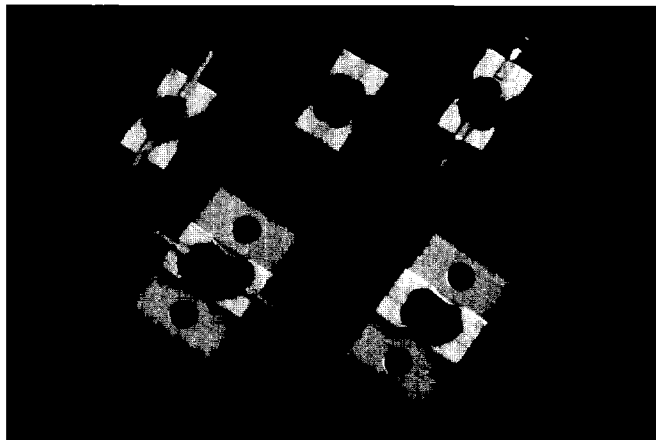


Low cost Narrow or Broadband Tunnel Detectors for commercial applications are designed to work between 0.8–14.5 GHz. Tunnel detectors offer low temperature drift, high sensitivity, low VSWR and excellent flatness. Both positive and negative output polarities are available. These detectors are available in several epoxy sealed drop-in or surface mount packages.

These detectors are ideal for power monitors in amplifiers where flatness and low temperature drift are important.



MTD TUNNEL DETECTOR DATA

Model Number*	Frequency Range GHz	Minimum Sensitivity mV/mW	Maximum VSWR	Flatness dB	Typical Rv	Typ. Output Capacitance Pf
MTDL-8015P	0.8–14.5	600	3.5:1	±1.0	250	50
MTDL-8015N	0.8–14.5	600	3.5:1	±1.0	250	50
MTDH-8015P	0.8–14.5	700	2.75:1	±0.75	250	50
MTDH-8015N	0.8–14.5	700	2.75:1	±0.75	250	50
MTDL-8007P	0.8–7.0	600	1.75:1	±0.5	250	50
MTDL-8007N	0.8–7.0	600	1.75:1	±0.5	250	50
MTDH-8007P	0.8–7.0	700	1.50:1	±0.3	250	50
MTDH-8007N	0.8–7.0	700	1.50:1	±0.3	250	50
MTDL-0611P	6.0–11.0	700	2.5:1	±0.5	250	50
MTDL-0611N	6.0–11.0	700	2.5:1	±0.5	250	50
MTDH-0611P	6.0–11.0	800	2.25:1	±0.3	250	50
MTDH-0611N	6.0–11.0	800	2.25:1	±0.3	250	50
MTDL-1015P	10.0–14.5	700	3.5:1	±0.5	250	50
MTDL-1015N	10.0–14.5	700	3.5:1	±0.5	250	50
MTDH-1015P	10.0–14.5	700	2.75:1	±0.35	250	50
MTDH-1015N	10.0–14.5	700	2.75:1	±0.35	250	50

*P=Positive Output; N=Negative Output; L=Low Cost; H=High Performance

Notes:

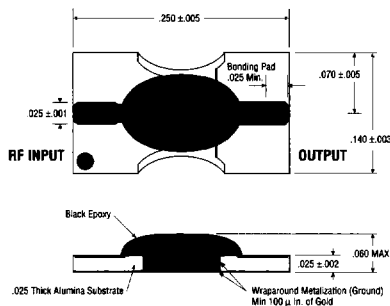
- Other frequency bands and outputs are available upon request.
- RF input does not include DC Block
- Maximum Input Power: +17dB
- No bias required
- Low output resistance
- Other package styles are available upon request



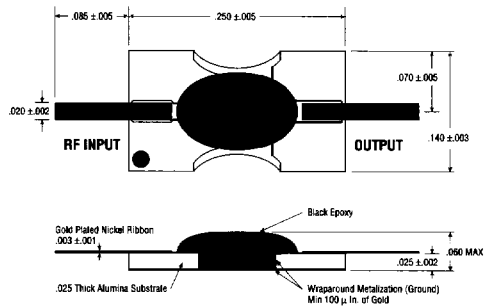
DEFINITIONS

- **Flatness:** Flatness across the R.F. frequency band is defined as half of $10\log$ of the ratio of maximum to minimum output voltage with a constant R.F. input power.
- **Sensitivity(K):** The output voltage sensitivity is the ratio of output voltage to input R.F. power in mv/mw. This is measured at -20dBm input with $R_L = 10K$.
- **Video Resistance:** R_v is the output resistance of the device measured at -20dBm.

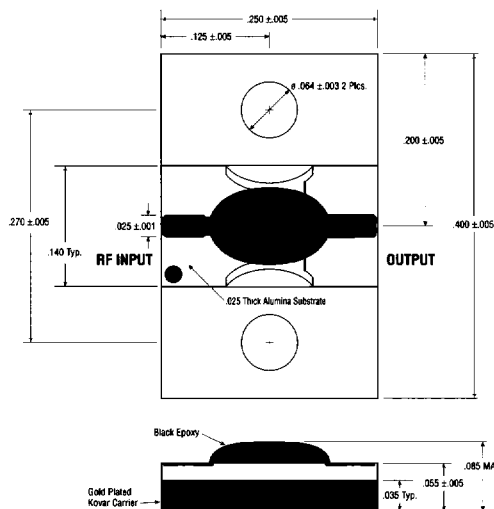
2514



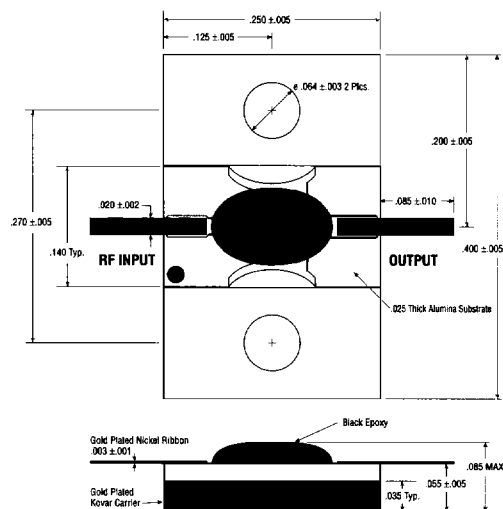
2514T



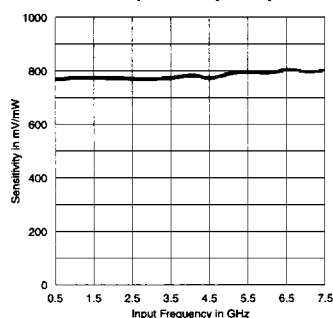
2540



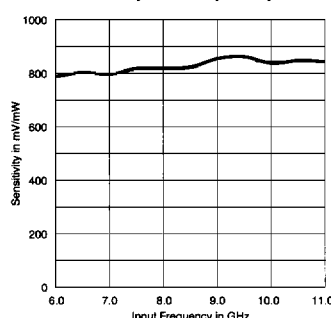
2540T



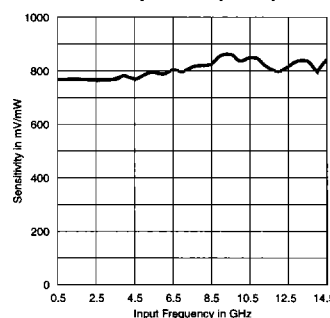
Tunnel Detector MTDH-8007
 $P_{in} = -20\text{dBm}$, $R_L = 10K$
Sensitivity vs. Frequency



Tunnel Detector MTDH-0611
 $P_{in} = -20\text{dBm}$, $R_L = 10K$
Sensitivity vs. Frequency



Tunnel Detector MTDH-8015
 $P_{in} = -20\text{dBm}$, $R_L = 10K$
Sensitivity vs. Frequency



Typical Transfer Curve
 $R_L = 10K$
Output Voltage vs. Input Power & Temp.

