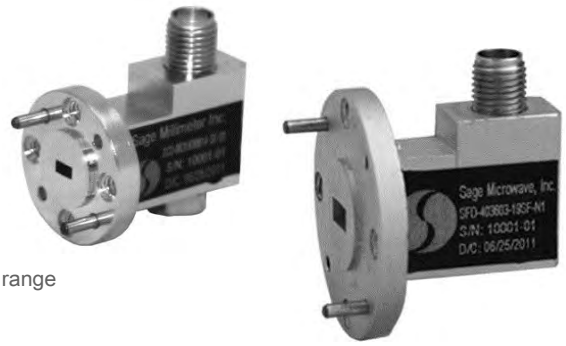
Amplitude Detectors, SFD Series



FEATURES:

- Frequency coverage: 18 to 110 GHz
- Broad or narrow band operation
- High sensitivity without tuning
- High sensitivity stability over broad temperature range
- Standard temperature range: -10 to +60 °C

APPLICATIONS:

- Radar systems
- Communication systems
- Test instrumentations

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DESCRIPTION:

SFD series amplitude detectors are GaAs Schottky beamlead diode based detectors with various RF and DC connector options to suit many different applications. Based on proprietary circuitry design and diode selection, these detectors are zero biased and exhibit high sensitivity and extreme flat output characteristics. The frequency coverage of the detectors offered are from 18 to 110 GHz. The standard models are designed to have 10 MHz video bandwidth and 1 MΩ video output impedance and capacity of handling the maximum RF input power up to + 20 dBm.

The relationship of the input power and the detected output voltage is square root. A typical input power versus detected output power curve of a Ka band detector is shown below.

CATALOG MODELS:

Band	Model Number	Frequency Range (GHz)	Sensitivity (mV/mW)	Video Band-width (MHz)	Sensitivity Flatness (dB)	Output Voltage Polarity	Outline
N/A	SFD-183403-KFSF-N1	18.0 to 40.0	1,200	10	±2.5	Negative	FD-KC
N/A	SFD-273503-2FSF-N1	26.5 to 50.0	1,200	10	±2.5	Negative	FD-2C
K	SFD-183273-42SF-N1	18.0 to 26.5	1,300	10	±1.5	Negative	FD-K1
Ka	SFD-273403-28SF-N1	26.5to 40.0	1,300	10	±1.5	Negative	FD-A1
Q	SFD-333503-22SF-N1	33.0 to 50.0	1,200	10	±1.5	Negative	FD-Q1
U	SFD-403603-19SF-N1	40.0 to 60.0	1,100	10	±1.5	Negative	FD-U1
V	SFD-503753-15SF-N1	50.0 to 75.0	1,000	10	±1.5	Negative	FD-V1
E	SFD-603903-12SF-N1	60.0 to 90.0	900	10	±2.0	Negative	FD-E1
W	SFD-753114-10SF-N1	75.0 to 110	800	10	±2.0	Negative	FD-W1

CUSTOM DESIGNED MODELS:

Sage Millimeter's custom designed amplitude detector model numbers are configured per following format. Customers may refer to the format and specify their own model numbers accordingly when placing the order.

SFD - F1N F2N CL - CR CD - XY

F1N is the start frequency of RF in MHz x 10N. For example: 40.0 GHz = 403
F2N is the center frequency of LO in MHz x 10N. For example: 55.0 GHz = 553
CR is the RF connector type
CD is the DC connector type
X is for detector type. "N" is for negative output and "P" is for positive output.
Y is for factory reserve.

Example: SFD-403553-2FSM-P1 is a custom designed amplitude detector with RF frequency from 40 GHz to 55 GHz. The RF connector is 2.4 mm (F) coaxial connector and DC connector is SMA(M) coaxial connector. It is a positive voltage output detector. "1" is a factory assigned sequential number.