SFA-753114616-10SF-E1-1-ET

Rev 1.1

W-Band, X6 Active Frequency Multiplier, 75 to 113 GHz, +20 dBm P_{out} Extended Temperature

Description:

Model SFA-753114616-10SF-E1-1-ET is an active X6 frequency multiplier. The multiplier has an input frequency of 12.5 to 18.83 GHz with a typical input power of +3 dBm and an output frequency of 75 to 113 GHz with a minimum output power of +10 dBm at 113 GHz. The multiplier also has a typical harmonic suppression of -20 dBc. The DC power requirement for the multiplier is +13 V_{DC}/700 mA. The input port configuration is a female SMA connector and the output is a WR-10 waveguide with a UG-387/U-M anti-cocking flange. Other port configurations are available under different model numbers. This model is tested to operate in the extended temperature range of -40° C to +85° C.

Features:

- Low Harmonic Components
- High Output Power

Applications:

- Frequency Extenders
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	12.5 GHz		18.83 GHz
Input Power		+3 dBm	+20 dBm
Output Frequency	75 GHz		113 GHz
Output Power	+10 dBm	+20 dBm	
Harmonic Suppression		-20 dBc	
Spurious		-60 dBc	
Port Return Loss		8 dB	
DC Voltage		+13 V_{DC}	+16 V_{DC}
DC Supply Current		700 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

Mechanical Specifications:

Item	Specification
Input Port	SMA (F)
Output Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.10” (W) X 1.80” (L) X 0.75” (H)
Outline	FA-SW-2CW-A-1.8

www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
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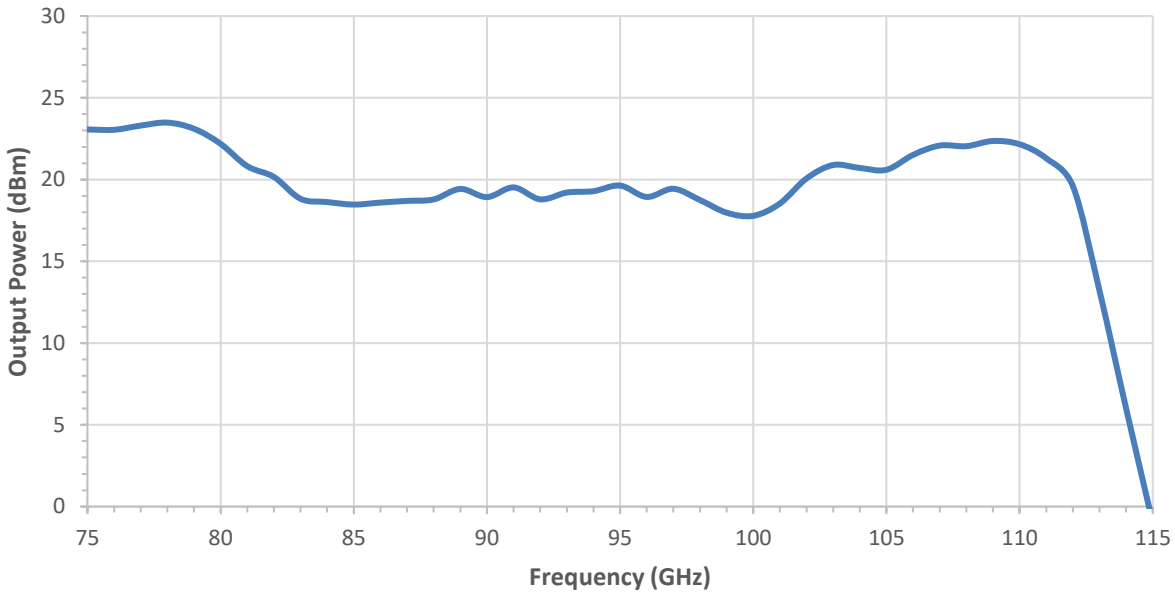
Output Power vs. Frequency

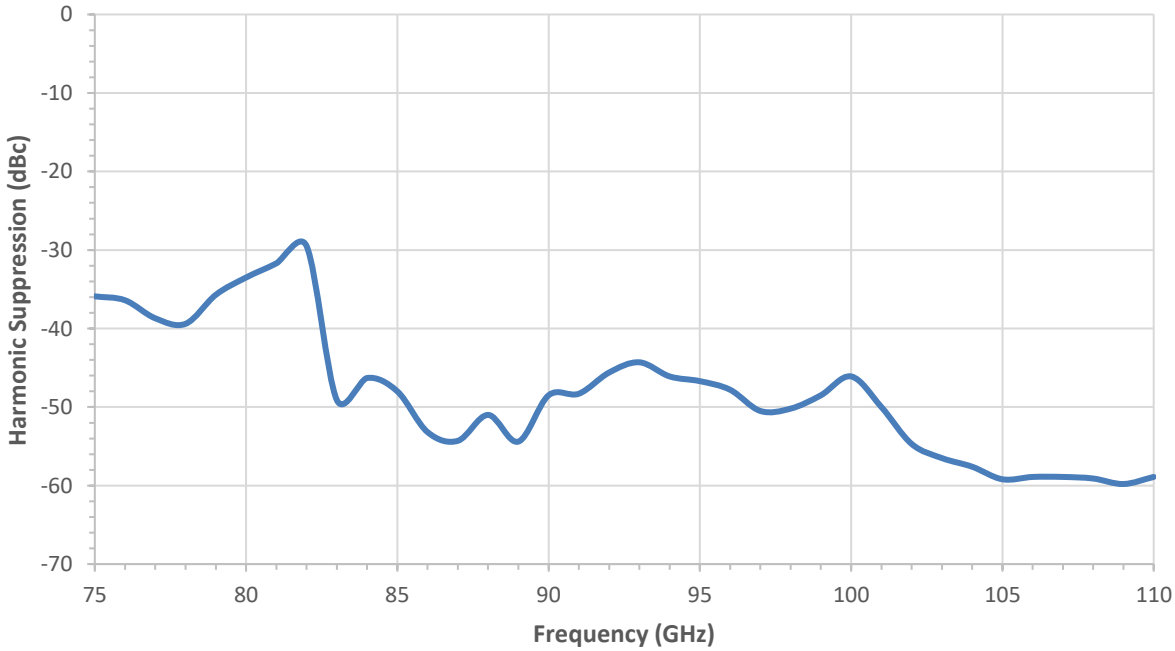
Bias: +13 V_{DC}/701 mA

RF saturation: +13 Vdc/770 mA; Input Power = +3 dBm



Harmonic Suppression vs. Frequency

Bias: +13 V_{DC}/770 mA; Input Power = +3 dBm



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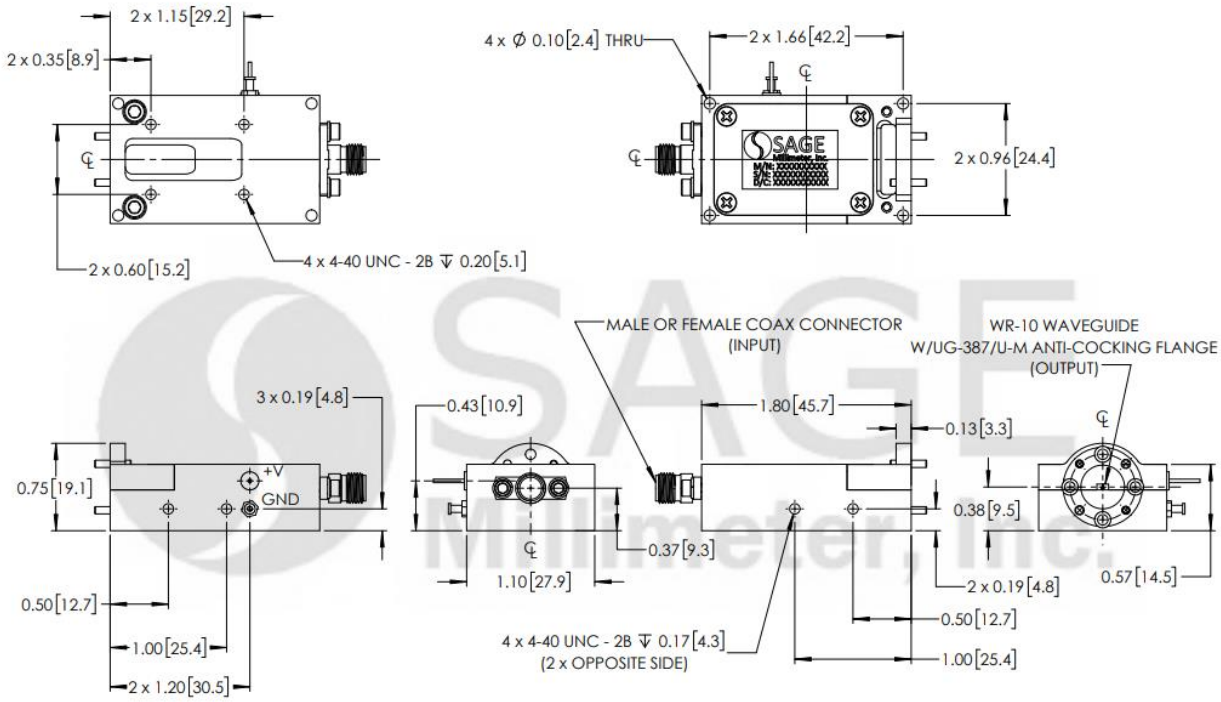
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.
- 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.
- The case temperature of the device shall never exceed +50 ˚C. Use proper heatsink or fan if necessary.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**