



Active 3x Frequency Multiplier, 2100 MHz to 3000 MHz
Output Frequency, 12 dB Conversion Gain, SMA

Frequency Multipliers Technical Data Sheet

PE88X2019

Features

- Active Frequency Tripler (x3)
- 700 to 1000 MHz Input Frequency
- 2100 to 3000 MHz Output Frequency
- Conversion Gain 12 dB typ
- Fundamental Isolation 25 dB typ
- RF Input Drive Level: 0 dBm
- Max RF Input Power: +23 dBm
- DC Bias: +12Vdc @ 150 mA
- SMA Female Connectors
- -40° C to +85° C Operating Temperature
- 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

Description

The PE88X2019 is an active Frequency Tripler (x3) module that covers a broad output frequency bandwidth from 2100 MHz to 3000 MHz. Typical performance includes 12 dB conversion gain, 25 dB fundamental Isolation, with an RF input drive level of 0 dBm. DC bias is +12Vdc with 150 mA DC current. Maximum RF input power is +23 dBm with an operational temperature range of -40° C to +85° C. The rugged and compact package assembly supports SMA female connectors. 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 = 150 mA, Pin = 0 dBm)

Description	Minimum	Typical	Maximum	Units
Input Frequency Range	700		1,000	MHz
Output Frequency Range	2,100		3,000	MHz
Impedance		50		Ohms
Conversion Gain	7	12		dB
Fundamental Isolation (F0)*	15	25		dB
2F0 Isolation*	25	35		dB
4F0 Isolation*	25	35		dB
Input VSWR(@ 850 MHz)		1.1:1	1.5:1	
Output VSWR(@ 2550 MHz)		1.6:1	2.5:1	
Operating DC Voltage 1	10	12	15	V
Operating DC Current 1		150	170	mA

*Isolation with respect to output power level

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Active 3x Frequency Multiplier, 2100 MHz to 3000 MHz Output Frequency, 12 dB Conversion Gain, SMA PE88X2019](#)



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Mechanical Specifications

Size

Length	1.25 in [31.75 mm]
Width	0.563 in [14.3 mm]
Height	1.25 in [31.75 mm]
Weight	0.003 lbs [1.36 g]
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

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

Humidity

Shock

Vibration

Altitude

MIL-STD-202, Method 103B, Condition B
MIL-STD-202F, Method 213B, Condition B
MIL-STD-202F, Method 204D, Condition B
MIL-STD-202F, Method 105C, Condition B

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

Plotted and Other Data

Notes:

Absolute Maximum Rating

Absolute Maximum Ratings

Parameter	Maximum
RF Input Power	+23dB
Operating Temperature	-40 °C to +85 °
Storage Temperature	-55 °C to +105 °

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Active 3x Frequency Multiplier, 2100 MHz to 3000 MHz Output Frequency, 12 dB Conversion Gain, SMA PE88X2019](#)

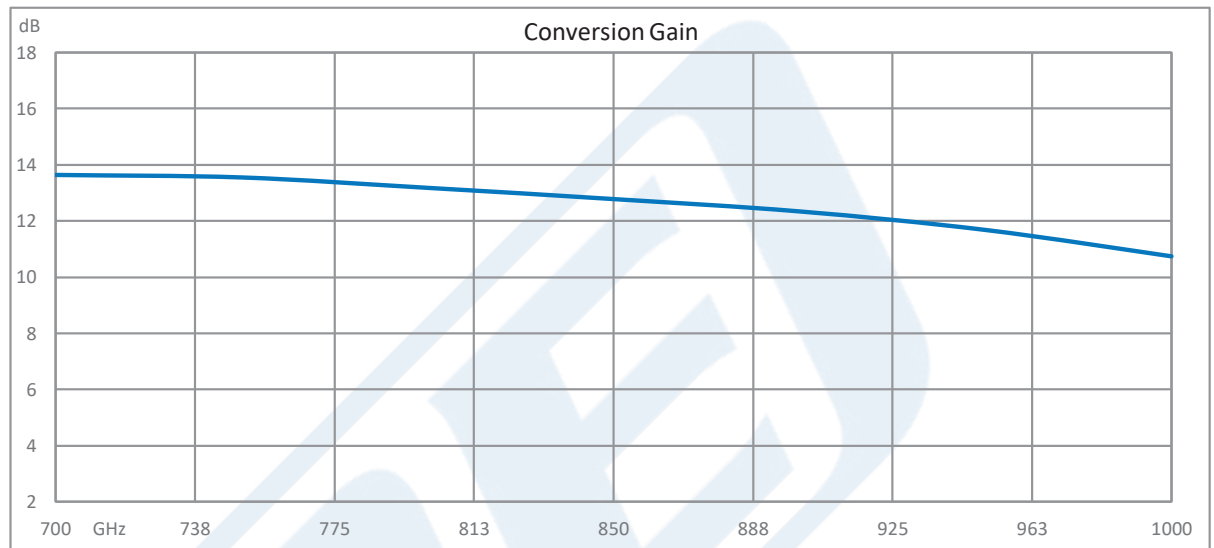


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Typical Performance Data



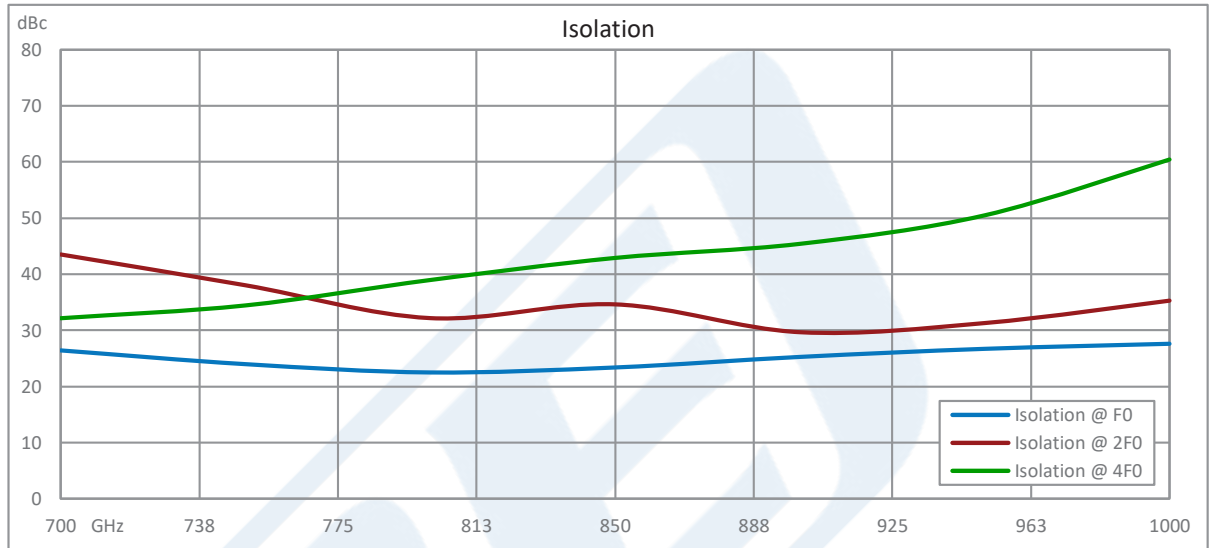
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Active 3x Frequency Multiplier, 2100 MHz to 3000 MHz Output Frequency, 12 dB Conversion Gain, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: <https://www.pasternack.com/active-3x-frequency-multiplier-3-ghz-sma-pe88x2019-p.aspx>

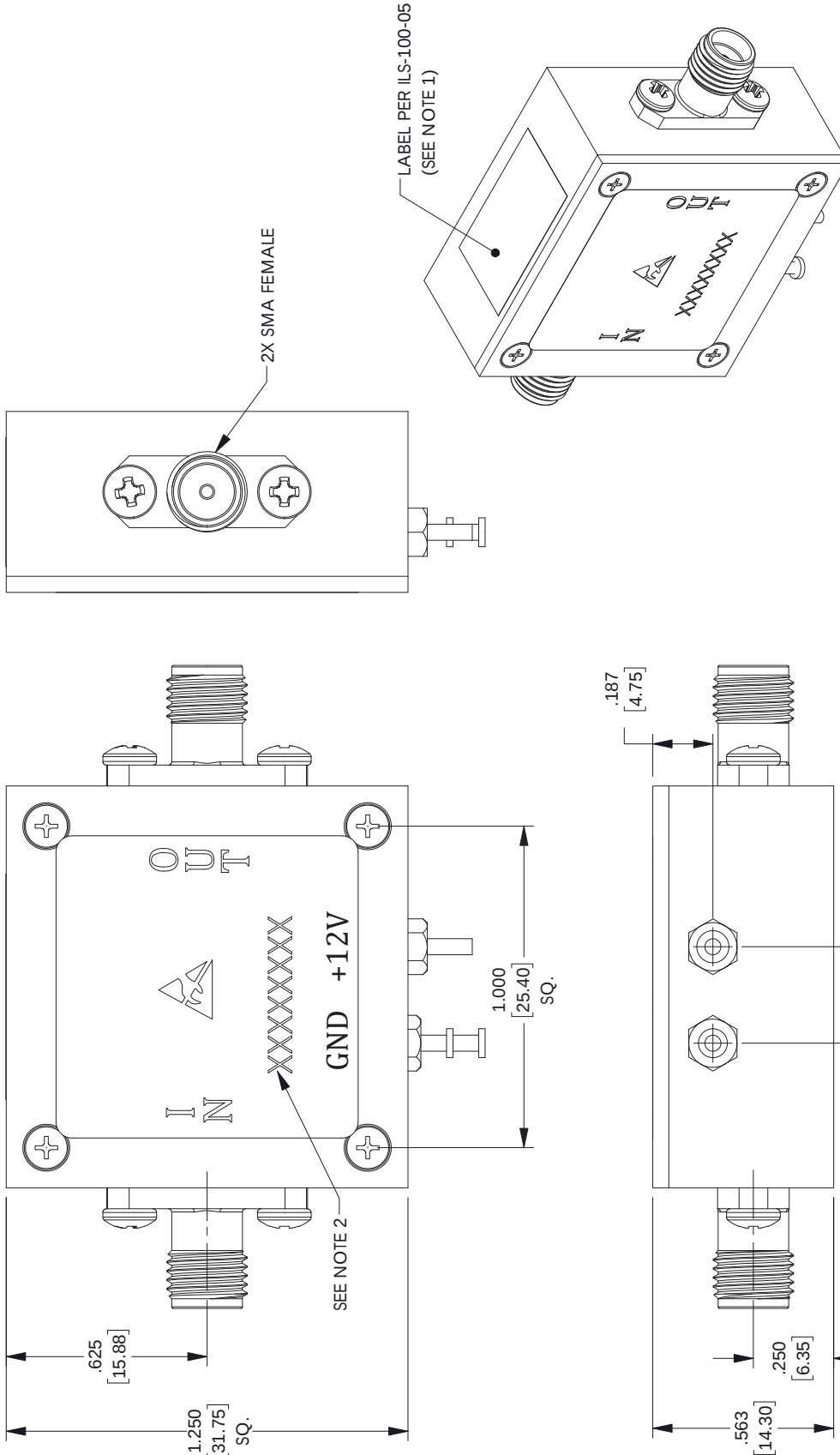
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PE88X2019 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03-24-2021	TGALLA



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TOLERANCES: X = ± .2 [5.08] FRACTIONS XX = ± .02 [.51] +1/32 XXX = ± .005 [.13] ANGLES ± 1° CABLE LENGTH (L) TOLERANCES: L ≤ 12 [305] ± .1 [25] / -0 12 [305] < L ≤ 60 [1524] ± .2 [51] / -0 60 [1524] < L ≤ 120 [3048] ± .4 [102] / -0 120 [3048] < L ≤ 300 [7620] ± .6 [152] / -0 300 [7620] < L = +5% / -0 ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.			SIZE A			CAGE CODE 53919		DRAWN BY DFRISIELLO		ITEM NO. PE88X2019		REV A	

NOTES:

1. LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY.
LABEL LOCATION SHOULD BE SAME AS SHOWN.
2. SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.

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