

Frequency Doubler

FD25/FD25C/FD25E/SFD25

V4

Features

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

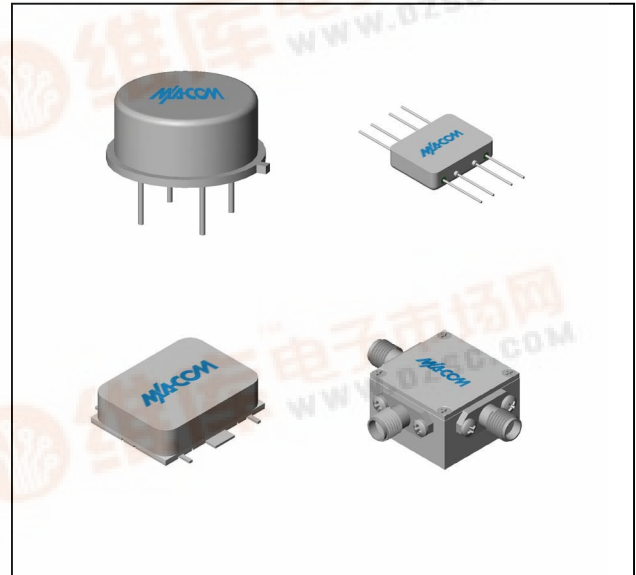
Description

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.

Ordering Information

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

Product Image



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

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

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



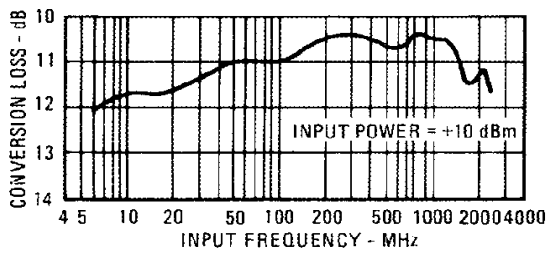
Frequency Doubler

FD25/FD25C/FD25E/SFD25

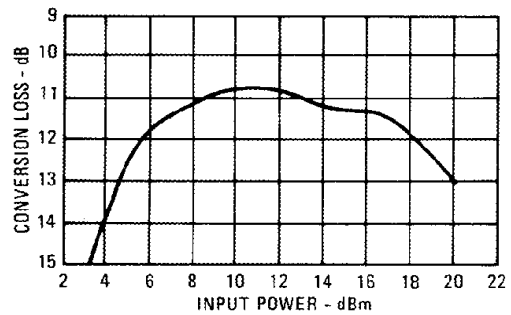
V4

Typical Performance Curves

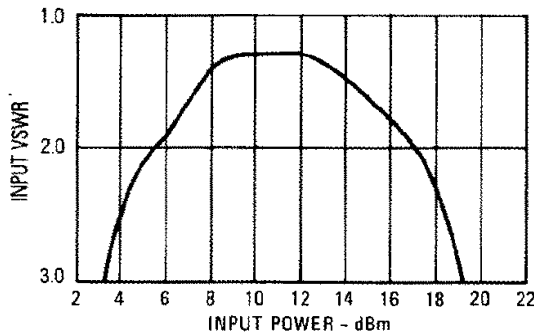
Conversion Loss vs. Frequency



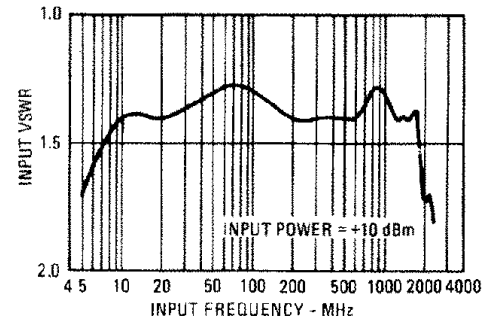
Conversion Loss vs. Input Power



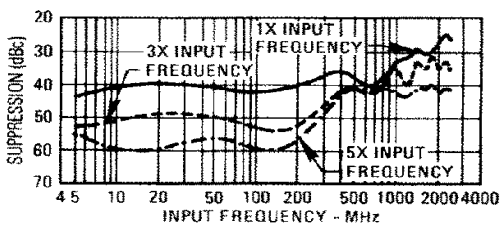
Input VSWR vs. Input Power



Input VSWR vs. Input Frequency



Suppression vs. Input Frequency



Frequency Doubler

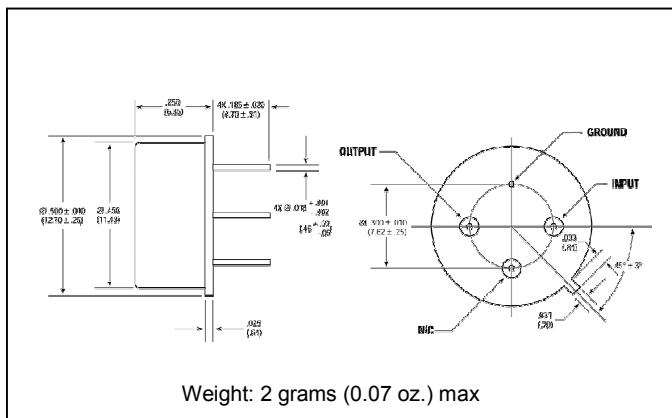
FD25/FD25C/FD25E/SFD25

V4

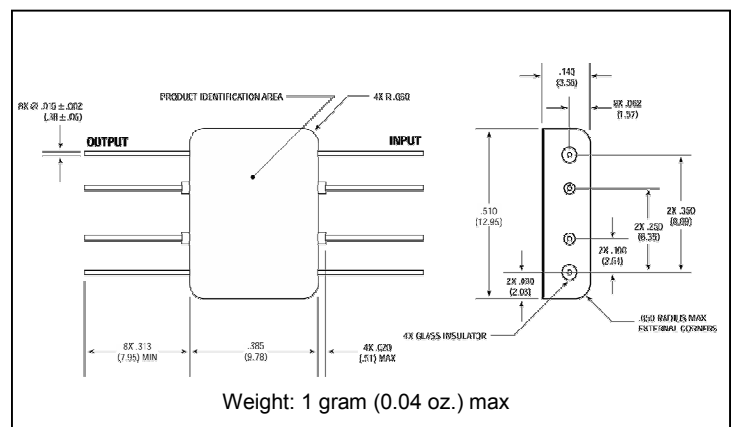
Absolute Maximum Ratings

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

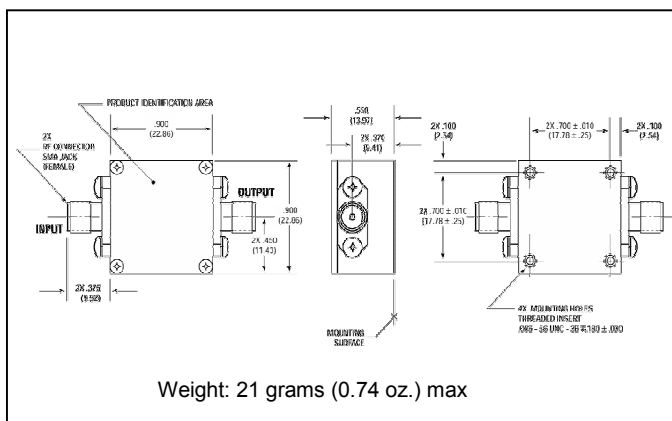
Outline Drawing: TO-8 *



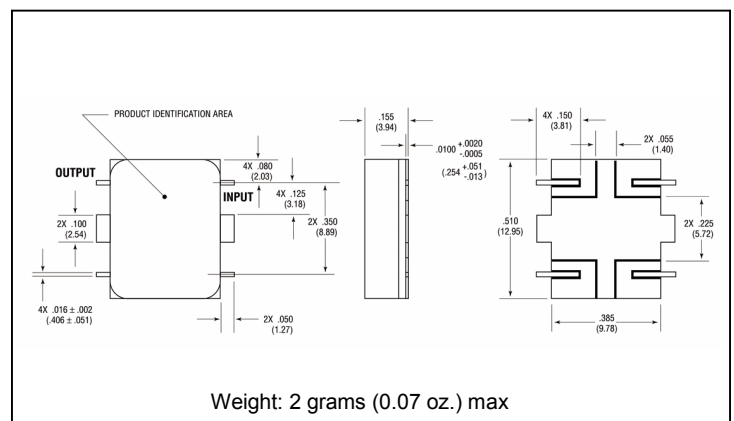
Outline Drawing: Flatpack *



Outline Drawing: SMA Connectorized *



Outline Drawing: Surface Mount *



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