

DESCRIPTION

The HFD series broadband detectors cover full waveguide bands from 18 – 170 GHz . They utilize a low loss finline structure mated to a zero bias Schottky beam lead diode for maximum output and bandwidth. The RF energy is converted to a DC voltage resulting in a detector mount having high levels of sensitivity over a broad dynamic range. Since zero bias diodes are used, no bias is required and both negative and positive voltage outputs are available. The HFD series detectors are used wherever DC conversion of RF signals is required such as with scalar measurement systems.

Detectors can be optimized for specific frequency coverage and can be matched as pairs if required.



Applications

- Scalar Analyzer Detectors
- Detector Leveling Loops
- General RF Detection
- Power Monitors
- Fault Line Indicator

Features

- No Input Bias Required
- Full Waveguide Band Coverage
- Finline Planar Design
- High Output Sensitivity
- Rugged Construction

Specifications @ 25°C

Part Number	Frequency (GHz)	Waveguide	Standard Flange	Voltage (1) Sensitivity MV/mW (min)	Maximum Flatness (dB)
HFD42P	18.0 - 26.5	WR - 42	UG-595/U	1000	±2.0
HFD28P	26.5 - 40.0	WR - 28	UG-599/U	1000	±2.0
HFD22P	33.0 - 50.0	WR - 22	UG-599/U-M	800	±2.0
HFD19P	40.0 - 60.0	WR - 19	UG-599/U-M	800	±2.0
HFD15P	50.0 - 75.0	WR - 15	UG-385/U	600	±2.0
HFD12P	60.0 - 90.0	WR - 12	UG-387/U	500	±2.5
HFD10P	75.0 - 110.0	WR - 10	UG-387/U-M	400 to 95 GHz 300 above 95 GHz	±2.5
HFD08P	90.0 - 140.0	WR- 8	UG-387/U-M	300 @ 94 GHz 80 @ 140 GHz	
HFD07P	110.0 - 170.0	WR-7 (WR-6.5)	UG-387/U-M	125 @ 110 GHz 80 @ 140 GHz	

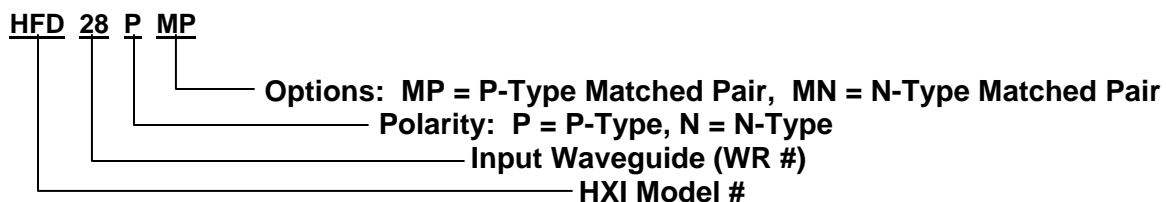
NOTES

1. Measured @ -20 dBm into a video output load of 1 meg ohm
2. Flange options available for WR-22 and WR-19. See next page for options.
3. Miniature designs available in some bands. Contact factory for details.

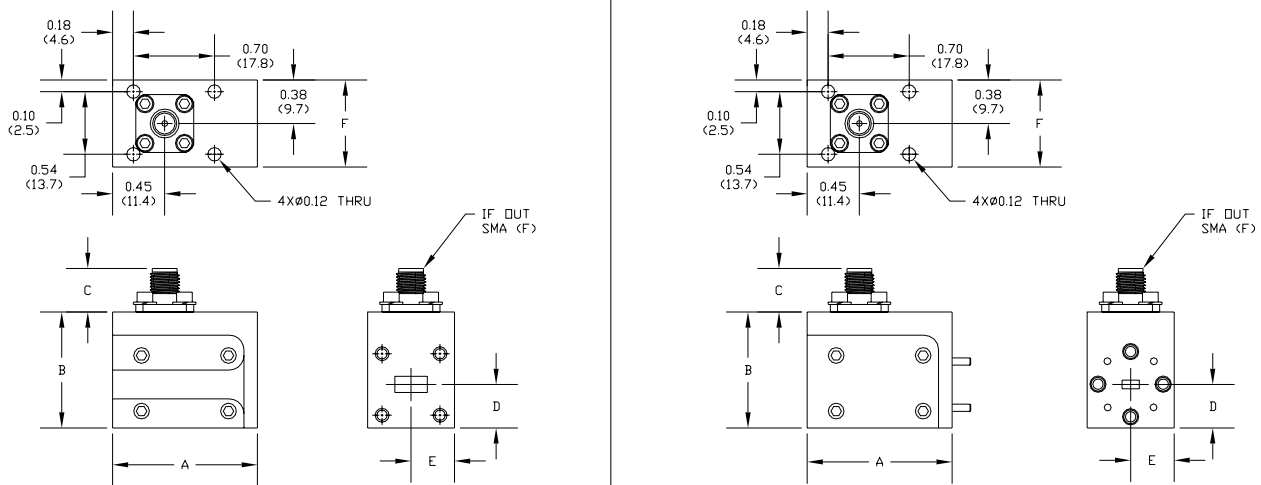
GENERAL SPECIFICATIONS

Maximum Input Power:	100 mW
Operating Temperature:	0 to +60°
Video Output:	SMA Female
VSWR:	3:1 typical

PART NUMBER GUIDE



Outline Drawings



FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	DETECTOR DIMENSIONS (inches)					
			A	B	C	D	E	F
K	WR-42	UG-5959/U	1.75	1.08	0.38	0.44	0.44	0.88
Ka	WR-28	UG-599/U	1.25	1.00	0.38	0.38	0.38	0.75
Q	WR-22	UG-599/U-M	1.25	1.00	0.38	0.38	0.38	0.75
		UG-383/U	1.25	1.19	0.38	0.57	0.57	1.13
U	WR-19	UG-599/U-M	1.25	1.00	0.38	0.38	0.38	0.75
		UG-383/U-M	1.25	1.19	0.38	0.57	0.57	1.13
V	WR-15	UG-385/U	1.25	1.00	0.38	0.38	0.38	0.75
E	WR-12	UG-387/U	1.25	1.00	0.38	0.38	0.38	0.75
W	WR-10	UG-387/U-M	1.25	1.00	0.38	0.38	0.38	0.75
F	WR-8	UG-387/U-M	1.25	1.00	0.38	0.38	0.38	0.75
D	WR-7 (WR-6.5)	UG-387/U-M	1.25	1.00	0.38	0.38	0.38	0.75

Note: Miniature designs available in some bands. Contact factory for details.