SFA-194SF-S1

Rev. 1.0

U-Band, X4 Active Frequency Multiplier, +18 dBm P_{out}

Description:

Model SFA-194SF-S1 is an active X4 frequency multiplier. The multiplier has an input frequency of 10 to 15 GHz with a minimum input power of +0 dBm and an output frequency of 40 to 60 GHz with a typical output power of +18 dBm. The multiplier also has a typical harmonic suppression of -15 dBc. The DC power requirement for the multiplier is +8 V_{DC}/800 mA. The input port configuration is a female SMA connector and the output is a WR-19 waveguide with a UG-383/U-M flange. Other port configurations are available under different model numbers.

Features:

- Full Waveguide Band Coverage
- Low Harmonic Emission
- High Output Power
- Low Harmonic Components

Applications:

- Frequency Extenders
- Source Module
- Communication Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	10 GHz		15 GHz
Input Power		+0 dBm	+8 dBm
Output Frequency	40 GHz		60 GHz
Output Power		+18 dBm	
Harmonic Suppression		-15 dBc	
Spurious		-60 dBc	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+15 V_{DC}
DC Supply Current		800 mA	
Specification Temperature		+25 ˚C	
Case Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input Port	SMA (F)
Output Port	WR-19 Waveguide with UG-383/U-M Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.20” (W) X 2.00” (L) X 0.50” (H)
Outline	FA-SU-1

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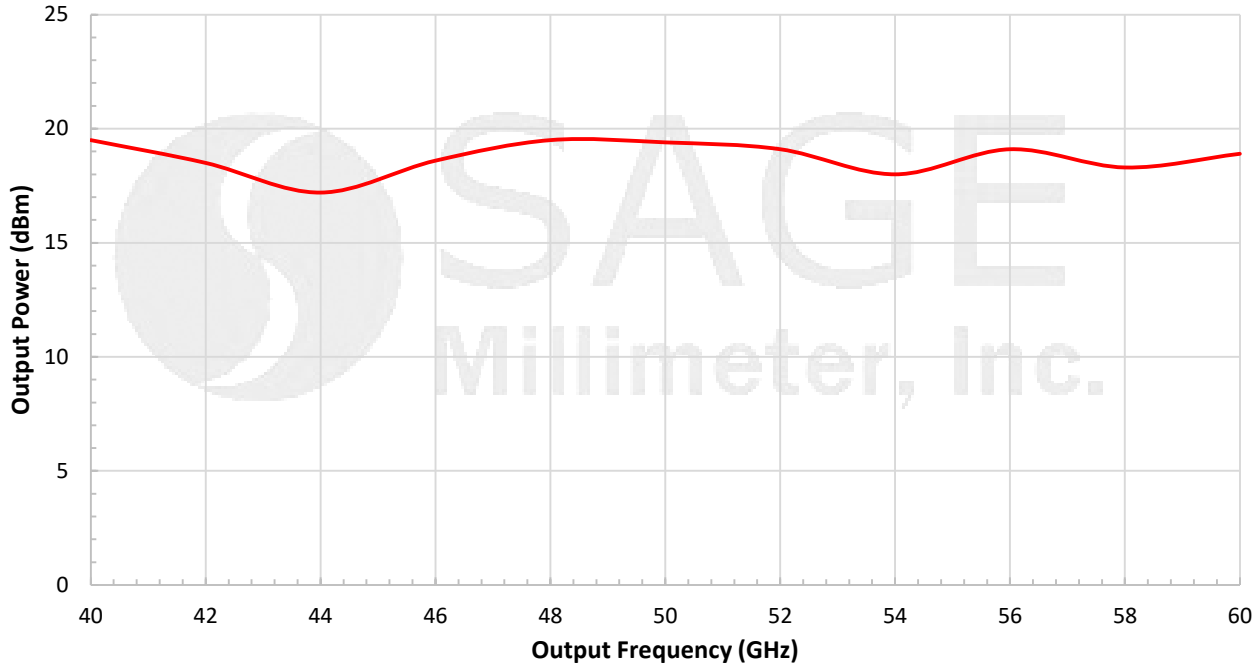
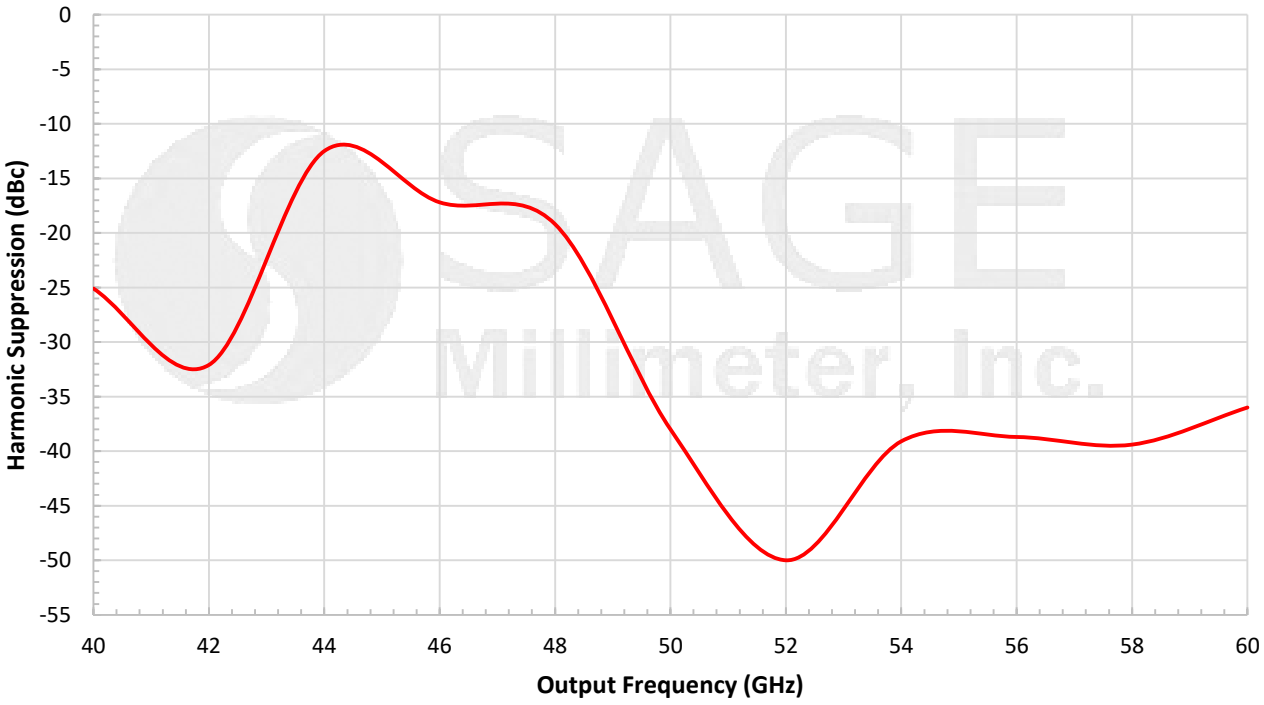
Typical Output Power vs. Output Frequency

Bias: +8 V_{DC}/800 mA



Typical Harmonic Suppression vs. Output Frequency

Bias: +8 V_{DC}/800 mA



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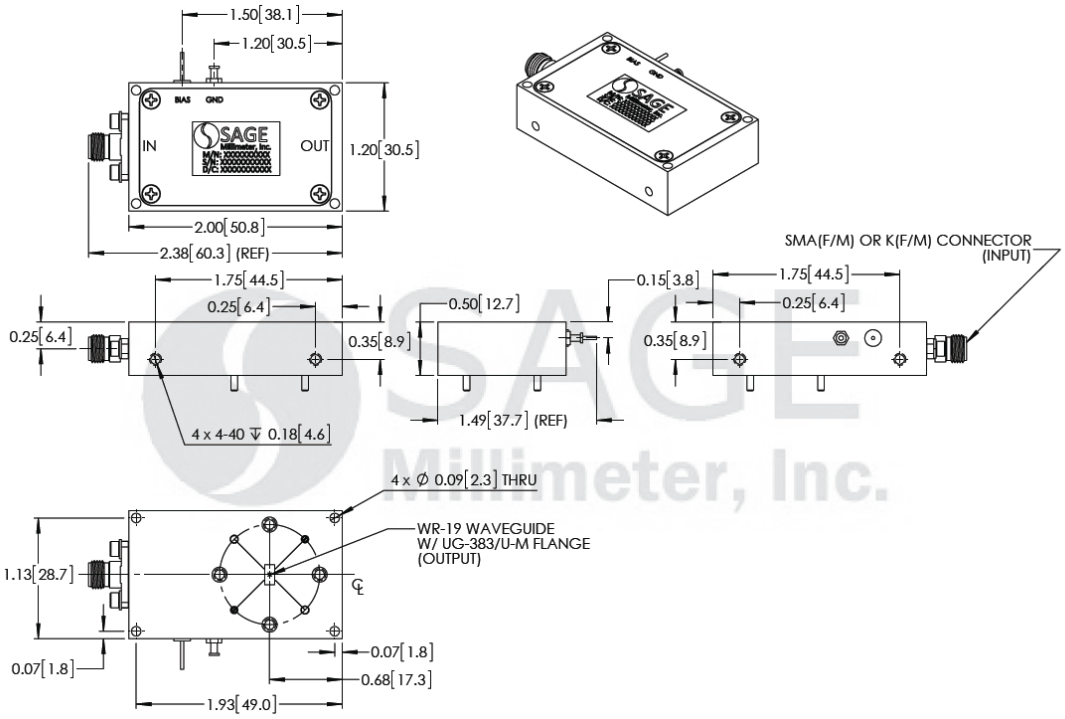
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25˚C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed +50˚C. Use proper Heatsink or fan if necessary.

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