

Open Carrier Frequency Doubler For Microwave Telecommunications

Rev. V2

Features

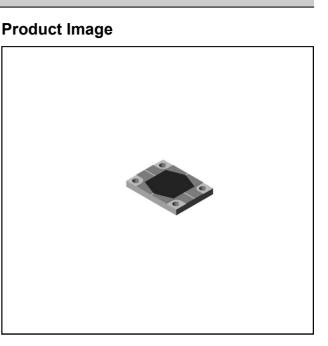
- INPUT: 3.5 TO 8.0 GHz •
- OUTPUT: 7.0 TO 16.0 GHz
- INPUT DRIVE LEVEL +10 dBm (NOMINAL) .
- MICROSTRIP INTERFACE •

Description

The FDC2710 is a passive bridge diode frequency doubler, designed for use in the high volume commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband baluns to attain excellent performance. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in semi-automated and automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

Part Number	Package
FDC2710	Open Carrier



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

Paramotor	Parameter Test Conditions Un	Units -	Typical	Guaranteed	
Farameter				+25°C	-40º to +85ºC
SSB Conversion Loss (max)	f _{in} = 3.5 to 4.5 GHz f _{in} = 4.5 to 7.0 GHz f _{in} = 7.0 to 8.0 GHz	dB dB dB	13.0 10.2 11.2	14.0 12.5 13.5	14.5 13.0 14.0
Fundamental Suppression (min)	f _{in} = 3.5 to 6.5 GHz f _{in} = 6.5 to 8.0 GHz	dBc dBc	40 40	28 30	26 28
Third Harmonic Suppression (min)	f _{in} = 6.5 to 8.0 GHz	dBc	50	40	38

1

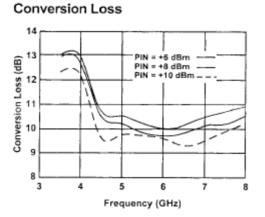
M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

FDC2710

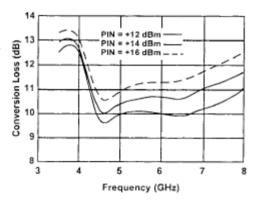


Open Carrier Frequency Doubler For Microwave Telecommunications

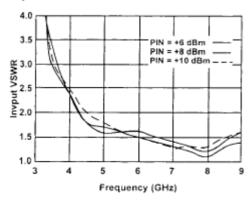
Typical Performance Curves



Conversion Loss

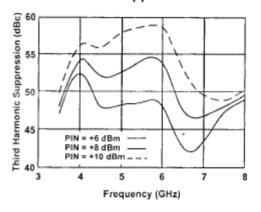


Input VSWR

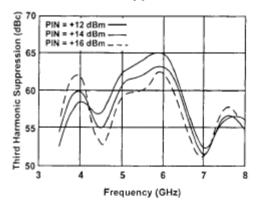


2

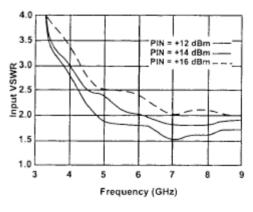
Third Harmonic Suppression



Third Harmonic Suppression







M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.



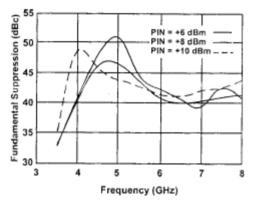
Open Carrier Frequency Doubler For Microwave Telecommunications

Rev. V2

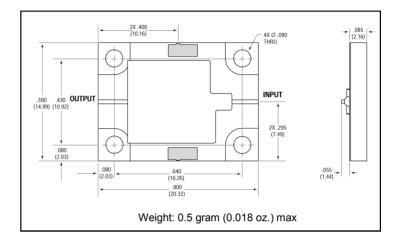
Absolute Maximum Ratings

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	
Peak Input Current	50 mA DC	

Fundamental Suppression

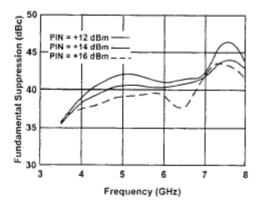


Outline Drawing: Open Carrier *



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

Fundamental Suppression



M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.



Open Carrier Frequency Doubler For Microwave Telecommunications



Rev. V2

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 estoppels 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.

4

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.