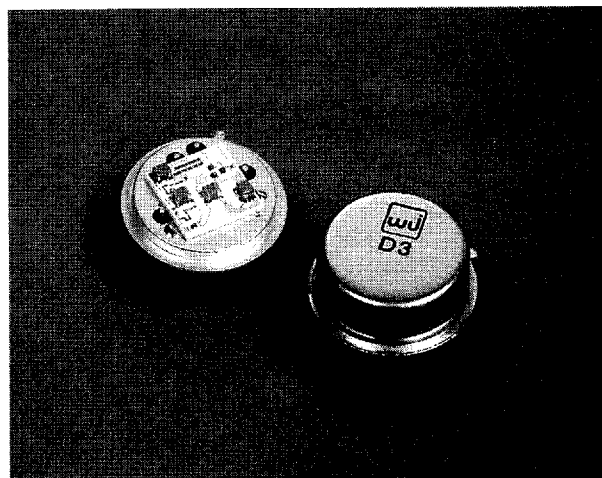


WJ-D3/SMD3

10 TO 1000 MHz TO-8 LEVEL DETECTOR

- ◆ 50-OHM INPUT IMPEDANCE
- ◆ RF INPUT, DC OUTPUT
- ◆ ACTIVE INPUT CIRCUITRY



Specifications*

Characteristics	Typical	Guaranteed	
		0° to +50°C	-54° to +85° C
Frequency (Min.)	10 - 1000 MHz	10-1000 MHz	10-1000 MHz
Detected Voltage ^{1, 2}	100 mV		
Variation Over Frequency ³	±7 mV	±20 mV	
Variation Over Temperature ^{1, 3}	+110 mV	+120 mV	+130 mV
	-70 mV	-80 mV	-90 mV
Output Offset Voltage ^{1, 4}	230 mV		
VSWR (Max.) Input	1.5:1	2.0:1	2.0:1
Output Capacitance	2.2 KpF		3.0 KpF
DC Current (Max.) at +15 Volts	10 mA	13 mA	14 mA

Notes:

*Measured in a 50-ohm system at +15.0 Vdc Nominal, 50 uA detector bias and 10 ohm load resistance.

1. Measured at 500 MHz

2. -10 dBm Input Power

3. -30 dBm Input Power

4. No RF Applied

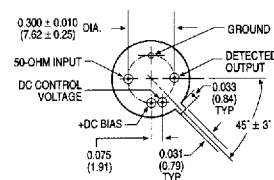
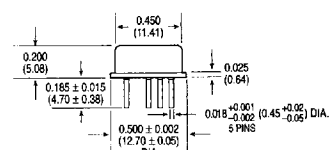
Absolute Maximum Ratings

Storage Temperature	-62°C to +125°C
Maximum Case Temperature	125°C
Diode Bias Current	1 mA
Maximum CW Input Power	+17 dBm
Maximum Short Term RF Input Power (1 Minute Max.).....	100 Milliwatts
“S” Series Burn-In Temperature (Case)	125°C

Weight approximately 2.0 grams (0.07 oz.)

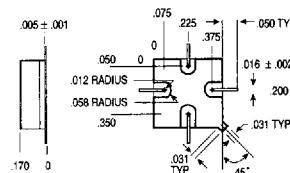
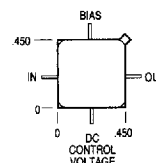
Outline Drawing

D3



DIMENSIONS ARE IN INCHES (MILLIMETERS)
+ .005 (.13) UNLESS OTHERWISE SPECIFIED

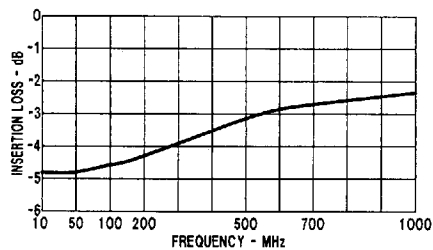
SMD3



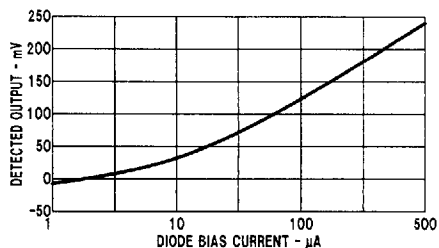
DIMENSIONS ARE IN INCHES (MILLIMETERS)
±.010 (.25) UNLESS OTHERWISE SPECIFIED.

Typical Performance at 25°C

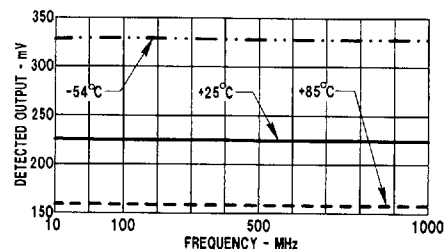
Insertion Loss vs. Frequency^①
 $P_{IN} = -10 \text{ dBm}$ (10K Ω Load)



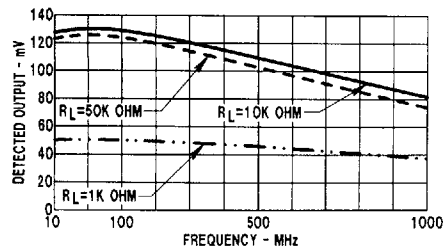
Detected Output vs. Diode Bias Current
 $F = 500 \text{ MHz}$, $P_{IN} = -10 \text{ dBm}$ (10K Ω Load)



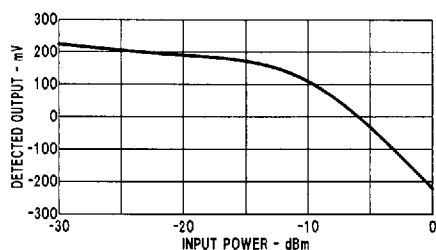
Detected Output vs. Frequency
 $P_{IN} = -30 \text{ dBm}$ (10K Ω Load)



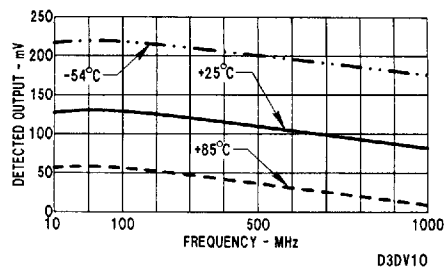
Detected Output vs. Frequency vs. R_L
 $P_{IN} = -10 \text{ dBm}$



Detected Output vs. P_{IN} , $F = 500 \text{ MHz}$
(10K Ω Load)

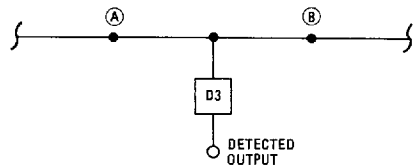


Detected Output vs. Frequency
 $P_{IN} = -10 \text{ dBm}$ (10K Ω Load)

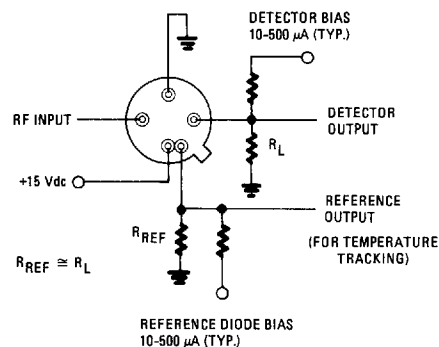


NOTES:

- ① INSERTION LOSS MEASURED BETWEEN POINTS (A) AND (B) ON A 50 Ω TRANSMISSION LINE.



Typical Test Circuit



Typical Application Circuit

