

Active Frequency Multipliers, SFA Series

FEATURES:

- ◆ Frequency coverage: 26.5 to 110 GHz
- ◆ High efficiency and higher output power
- ◆ Up to full waveguide operation
- ◆ Low harmonic components
- ◆ Standard temperature range: -10 to +60 °C



APPLICATIONS:

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

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DESCRIPTION:

SFA series active frequency multipliers are GaAs Schottky beamlead diode or MMIC device based multipliers. The multipliers employ broadband circuitry design to offer continuous frequency coverage for up to full waveguide band operations. The standard models are offered in 5 common waveguide bands to cover the frequency range from 26.5 to 98.0 GHz. These multipliers are designed and constructed with integrated filter to allow the desired harmonic output and to suppress unwanted components. The waveguide output filters out the fundamental and lower frequency components naturally, which guarantees the excellent input and output signal isolation. While full band or broad models offer moderate output power, higher output power and narrow bandwidth models are available as custom designs. The bias voltage is +12.0 Volt for all models.

CATALOG MODELS:

CUSTOM DESIGNED MODELS:

Band	Model Number	Output Frequency Range (GHz)	M	Input Frequency Range (GHz)	Output Power (dBm)	Input Power (dBm)	In/Out Connectors	Outline
Ka	SFA-282SF-S1	26.5 to 40.0	2	13.25 to 20.00	20.0	5.0	SMA(F)/WR-28	FA-A1
Ka	SFA-283SF-S1	26.5 to 40.0	3	8.67 to 13.33	20.0	5.0	SMA(F)/WR-28	FA-A1
Ka	SFA-284SF-S1	26.5 to 40.0	4	6.63 to 10.00	20.0	5.0	SMA(F)/WR-28	FA-A1
Q	SFA-222KF-S1	37.0 to 45.0	2	18.50 to 22.25	20.0	5.0	K(F)/WR-22	FA-Q1
Q	SFA-224SF-S1	37.0 to 45.0	4	12.33 to 15.00	20.0	5.0	SMA(F)/WR-22	FA-Q1
U	SFA-192KF-S1	45.0 to 55.0	2	22.50 to 25.00	18.0	5.0	K(F)/WR-19	FA-U1
U	SFA-194SF-S1	45.0 to 55.0	4	11.25 to 12.50	18.0	5.0	SMA(F)/WR-19	FA-U1
V	SFA-152KF-S1	50.0 to 66.0	2	25.00 to 33.00	16.0	5.0	K(F)/WR-15	FA-V1
V	SFA-154SF-S1	50.0 to 66.0	4	12.50 to 16.50	16.0	5.0	SMA(F)/WR-15	FA-V1
E	SFA-123KF-S1	72.0 to 90.0	3	24.00 to 30.00	8.0	5.0	K(F)/WR-12	FA-E1
E	SFA-126SF-S1	72.0 to 90.0	6	12.00 to 15.00	8.0	5.0	SMA(F)WR-12	FA-E1
W	SFA-104KF-S1	90.0 to 98.0	4	22.50 to 24.50	18.0	5.0	K(F)WR-10	FA-W1
W	SFA-106SF-S1	90.0 to 98.0	6	15.00 to 16.33	18.0	5.0	SMA(F)/WR-10	FA-W1

Sage Millimeter's custom designed active 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.

SFA- 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: 20 dBm = 20

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

XY are for factory reserve.

Example: SFA-503603420-15SF-C1 is a custom designed active frequency quadrupler with output frequency from 50.0 GHz to 60.0 GHz and output power of 20 dBm. The output connector is WR-15 waveguide, input connector is SMA(F). "1" is a factory assigned sequential number.