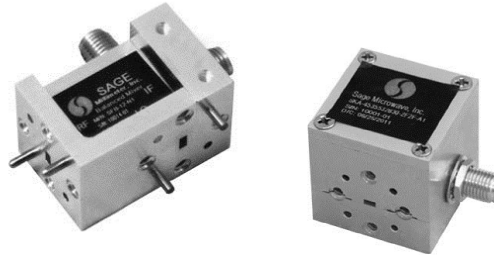


Balanced Mixers, SFB Series

FEATURES:

- ◆ Frequency coverage: 18 to 110 GHz
- ◆ Balanced configuration for low conversion loss
- ◆ Full waveguide band operation
- ◆ External bias option for low LO operation
- ◆ Standard temperature range: -10 to +60 °C



APPLICATIONS:

- ◆ Radar systems
- ◆ Communication systems
- ◆ Test instrumentations

DESCRIPTION:

SFB series balanced mixers are GaAs Schottky beamlead diode based mixers. These mixers are offered in seven common waveguide bands to cover the frequency range from 18 to 110 GHz. The catalog models employ broadband circuitry and balanced structure to offer low conversion loss and harmonics products for full waveguide band and extremely broad IF bandwidth operations. External biased option is designed when only starved LO power is available at upper waveguide bands. While catalog models focus on broader bandwidth operation for most applications, custom designed models are optimized to meet customers' specific applications needs.

CATALOG MODELS:

Band	Model Number	RF & LO Frequency Range (GHz)	IF Frequency Range (GHz)	Conversion Loss (dB)	LO Power (dBm)	Port Isolation (dB)	Bias (V/mA)	Outline
K	SFB-42-N1	18.0 to 26.5	DC to 8.0	6.0	10 to 13	15.0	N/A	FB-NK
Ka	SFB-28-N1	26.5 to 40.0	DC to 13.5	6.5	10 to 13	15.0	N/A	FB-NA
Q	SFB-22-N1	33.0 to 50.0	DC to 17.0	7.0	10 to 13	15.0	N/A	FB-NQ
Q	SFB-22-E2	33.0 to 50.0	DC to 17.0	10.0	10 to 13	15.0	N/A	FB-EQ-2
U	SFB-19-N1	40.0 to 60.0	DC to 20.0	8.0	10 to 13	15.0	N/A	FB-NU
U	SFB-19-E2	40.0 to 60.0	DC to 20.0	11.0	10 to 13	15.0	N/A	FB-EU-2
V	SFB-15-N1	50.0 to 75.0	DC to 25.0	8.5	10 to 13	15.0	N/A	FB-NV
V	SFB-15-E2	50.0 to 75.0	DC to 25.0	12.0	0 to 3	15.0	+5.0/2.0	FB-EV-2
E	SFB-12-N1	60.0 to 90.0	DC to 30.0	9.0	10 to 13	15.0	N/A	FB-NE
E	SFB-12-E2	60.0 to 90.0	DC to 30.0	13.0	0 to 3	15.0	+5.0/2.0	FB-EE-2
W	SFB-10-N1	75.0 to 110	DC to 35.0	9.5	10 to 13	15.0	N/A	FB-NW
W	SFB-10-E2	75.0 to 110	DC to 35.0	14.0	0 to 3	15.0	+5.0/2.0	FB-EW-2

CUSTOM DESIGNED MODELS:

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

SFB - RFN LON CL - CR CO CI - XY

RFN is the center frequency of RF in MHz x 10N. For example: 26.0 GHz = 263

LON is the center frequency of LO in MHz x 10N. For example: 28.0 GHz = 283

CL is the small signal conversion loss in dB. For example: 8.5 dB = 09

CR is the input connector type of RF port

CO is the connector type of LO port

CI is the connector type of IF port

X is for mixer type. "N" is for non external biased and "E" is for external biased.

Y is for factory reserve.

Example: SFB-33339309-2822SF-N1 is a custom designed balanced mixer with RF frequency centered at 33.0 GHz and LO frequency centered at 38.5 GHz, conversion loss 9 dB. The RF connector is WR-28 waveguide, LO connector is WR-22 waveguide and IF connector is SMA(F) connector. It is a non external bias mixer. "1" is a factory assigned sequential number.