control - Voltage or Resistance

# Model TMJ9902

10 to 2000 MHz

## Features

- External Threshold Control - Voltage or Resistance
- -10 dBm to +10 dBm Input Operating Range
- Wide Operating Frequency 10 - 2000 MHz
- Environmental Screening Available

## Specifications

| CHARACTERISTIC  | TYPICAL<br>Ta = 25 °C | MIN/MAX<br>Ta = -55 °C to +85 °C |
|---|-----------------------|----------------------------------|
| Input Flatness (dB)<br>P = -10 to +10dBm                        | <b>+/- 0.4</b>        | <b>+/- 1.0 Max.</b>              |
| Input VSWR (Max)  | 1.75:1                | 2.0:1                            |
| Threshold Control Level (V/Ohms)<br>@ P <sub>IN</sub> = -10 dBm | 0.1/325               | -                                |
| @ P <sub>IN</sub> = 0 dBm                                       | 0.3/950               | -                                |
| @ P <sub>IN</sub> = +10 dBm                                     | 1.0/3400              | -                                |
| Threshold Temp. Stability (dB)<br>@ P <sub>IN</sub> = -10 dBm   | -                     | +/- 1.5 Max.                     |
| @ P <sub>IN</sub> = 0 dBm                                       | -                     | +/- 1.0 Max.                     |
| @ P <sub>IN</sub> = +10 dBm                                     | -                     | +/- 0.5 Max.                     |
| Threshold Hysteresis<br>Voltage Control (dB)                    | <0.1                  | -                                |
| Resistance Control (dB)   | <1.0                  | -                                |
| Output @ P <sub>IN</sub> = Threshold (V)                        | 3.2                   | 2.7 Min.                         |
| Output Short Circuit Current (mA)                               | 8                     | 3.0 Min.                         |
| Rise Time/Fall Time (ns)  | 100                   | 125 Max.                         |
| Power<br>Vdc  | +15                   | +15                              |
| mA  | 12                    | 15 Max.                          |

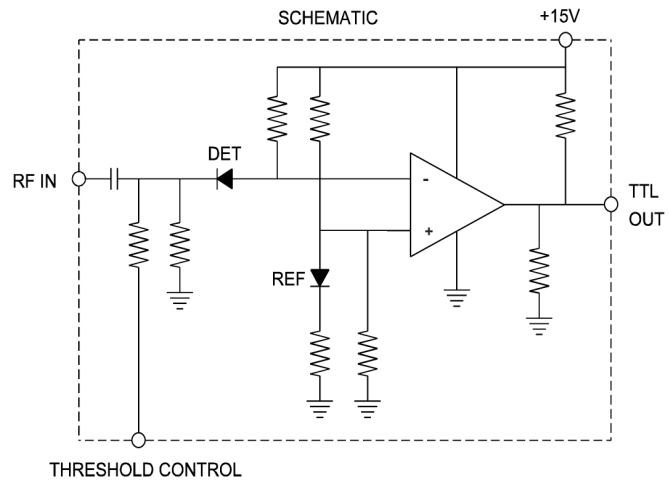
Note: Care should always be taken to effectively ground the case of each unit.

## Maximum Ratings

Operating Case Temperature..... -55 °C to +125 °C  
 Storage Temperature..... -62 °C to +150 °C  
 Continuous RF Input Power..... +15 dBm  
 DC Voltage..... +17 Volts

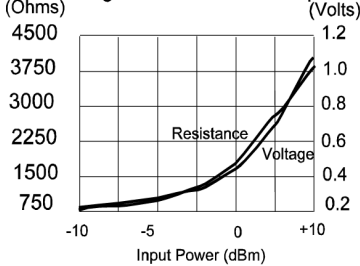
## Packaging Options (see Appendix)

**TO-8 (5 Pin), Surface Mount  
and SMA Connectorized Housings**

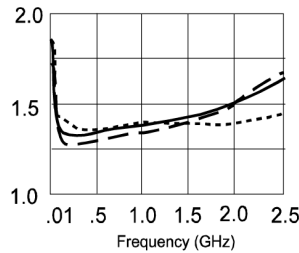


## Typical Performance Data

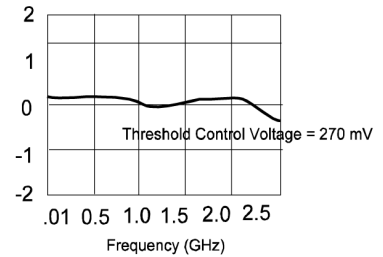
Control Voltage & Resistance vs. Input Power



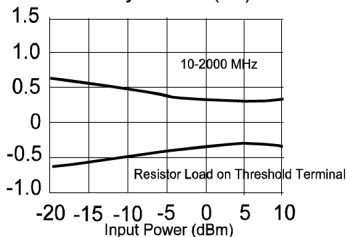
Input VSWR



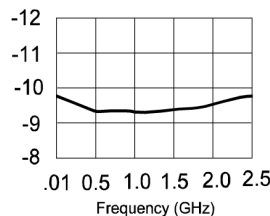
Input Power Flatness



Hysteresis (dB)



Input Power Flatness (dBm)



Input Power Flatness (dBm)

