FD25 / FD25C / FD25E / SFD25

Frequency Doubler

Rev. V4

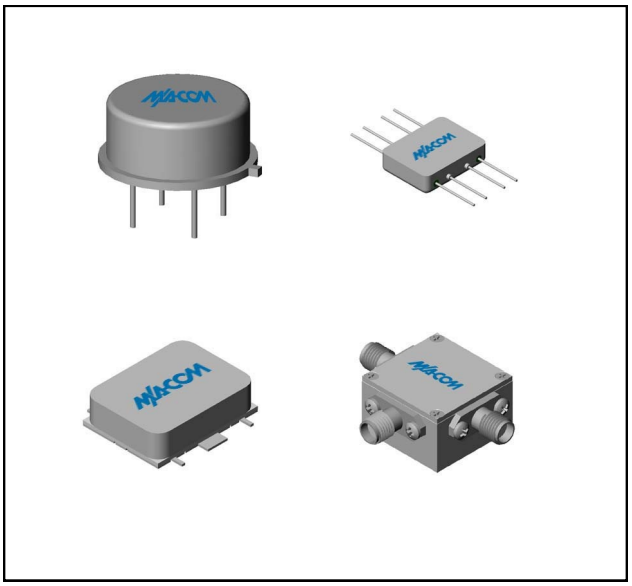
Features

- Input 5 to 2400 MHz
- Output 10 to 4800 MHz
- Input Drive level +10 dBm (nominal)
- Hermetically-Sealed Package

Description

The FD25 is a passive bridge diode frequency doubler, designed for use in military, commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband soft dielectric and/or ferrite baluns to attain excellent performance. The use of high temperature solder assembly processes used internally makes it ideal for use in manual and semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Product Image



Ordering Information

Part Number	Package
FD25	TO-8
FD25C	SMA Connectorized
FD25E	Flatpack
SFD25	Surface Mount

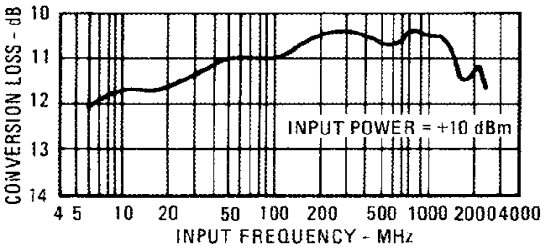
Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +10$ dBm

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC*
SSB Conversion Loss (max)	f_{in} = 5 to 30 MHz f_{in} = 30 to 2400 MHz	dB	12.0 11.5	13.0 13.0	15.0 13.5
Fundamental Suppression (min)	f_{in} = 5 to 1000 MHz f_{in} = 1000 to 2000 MHz f_{in} = 2000 to 2400 MHz	dBc	35 25 20	25 20 16	23 18 14
Third Harmonic Suppression	f_{in} = 5 to 500 MHz f_{in} = 500 to 1000 MHz f_{in} = 1000 to 2400 MHz	dBc	50 40 35	40 30 25	38 28 23
Input VSWR	f_{in} = 5 to 2400 MHz		1.5:1		

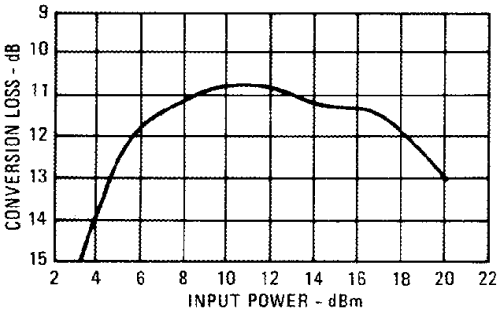
* The FD25C specification limits apply at 0ºC to +50ºC.

Typical Performance Curves

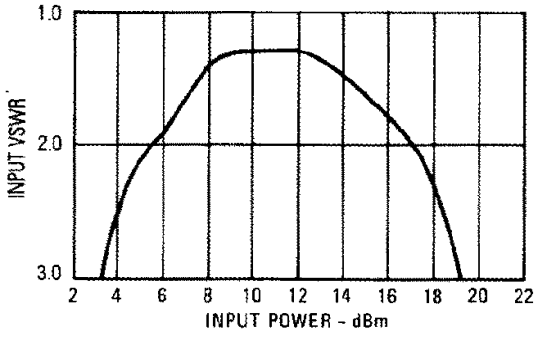
Conversion Loss vs. Frequency



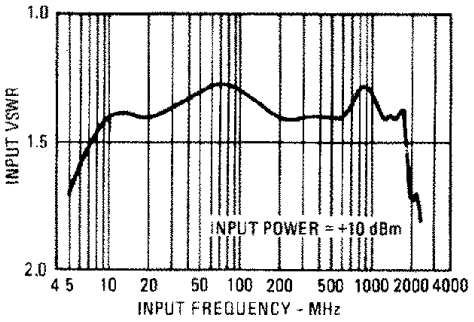
Conversion Loss vs. Input Power



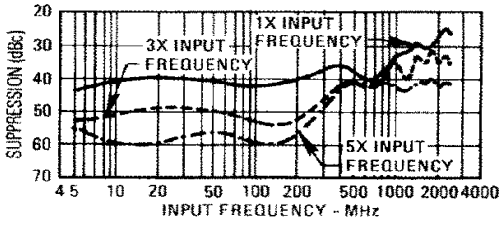
Input VSWR vs. Input Power



Input VSWR vs. Input Frequency



Suppression vs. Input Frequency



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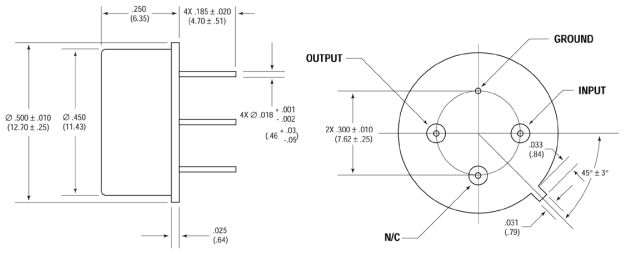
Absolute Maximum Ratings

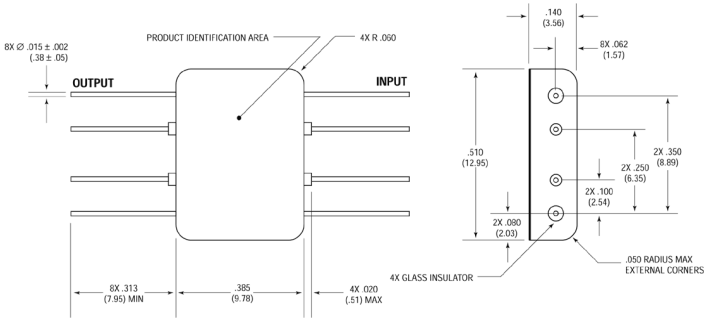
Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+23 dBm max @ +25ºC +20 dBm max @ +100ºC
Peak Input Current	50 mA DC

Outline Drawing: TO-8 *



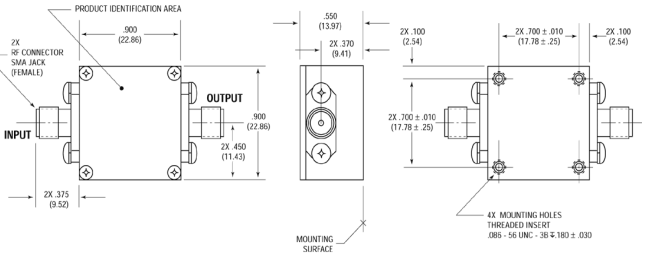
Weight: 2 grams (0.07 oz.) max

Outline Drawing: Flatpack *



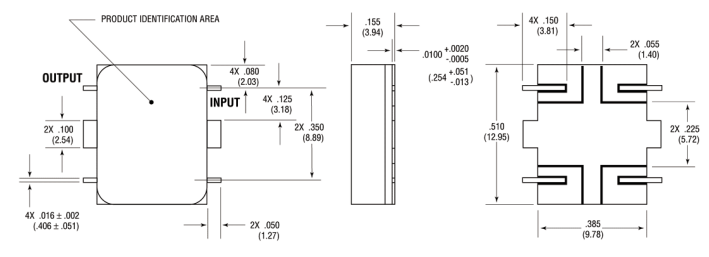
Weight: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 21 grams (0.74 oz.) max

Outline Drawing: Surface Mount *



Weight: 2 grams (0.07 oz.) max

* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.