



2x Frequency Multiplier, 1800 MHz to 4000 MHz
Output Frequency, 14 dB Conversion Loss, SMA

Frequency Multipliers Technical Data Sheet

PE88X2011

Features

- Passive Frequency Doubler (x2)
- 900 to 1800 MHz input Frequency
- 1800 to 4000 MHz output frequency
- Conversion loss 14 dB typ
- Fundamental Isolation 35 dB typ
- RF Input Drive Level: 12 to 18 dBm
- Max RF Input Power: +27 dBm
- 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 PE88X2011 is a passive Frequency Doubler (x2) module that covers a broad output frequency bandwidth from 1800 MHz to 4000 MHz. Typical performance includes 14 dB conversion loss, 35 dB fundamental isolation, with an RF input drive level of 12 to 18 dBm. The design does not require any DC voltage to operate. Maximum RF input power is +27 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, Pin = +15 dBm)

Description	Minimum	Typical	Maximum	Units
Input Frequency Range	900		1,800	MHz
Output Frequency Range	1,800		4,000	MHz
Impedance		50		Ohms
Input Power (CW)	+12		+18	dBm
Conversion Loss		14	17	dB
Fundamental Isolation (F0)*	20	35		dB
3F0 Isolation*	25	40		dB
Input VSWR(S11 @ 1.42 GHz)		2.2:1	3.5:1	
Output VSWR(S22 @ 2.85 GHz)		2.7:1	3.5:1	

*Isolation with respect to output power level of 2F0

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2x Frequency Multiplier, 1800 MHz to 4000 MHz Output Frequency, 14 dB Conversion Loss, SMA PE88X2011](#)



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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	-65 to +150 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

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

Plotted and Other Data

Notes:

Absolute Maximum Rating

Absolute Maximum Ratings

Parameter	Maximum
RF Input Power	+27dB
Operating Temperature	-40 °C to +85 °
Storage Temperature	-65 °C to +150 °

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2x Frequency Multiplier, 1800 MHz to 4000 MHz Output Frequency, 14 dB Conversion Loss, SMA PE88X2011](#)

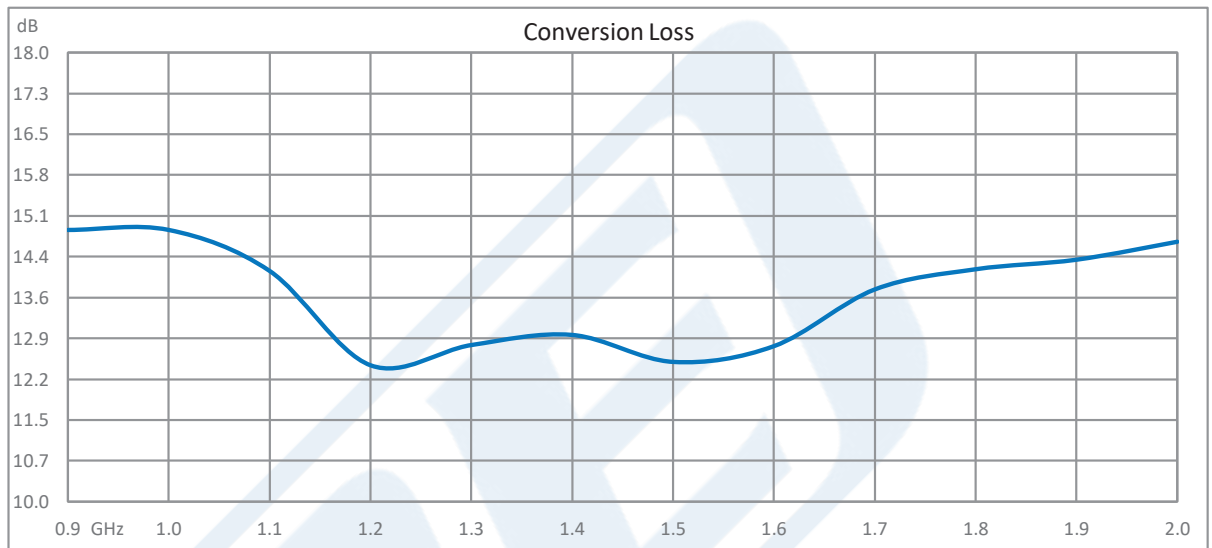


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Typical Performance Data



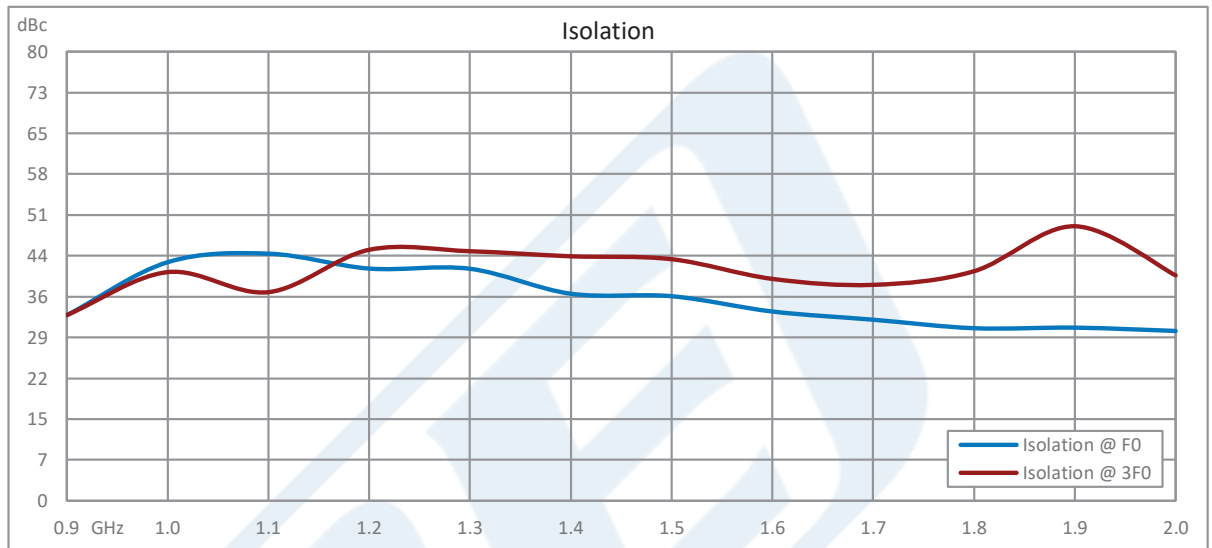
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2x Frequency Multiplier, 1800 MHz to 4000 MHz Output Frequency, 14 dB Conversion Loss, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2x Frequency Multiplier, 1800 MHz to 4000 MHz Output Frequency, 14 dB Conversion Loss, SMA PE88X2011](https://www.pasternack.com/2x-frequency-multiplier-4-ghz-sma-14-db-pe88x2011-p.aspx)

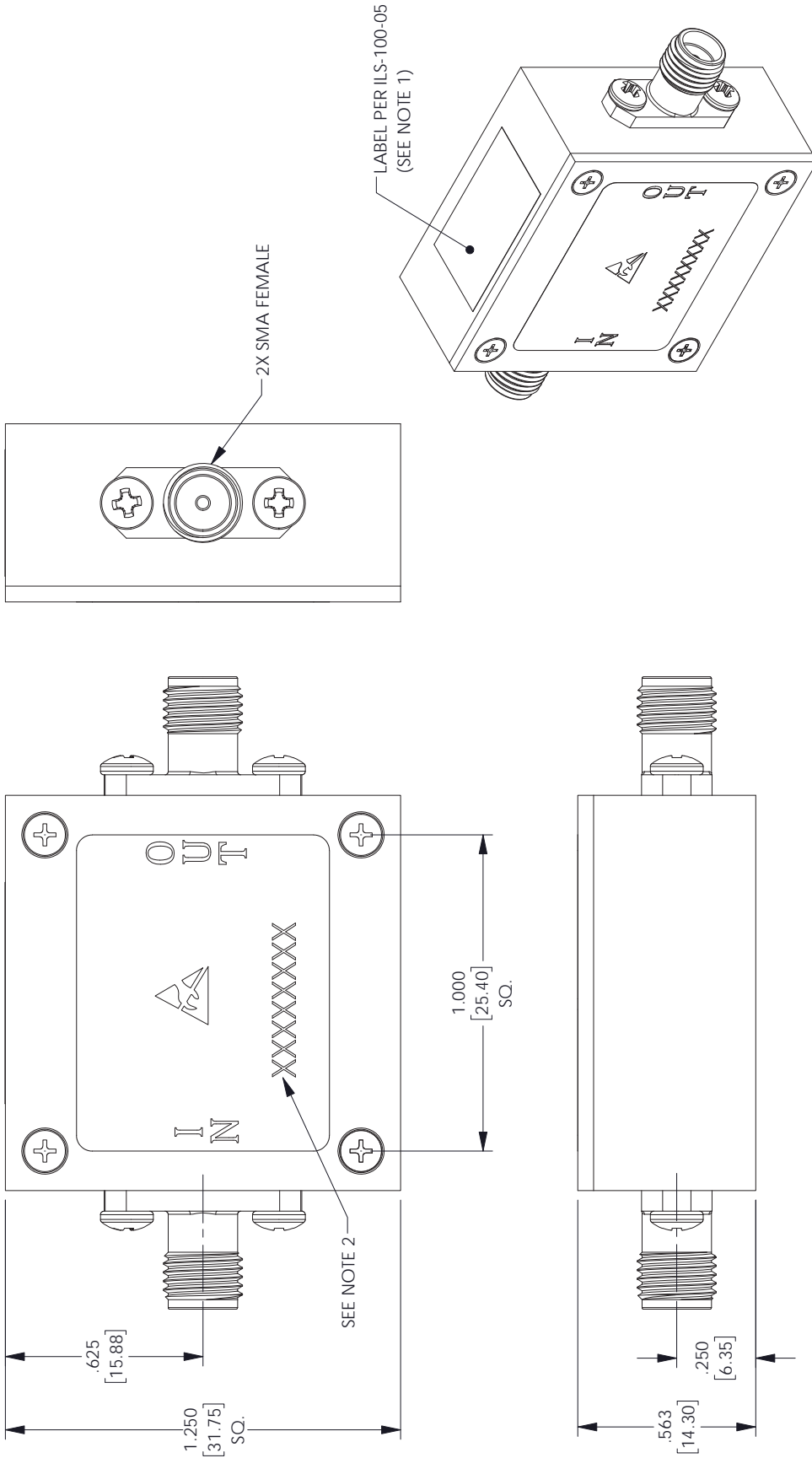
URL: <https://www.pasternack.com/2x-frequency-multiplier-4-ghz-sma-14-db-pe88x2011-p.aspx>

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PE88X2011 CAD Drawing

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Frequency, 14 dB Conversion Loss, SMA

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



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE IN INCHES DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:

X = +.2 [5.08] FRACTIONS
 .XX = +.02 [.51] +.132
 .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.

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

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SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	DFRISIELLO	PE88X2011
REV	A		

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