

2x Active Frequency Multiplier, 13 GHz to 24.5 GHz Output Frequency, 12.0 dB Conversion Gain, 2.92mm Output

The FMFX2029 is an active Frequency Multiplier (2x) module that covers a broad output frequency bandwidth from 13 GHz to 24.5 GHz. Typical performance includes 12 dB conversion gain, 25 dB fundamental Isolation, with an RF input drive level of +3 dBm. DC bias is +12Vdc with 95 mA DC current. Maximum RF input power is +13 dBm with an operational temperature range of -40°C to +85°C. The rugged and compact package assembly supports an input SMA female connector and output 2.92mm female connector. And for highly reliable operation, the model is designed to meet a variety of MIL-STD-202 test conditions including shock, vibration, altitude, and humidity.



Electrical Specifications (TA= 25°C, VDC1 = 12 Vdc, IDC1 = 95 mA)

Description	Min	Typ	Max	Units
Input Frequency Range	6.5		12.25	GHz
Output Frequency Range	13		24.5	GHz
Impedance		50		Ohms
Input Power (CW)	+0	+3	+6	dBm
Output Power	+10	+14		dBm
Conversion Gain (Pin = +3 dBm)	8	12		dB
F0 Isolation* (Fin=9.5GHz/Fout=19GHz)	20	25		dB
3F0 Isolation* (Fin=9.5GHz/Fout=28.5GHz)	20	25		dB
Phase Noise @100kHz Offset		-136		dBc/Hz
Input VSWR(Fin=9.5GHz)		2:1	2.5:1	
Output VSWR(Fout=19GHz)		1.6:1	2:1	
Operating DC Voltage 1	9	12	15	V
Operating DC Current 1		95	110	mA

*Isolation with respect to desired frequency output power level at 19GHz

Mechanical Specifications

Size	
Length	1.25 in [31.75 mm]
Width	1.25 in [31.75 mm]
Height	0.563 in [14.3 mm]
Weight	0.009 lbs [4.08 g]
Package Type	Drop-In
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +105 deg C

Humidity	MIL-STD-202, Method 103B, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B
Altitude	MIL-STD-202F, Method 105C, Condition B

Features:

- 2x Active Frequency Multiplier
- 6.5 GHz to 12.5 GHz Input Frequency
- 13 GHz to 24.5 GHz Output Frequency
- Conversion Gain 12 dB typ
- Fundamental Isolation 25 dB typ
- RF Input Drive Level +3 dBm
- Max RF Input Power +13 dBm
- DC Bias +12Vdc @ 95 mA
- SMA Female Input and 2.92mm Female Output Connectors
- -40°C to +85°C Operating Temperature
- RoHS & REACH Compliant
- 50 Ohm Design
- Rugged Design meets MIL-STD-202 Test Conditions

Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

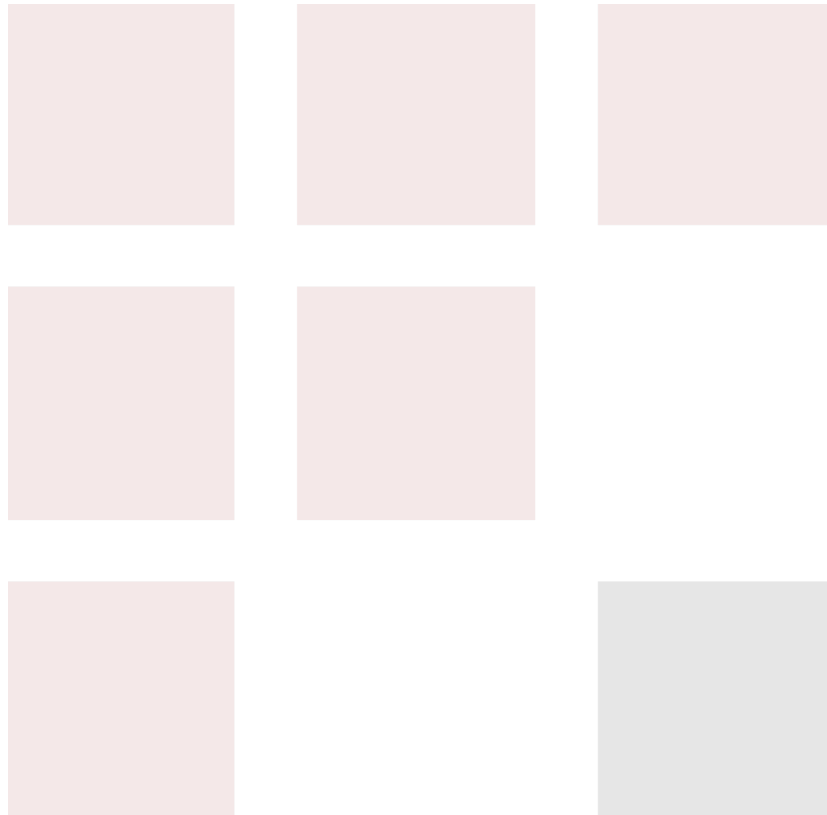
Notes:

Absolute Maximum Rating

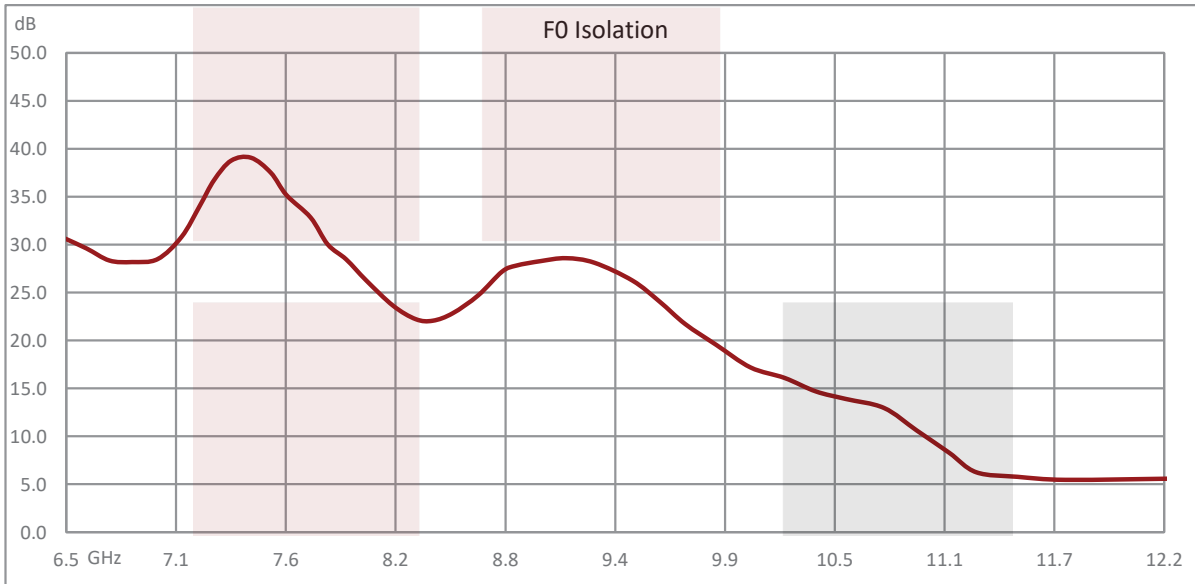
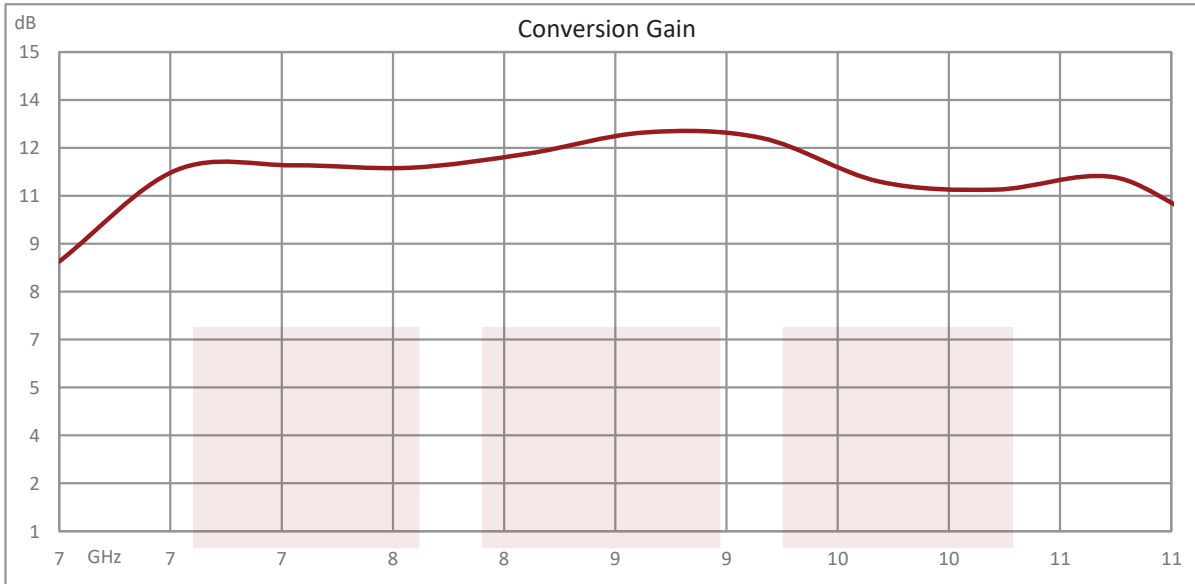
Parameter	Absolute Maximum
RF Input Power	+13dBm
DC Supply Voltage	+25V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

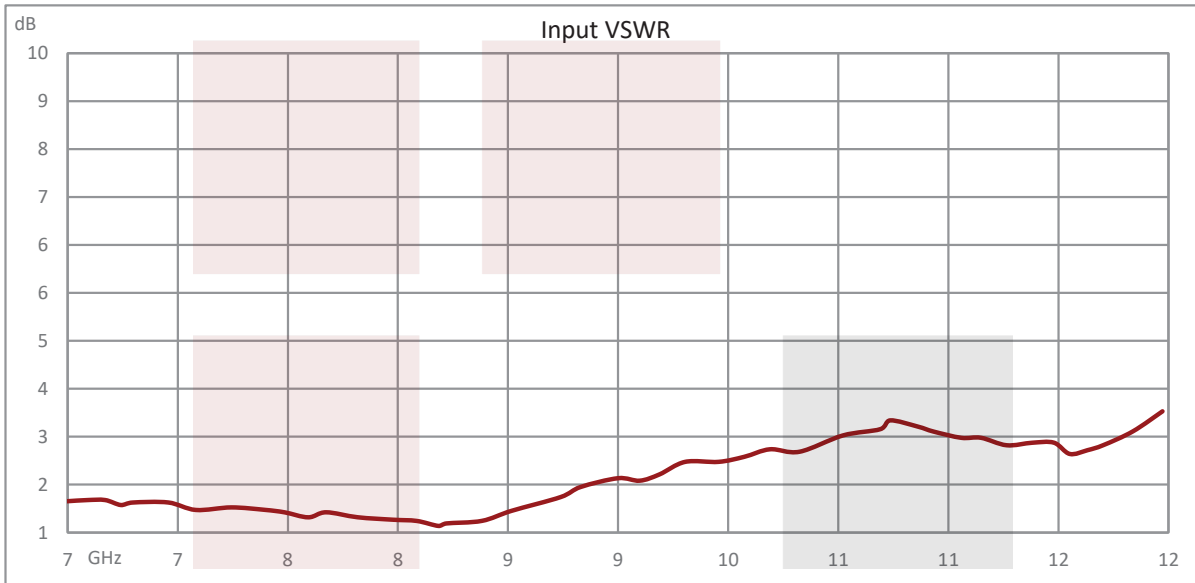
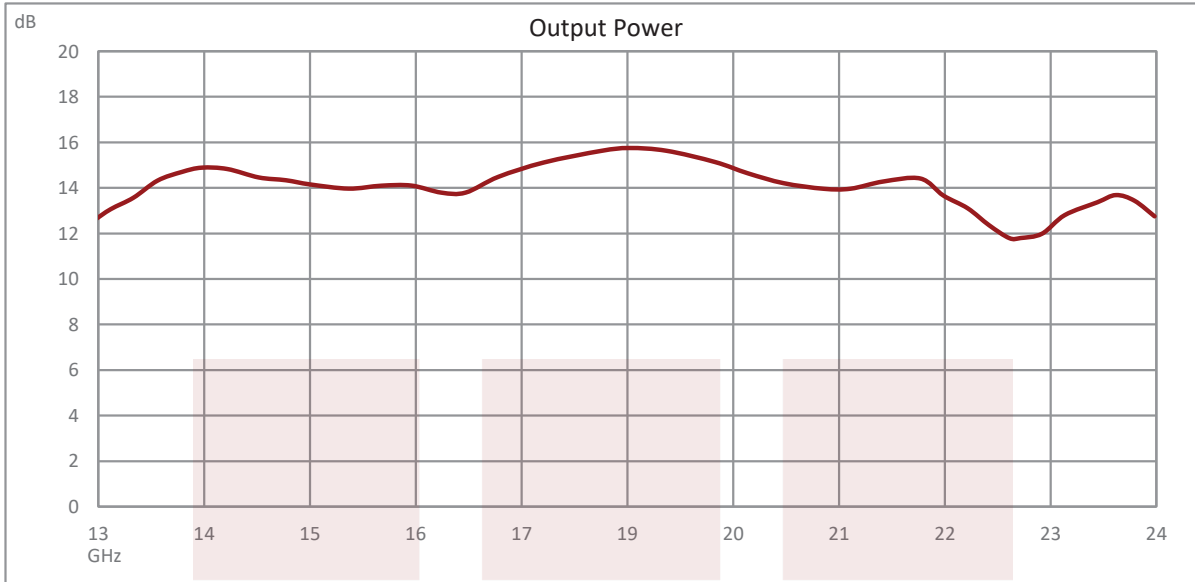


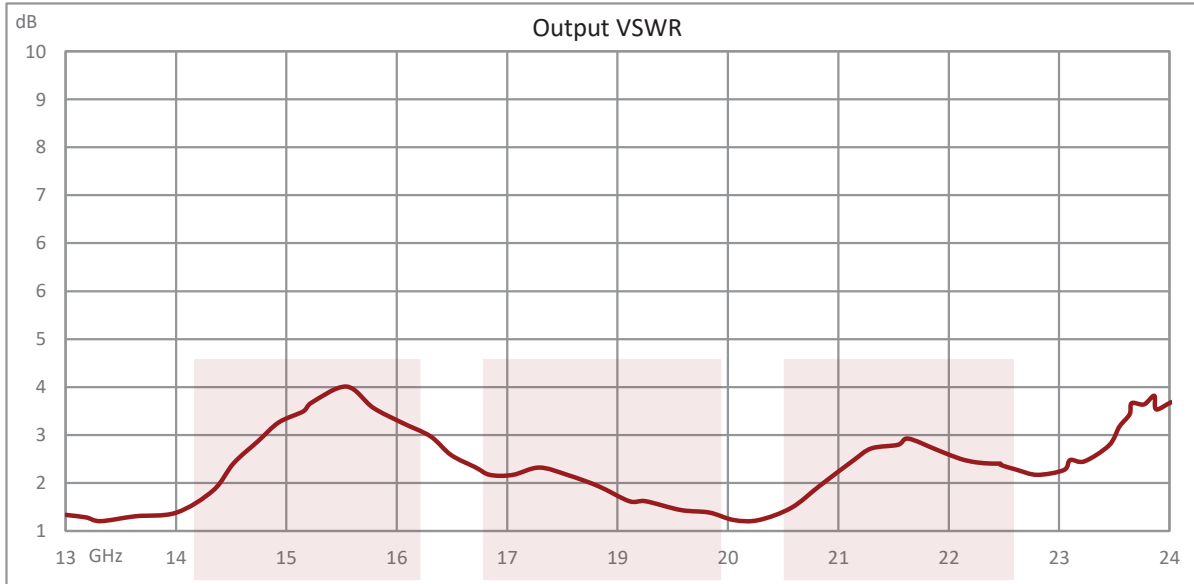
ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved



Typical Performance Data





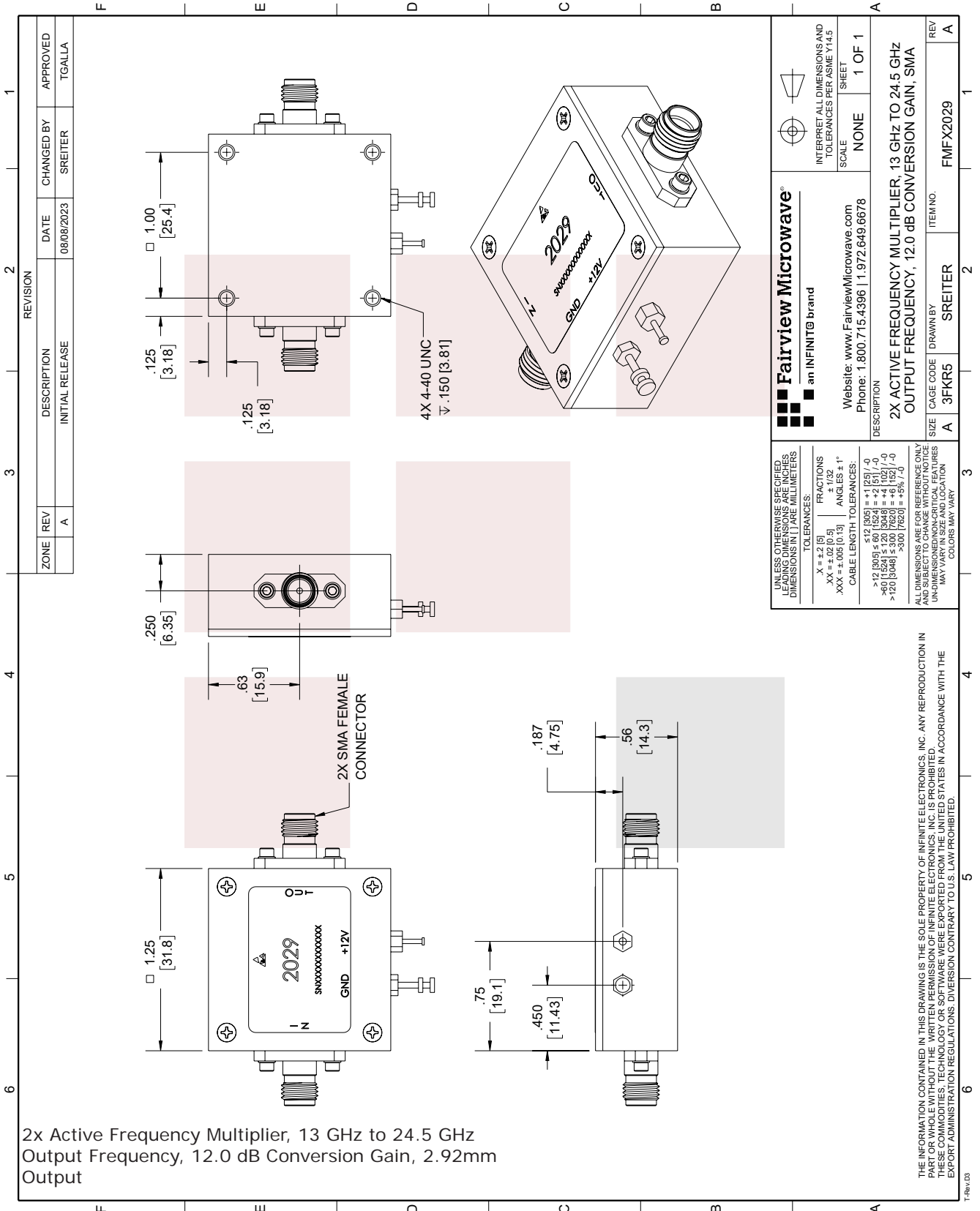


2x Active Frequency Multiplier, 13 GHz to 24.5 GHz Output Frequency, 12.0 dB Conversion Gain, 2.92mm Output from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [2x Active Frequency Multiplier, 13 GHz to 24.5 GHz Output Frequency, 12.0 dB Conversion Gain, SMA FMFX2029](#)

URL: <https://www.fairviewmicrowave.com/sma-active-2x-frequency-multiplier-24.5-ghz-10-dbm-fmfx2029-p.aspx>

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2x Active Frequency Multiplier, 13 GHz to 24.5 GHz
Output Frequency, 12.0 dB Conversion Gain, 2.92mm
Output

Fairview Microwave an INFINIT [®] brand Website: www.FairviewMicrowave.com Phone: 1.800.715.4396 1.972.649.6678		INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5 SCALE: NONE SHEET: 1 OF 1	
DESCRIPTION 2X ACTIVE FREQUENCY MULTIPLIER, 13 GHz TO 24.5 GHz OUTPUT FREQUENCY, 12.0 dB CONVERSION GAIN, SMA			
UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS TOLERANCES: .X = ±.2 [5] .XX = ±.02 [0.5] .XXX = ±.005 [0.13] FRACTIONS: ± 1/32 ANGLES ± 1° CABLE LENGTH TOLERANCES: >12 [305] ≤ 60 [1524] = +.2 [5] / -0 >60 [1524] ≤ 300 [7620] = +.6 [152] / -0 >120 [3048] ≤ 300 [7620] = +.6 [152] / -0 >300 [7620] = +.5% / -0	ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE UN-DIMENSIONED NON-CRITICAL FEATURES MAY VARY FROM INDICATION COLORS MAY VARY		
ZONE REV A	DESCRIPTION INITIAL RELEASE	DATE 08/08/2023	CHANGED BY SREITER
APPROVED TGALLA	REVISION 1		
SIZE A CAGE CODE 3FKR5	DRAWN BY SREITER	ITEM NO. FMFX2029	REV A

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