

Frequency Doubler

Rev. V2

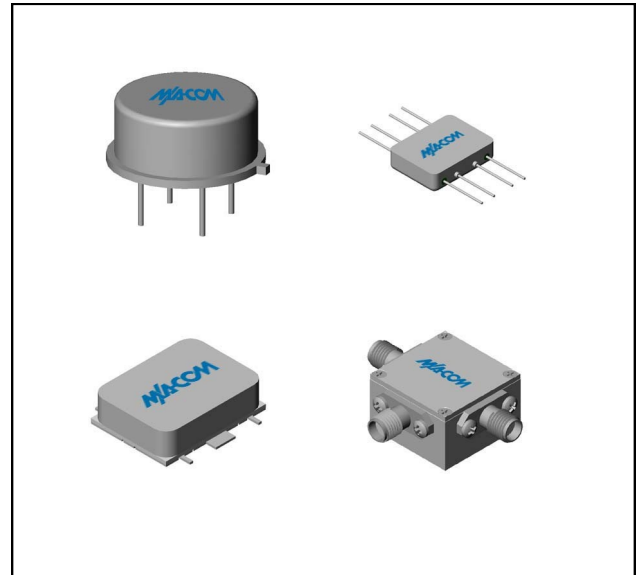
Features

- INPUT: 50 TO 3300 MHz
- OUTPUT: 100 TO 6600 MHz
- INPUT DRIVE LEVEL +10 dBm (NOMINAL)
- HERMETICALLY-SEALED PACKAGE

Description

The FD26 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
FD26	TO-8
FD26C	SMA Connectorized
FD26E	Flatpack
SFD26	Surface Mount

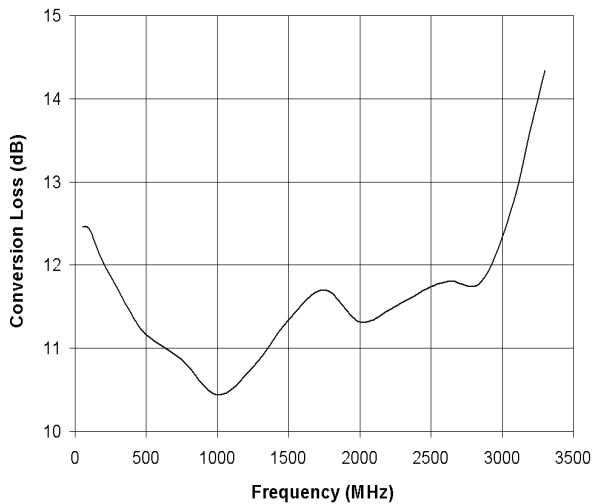
Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +10$ dBm

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C*
SSB Conversion Loss (max)	$f_{in} = 5$ to 400 MHz	dB	12.0	14.5	15.0
	$f_{in} = 400$ to 2500 MHz	dB	12.0	13.5	14.0
	$f_{in} = 2500$ to 3000 MHz	dB	12.5	14.0	14.5
	$f_{in} = 3000$ to 3300 MHz	dB	13.5	15.5	16.0
Fundamental Suppression (min)	$f_{in} = 50$ to 500 MHz	dBc	25	22	20
	$f_{in} = 500$ to 3300 MHz	dBc	20	17	15
Third Harmonic Suppression	$f_{in} = 50$ to 200 MHz	dBc	25	22	20
	$f_{in} = 200$ to 3300 MHz	dBc	19	17	15
Input VSWR	$f_{in} = 50$ to 2500 MHz		1.5:1		
	$f_{in} = 2500$ to 3300 MHz		2.0:1		

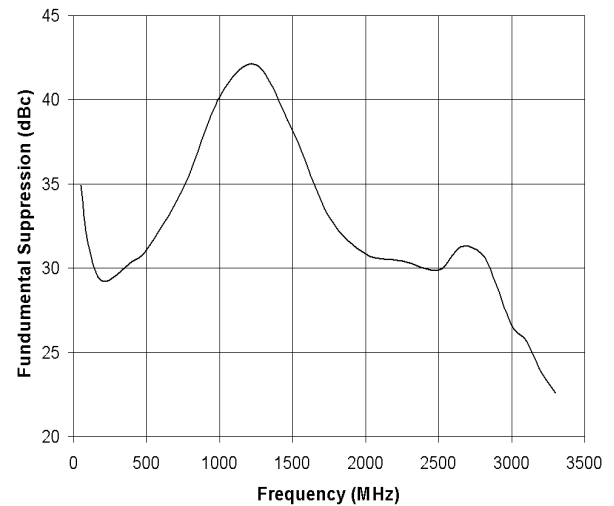
* The FD26C specification limits apply at 0°C to +50°C.

Typical Performance Curves

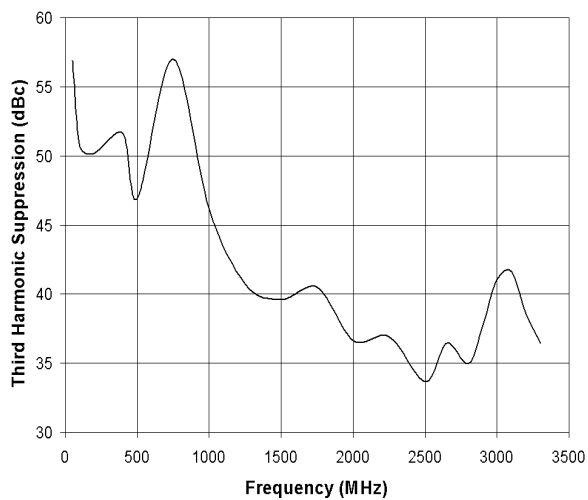
Conversion Loss vs. Frequency



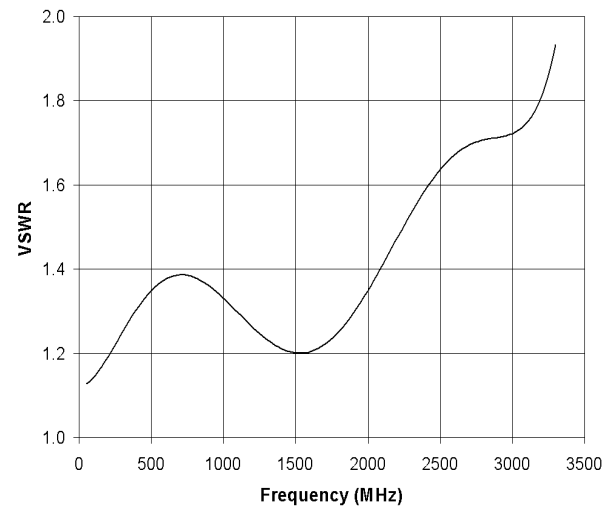
Fundamental Suppression vs. Frequency



Third Harmonic Suppression vs. Frequency



Input VSWR vs. Frequency



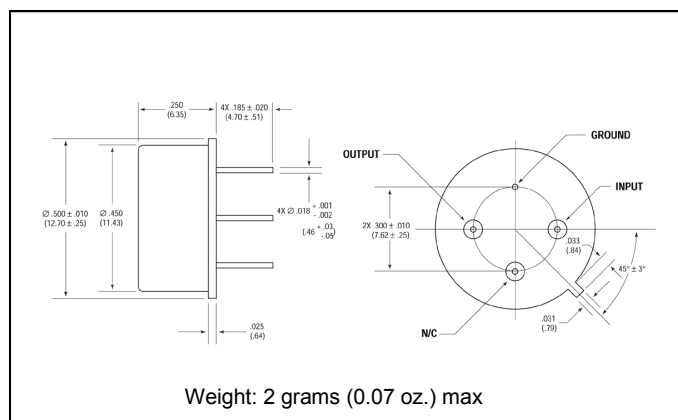
Frequency Doubler

Rev. V2

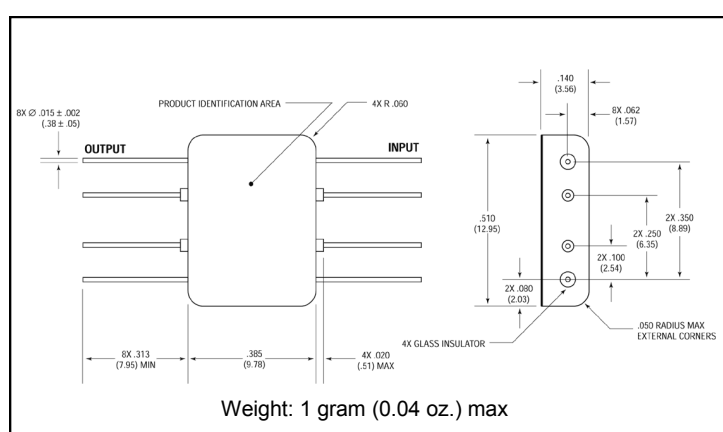
Absolute Maximum Ratings

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

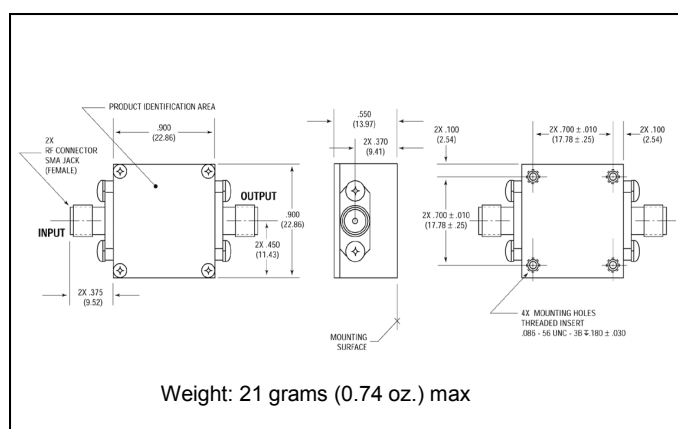
Outline Drawing: TO-8 *



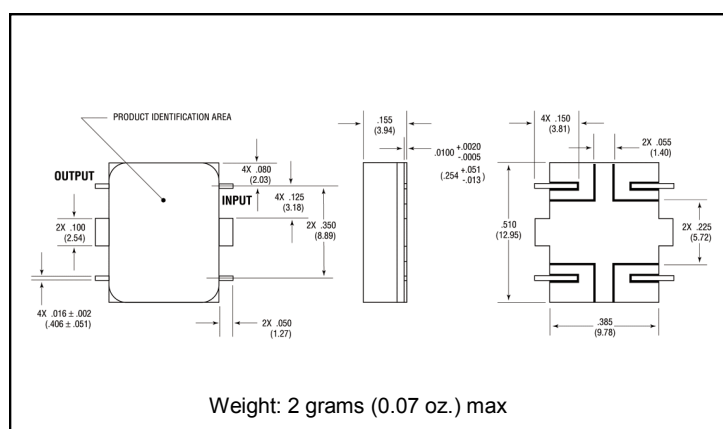
Outline Drawing: Flatpack *



Outline Drawing: SMA Connectorized *



Outline Drawing: Surface Mount *



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

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.