

Electronics

Frequency Doubler



FD25/FD25C/FD25E/SFD25

Features

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

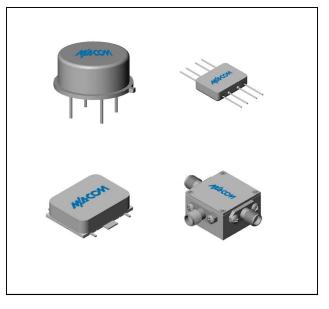
Description

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

_	Test Conditions	Units	Typical	Guaranteed	
Parameter				+25°C	-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)	$\begin{array}{l} f_{in} = 5 \text{ to } 1000 \text{ MHz} \\ f_{in} = 1000 \text{ to } 2000 \text{ MHz} \\ f_{in} = 2000 \text{ to } 2400 \text{ MHz} \end{array}$	dBc	35 25 20	25 20 16	23 18 14
Third Harmonic Suppression	$\begin{array}{l} f_{in} = 5 \text{ to } 500 \text{ MHz} \\ f_{in} = 500 \text{ to } 1000 \text{ MHz} \\ f_{in} = 1000 \text{ to } 2400 \text{ MHz} \end{array}$	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 0°C to +50°C.

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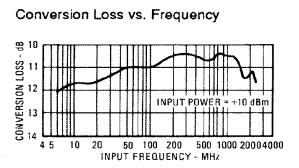
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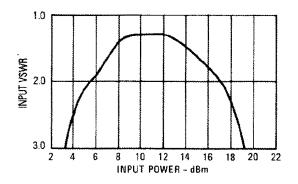


FD25/FD25C/FD25E/SFD25

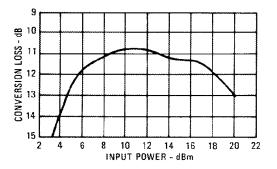
Typical Performance Curves



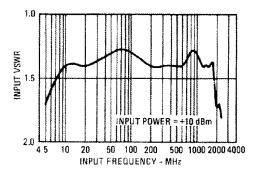
Input VSWR vs. Input Power



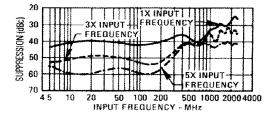
Conversion Loss vs. Input Power



Input VSWR vs. Input Frequency



Suppression vs. Input Frequency



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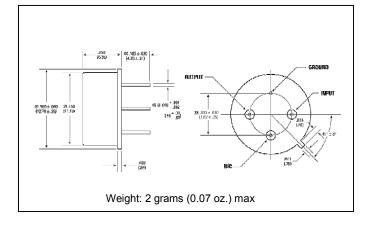


FD25/FD25C/FD25E/SFD25

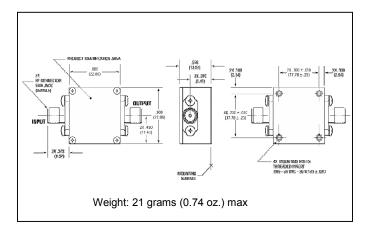
Absolute Maximum Ratings

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

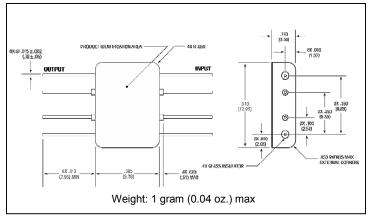
Outline Drawing: TO-8 *



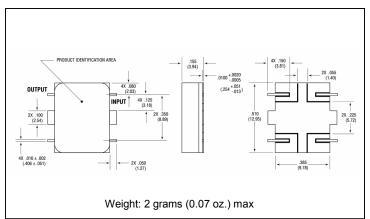
Outline Drawing: SMA Connectorized *



Outline Drawing: Flatpack *



Outline Drawing: Surface Mount *



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

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