

Passive Frequency Multipliers, SFP Series



FEATURES:

- ◆ Frequency coverage: 26.5 to 110 GHz
- ◆ Balanced configuration for high efficiency
- ◆ Full waveguide operation
- ◆ Low harmonic components
- ◆ No external bias required
- ◆ Standard temperature range: -10 to +60 °C

APPLICATIONS:

- ◆ Frequency extenders
- ◆ Source modules
- ◆ Communication systems
- ◆ Radar systems



DESCRIPTION:

SFP series passive frequency multipliers are GaAs Schottky beamlead diode or MMIC device based multipliers. The multipliers employ broadband circuitry and balanced structure to offer higher conversion efficiency and continuous frequency coverage for up to full waveguide band operations. These multipliers are offered in six common waveguide bands to cover the frequency range from 26.5 to 110 GHz. The balanced design enhances desired harmonic output and suppresses unwanted components. The waveguide output filters out the fundamental frequency naturally, which guarantees the excellent input and output signal isolation. Based on large signal nonlinear characteristics of the resistive device, rich harmonics are generated once the high RF power is applied. Hence, no external bias is required. While full band models offer moderate output power, higher output power and narrow bandwidth are available in custom models.

CATALOG MODELS:

Band	Model Number	Output Frequency Range (GHz)	M	Input Frequency Range (GHz)	Output Power (dBm)	Input Power (dBm)	In/Out Connectors	Outline
Ka	SFP-282SF-S1	26.5 to 40.0	2	13.25 to 20.00	6.0	23.0	SMA(F)/WR-28	FP-AS2
Ka	SFP-283SF-S1	26.5 to 40.0	3	8.67 to 13.33	4.0	23.0	SMA(F)/WR-28	FP-AS3
Q	SFP-223SF-S1	33.0 to 50.0	3	11.00 to 16.67	3.0	23.0	SMA(F)/WR-22	FP-QS3
U	SFP-192KF-S1	40.0 to 60.0	2	20.00 to 30.00	5.0	23.0	SK(F)/WR-19	FP-UK2
U	SFP-193SF-S1	40.0 to 60.0	3	13.33 to 20.00	2.0	23.0	SMA(F)/WR-19	FP-UK3
V	SFP-152KF-S1	50.0 to 75.0	2	25.00 to 37.50	5.0	23.0	K(F)/WR-15	FP-VK2
V	SFP-15228-S1	50.0 to 75.0	2	25.00 to 37.50	5.0	23.0	WR-28/WR-15	FP-VA2
V	SFP-153KF-S1	50.0 to 75.0	3	16.67 to 25.00	1.0	23.0	K(F)/WR-15	FP-VK3
E	SFP-12222-S1	60.0 to 90.0	2	30.00 to 45.00	5.0	23.0	WR-22/WR-12	FP-EQ2
E	SFP-123KF-S1	60.0 to 90.0	3	20.00 to 30.00	0.0	23.0	K(F)/WR-12	FP-EK3
W	SFP-10219-S1	75.0 to 110	2	37.50 to 55.00	6.0	23.0	WR-19/WR-10	FP-WU2
W	SFP-103KF-S1	75.0 to 110	3	25.00 to 36.67	-3.0	23.0	K(F)/WR-10	FP-WK3
W	SFP-10328-S1	75.0 to 110	3	25.00 to 36.67	-3.0	23.0	WR-28/WR-10	FP-WA3

CUSTOM DESIGNED MODELS:

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

SFP- F1N F2N M PO - CO CI - XY

F1N is the output start frequency of the multiplier in MHz x 10N. For example: 26.0 GHz = 263

F2N is the output end frequency of the multiplier in MHz x 10N. For example: 40.0 GHz = 403

M is the harmonic number. For example: 2nd harmonic = 02

PO is the output power in dBm. For example: 2 dBm = 02

CO is the output connector type and **CI** is the input connector type

XY are for factory reserve.