

## WAVEGUIDE DETECTOR FEATURES AND SPECIFICATIONS

Further features and specifications for the WPM waveguide detector include the following:

- o 70dB Dynamic Range
- o Has a plastic housing to reduce thermal shock when handling
- o Input Impedance: 50 ohms, nominal
- o Frequency Response Curve Data Accuracy: The relative uncertainty of calibration for the waveguide detector is 5% from 26.5 to 40.0GHz
- o Flatness: The maximum total variation of flatness for the waveguide detector is 4dB from 26.5 to 40.0 GHz
- o Return Loss: Return loss of the waveguide detector is 10dB from 26.5 to 40.0GHz
- o Measurement Accuracy: See Figure 5

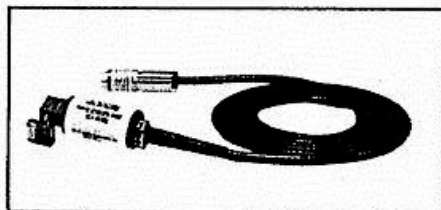


Figure 3 Wavetek Pacific Measurements Balanced Element Waveguide Detector

## INDIVIDUAL INSTRUMENT SPECIFICATIONS

The detector parameters given on the reverse side of this Technical Information sheet cover the specifications that are generally to be expected of WPM detectors. Some specifications can be slightly different due to the characteristics of the instrument with which the detector is used. These deviations include the following: (all other specifications are as given on the reverse side of this sheet)

### Model 1038-N10/NS20 Systems

**Flatness:** Flatness of the single diode coaxial detector (maximum total variation) is 1.0dB from 1MHz to 18GHz, 2.0dB to 26.5GHz and, with an APC3.5 connector, 3.0dB to 34.0GHz

### Model 1038-H/V System

**Flatness:** Flatness of the coaxial detectors (maximum total variation) is 1.0dB from 1MHz to 18GHz and 2.0dB to 26.5GHz when APC3.5 connectors are used. With type N or APC7 connectors, flatness is 2.0dB to 18GHz

**Return Loss:** Coaxial detector return loss is 18.0dB from 2 to 12.4GHz, and 14.0dB up to 26.5GHz

**Temperature:** On Figure 5, H/V System temperature range is 35° to 45°C instead of 35° to 50°C

## INDIVIDUAL SYSTEM OR POWER METER DETECTOR SPECIFICATIONS

Part Number	Frequency Range	Absolute Maximum Power Input Without Damage (Peak or CW)	Connector	Type	Diode Replacement Kit No's.
<b>N10/NS20 System Detectors</b>					
15176	1MHz to 18GHz	200mW	Type N	Balanced	15360
15177	1MHz to 18GHz	200mW	APC7	Balanced	15360
15181	1MHz to 26.5GHz*	200mW	APC3.5**	Single	15363
15237	1MHz to 18GHz	200mW	Type N	Single	15362
15284	1MHz to 18GHz	200mW	APC7	Single	15362
15285	1MHz to 26.5GHz	200mW	APC3.5**	Balanced	15361
15882	26.5 to 40.0GHz	100mW	UG-599U (WR28)	Waveguide	Not Field Replaceable
<b>H/V System Detectors</b>					
15272	1MHz to 26.5GHz	200mW	APC3.5**	Single	15416
13782	1MHz to 18GHz	200mW	Type N	Single	14016
13783	1MHz to 18GHz	200mW	APC7	Single	14016
15882	26.5 to 40.0GHz	100mW	UG-599/U (WR28)	Waveguide	Not Field Replaceable
<b>Model 1045 Power Meter Detectors</b>					
13786	1MHz to 18GHz	200mW	Type N	Single	14018
13787	1MHz to 18GHz	200mW	APC7	Single	14018
14139	1MHz to 18GHz	10W CW - 200W Pk	Type N	Single	14236
15271	1MHz to 26.5GHz	200mW	APC3.5**	Single	15417
<b>Model 1034A Power Meter Detector</b>					
13780	1MHz to 18GHz	200mW	Type N	Single	14015

\*Useable to 34GHz

\*\*Compatible with SMA connector

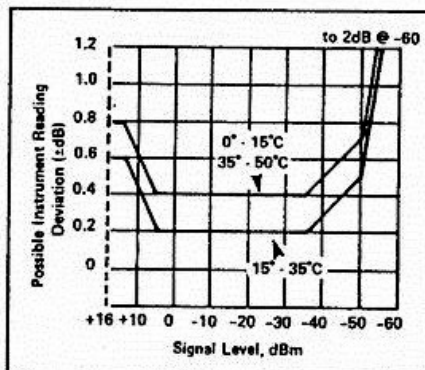


Figure 4 Model 1038-N10 and NS20 System Coaxial Detector Accuracy from 30MHz to 26.5GHz. (An additional 0.2dB is added to the deviation reading for operation from 1 to 30MHz)

### Model 1045 Power Meter

**Flatness:** With type N or APC7 connectors, flatness (maximum total variation) is 2.0dB to 18GHz. With APC3.5 connectors, flatness is 1.0dB to 18GHz and 2.0dB to 26.5GHz

**Return Loss:** Same as H/V system

**Measurement Accuracy:** See Figure 6

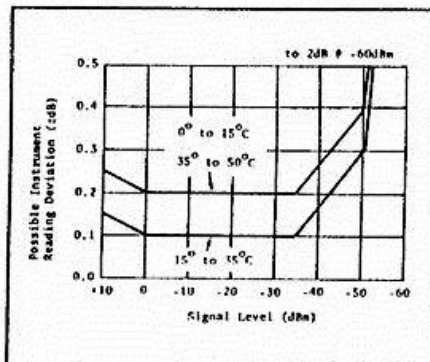


Figure 6 Model 1045 Detector Measurement Accuracy from 1MHz to 26.5GHz

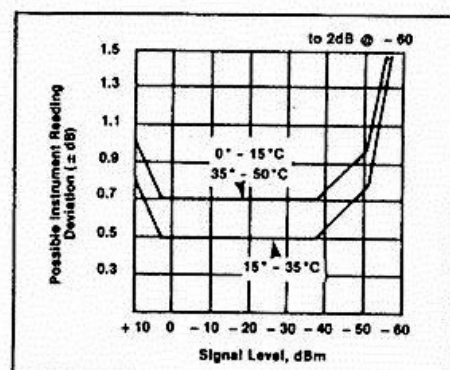


Figure 5 Model 1038-N10, NS20, and H/V Systems Waveguide Detector Accuracy from 26.5GHz to 40GHz

### Model 1034A Power Meter

**Frequency Response Curve Data Accuracy:** The uncertainty of calibration at 1mW (0dBm) is 2% to 12.4GHz and 3% to 26.5GHz

**Flatness:** 2.0dB to 18GHz

**Return Loss:** Same as H/V System

**Measurement Accuracy:** See Figure 7

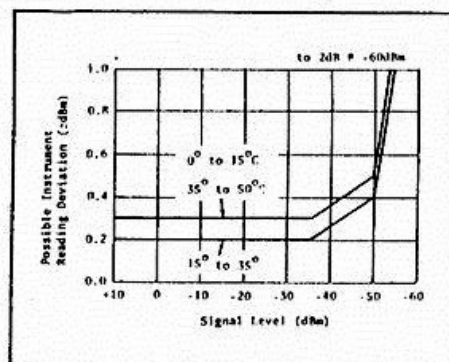


Figure 7 Model 1034A Detector Measurement Accuracy from 1MHz to 10GHz. (Add 0.2dB to the above for frequencies from 10GHz to 18GHz)