

# Analog Level Detector

## -120mV Output for -10 dBm Input Power

# Model TMJ9910

## 5 to 500 MHz

### Features

- -120 mV Output for -10 dBm Input Power
- $\pm 1.0$  dB Flatness
- Operating Temp. 0 °C to +50 °C
- Environmental Screening Available

### Specifications

| CHARACTERISTIC                                                                            | TYPICAL<br>Ta = 25 °C | MIN/MAX<br>Ta = 0 °C to +50 °C |
|-------------------------------------------------------------------------------------------|-----------------------|--------------------------------|
| Detected Voltage (mV)<br>f = 500 MHz *^                                                   | -120                  | -90 Min.                       |
| Flatness (referred to Input)(dB)<br>f = 10 - 1000 MHz *^                                  | $\pm 0.7$             | $\pm 1.0$ Max.                 |
| Variation over Temperature (dB)<br>(referred to input) f=500 MHz*^                        | $\pm 1$               |                                |
| Tangential Sensitivity(TSS)(dBm)<br>f= 500 MHz, BW <sub>VID</sub> = 1 MHz*                | -45                   | -40 Max.                       |
| Input VSWR, 50 Ohm<br>f = 10 - 500 MHz                                                    | 1.5:1                 | 1.5:1 Max.                     |
| Output Offset Voltage (mV)<br>I <sub>D</sub> = I <sub>REF</sub> = 50 $\mu$ A, no RF Drive | $\pm 10$              | $\pm 15.0$ Max.                |
| Differential Voltage Tracking(mV)                                                         | $\pm 5$               |                                |
| Output Capacitance (pf)                                                                   | 1000                  | 1300 Max.                      |
| Power Vdc                                                                                 | +15                   | +15 Min.                       |
| mA                                                                                        | 16                    | 20 Max.                        |

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 125 °C  
 Storage Temperature ..... -62°C to + 150 °C  
 Bias Current (Diode) ..... 1 mA  
 Continuous RF Input Power ..... + 17 dBm  
 Short Term RF Input Power ..... 100 mW (1 Minute Max.)

### Packaging Options (see Appendix)

TMJ9910, 5 Pin TO-8 (T5)  
 TNJ9910, 4 Pin Sq. Surface Mount (SM3)  
 BXJ9910, SMA Connectorized Housing (H6)

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

\* I<sub>D</sub> = 50  $\mu$ A, R = 10 kOhm

^ P<sub>IN</sub> = -10 dBm (RF Input)

Legend ——— + 25 °C - - - + 50 °C - - - - 0 °C

### Typical Performance Data

