

## SMA Female 2x Frequency Multiplier with 20 MHz to 2 GHz Output and 12 dB Conversion Loss



### FMFX2010

#### Features

- Passive Frequency Doubler (x2)
- 10 to 1000 MHz input Frequency
- 20 to 2000 MHz output frequency
- Conversion loss 12.0 dB typ
- Fundamental Isolation 35 dB typ
- RF Input Drive Level: 12 to 16 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 FMFX2010 is a passive Frequency Doubler (x2) module that covers a broad output frequency bandwidth from 20 MHz to 2000 MHz. Typical performance includes 12.0 dB conversion loss, 35 dB fundamental isolation, with an RF input drive level of 12 to 16 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 = +14 dBm)

Description	Min	Typ	Max	Units
Input Frequency Range	10		1,000	MHz
Output Frequency Range	20		2,000	MHz
Impedance		50		Ohms
Input Power (CW)	+12		+16	dBm
Conversion Loss		12	16	dB
Fundamental Isolation (F0)*(Fin=12GHz/Fout=36GHz)	20	35		dB
3F0 Isolation*(Fin=12GHz/Fout=36GHz)	20	37		dB
Input VSWR (S11 @ 500 MHz)		1.5:1	2:1	
Output VSWR (S22 @ 1000 MHz)		1.5:1	2:1	

\*Isolation with respect to output power level of 2F0

#### 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]

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**FMFX2010**

**Configuration**

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**

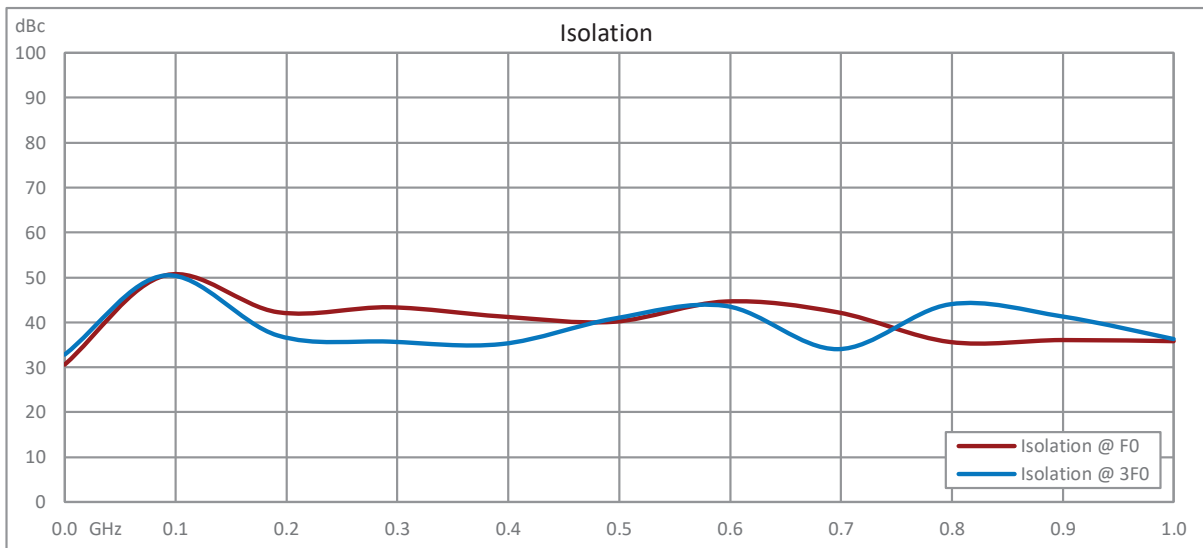
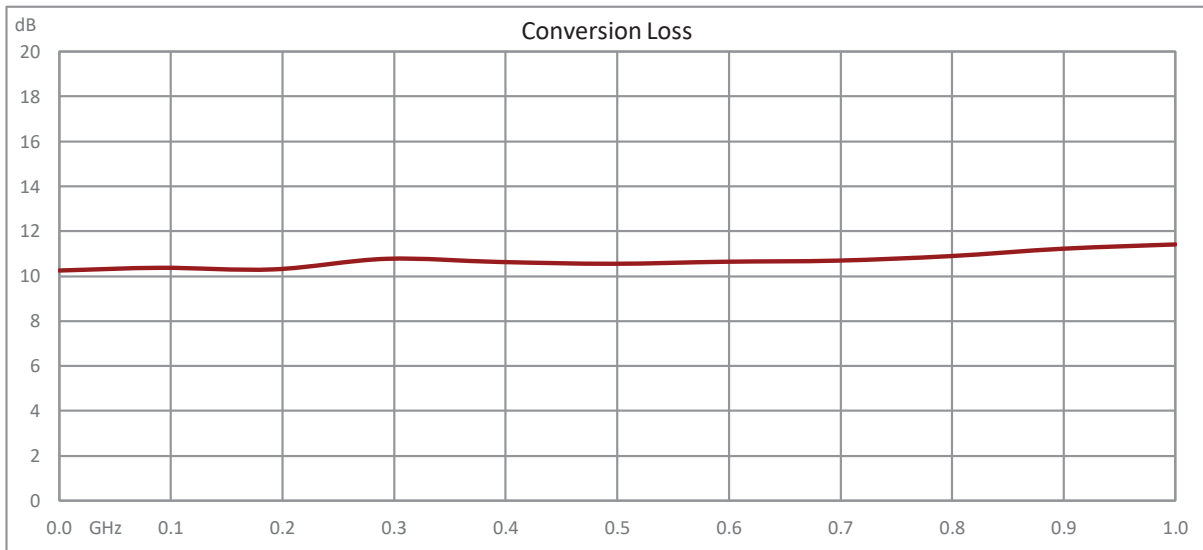
Parameter	Maximum
RF Input Power	+27dB
Operating Temperature	-40 °C to +85 °
Storage Temperature	-65 °C to +150 °

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**FMFX2010**

Typical Performance Data



## SMA Female 2x Frequency Multiplier with 20 MHz to 2 GHz Output and 12 dB Conversion Loss



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SMA Female 2x Frequency Multiplier with 20 MHz to 2 GHz Output and 12 dB Conversion Loss 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: [SMA Female 2x Frequency Multiplier with 20 MHz to 2 GHz Output and 12 dB Conversion Loss FMFX2010](https://www.fairviewmicrowave.com/sma-2x-frequency-multiplier-2-ghz-12-db-fmfx2010-p.aspx)

URL: <https://www.fairviewmicrowave.com/sma-2x-frequency-multiplier-2-ghz-12-db-fmfx2010-p.aspx>

The information contained within this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume liability arising out of the use of any part or document.

# FMFX2010 CAD Drawing

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

**NOTES:**

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

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TOLERANCES:	
DIMENSIONS IN [ ] ARE MILLIMETERS	DIMENSIONS IN [ ] ARE INCHES
X = ±.2 [5.08] .XX = ±.02 [1.51] .XXX = ±.005 [1.3]	CABLE LENGTH (L) TOLERANCES: L ≤ 12 [304.8] = ±1 [25.4] / -0 12 [304.8] < L ≤ 60 [1524] = ±2 [51] / -0 60 [1524] < L ≤ 120 [3048] = ±4 [102] / -0 120 [3048] < L ≤ 300 [7620] = ±8 [152] / -0 300 [7620] < L = ±5% [L] / -0

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	SCALE	REV.
A	3FKR5	DFRISIELLO	FMFX2010	N/A	A

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TITLE

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