

# **Open Carrier Frequency Doubler** For Microwave Telecommunications



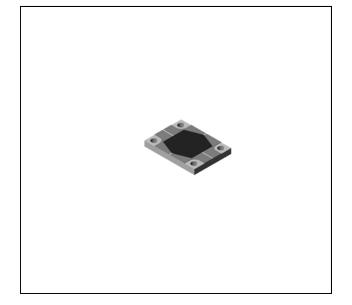
Rev. V1

## Features

- Input Frequency 1.5 to 8.0 GHz •
- Output Frequency 3.0 to 16.0 GHz
- Input Drive Level +10 dBm (nominal)
- Microstrip Interface

# Description

The FDC2310 is a passive bridge diode frequency doubler, designed for use in military, commercial and test equipment applications. The design utilizes Schottky bridge guad diodes and broadband soft dielectric baluns to attain excellent performance. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.



Product Image

# **Ordering Information**

Part Number	Package
FDC2310	Open Carrier

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

Parameter	Test Conditions	Units	Typical	Guaranteed	
Parameter				+25⁰C	-40º to +85ºC
SSB Conversion Loss (max)	f <sub>in</sub> = 1.5 to 8.0 GHz	dB	11	14.0	14.5
Fundamental Suppression (min)	f <sub>in</sub> = 1.5 to 8.0 GHz	dBc	35	19.5	19
Third Harmonic Suppression (min)	f <sub>in</sub> = 1.5 to 8.0 GHz	dBc	40	20	18
Input VSWR	f <sub>in</sub> = 1.5 to 8.0 GHz		2.0:1		

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Commitment to produce in volume is not gu

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# FDC2310

# Open Carrier Frequency Doubler For Microwave Telecommunications

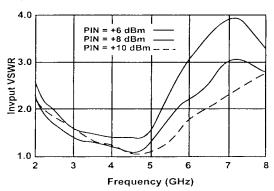


Rev. V1

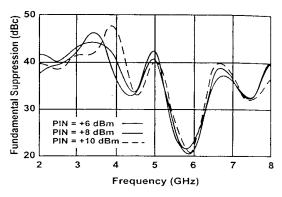
# **Typical Performance Curves**

#### **Conversion Loss** 14 13 Conversion Loss (dB) 12 11 10 PIN = +6 dBm PIN = +8 dBm PIN = +10 dBm 9 3 2 4 5 6 7 8 Frequency (GHz)

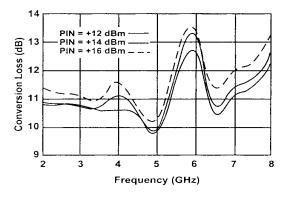
#### Input VSWR



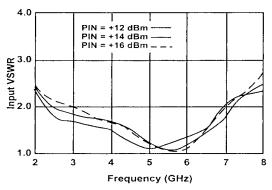
**Fundamental Suppression** 



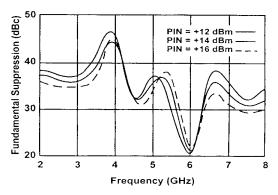
#### **Conversion Loss**



Input VSWR



### **Fundamental Suppression**



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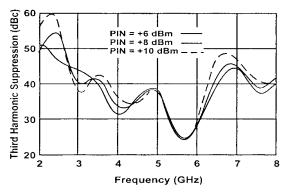
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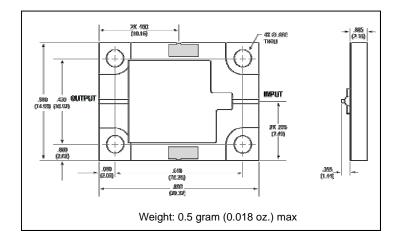
# **Absolute Maximum Ratings**

Parameter	Absolute Maximum		
Operating Temperature	-54ºC to +100ºC		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25⁰C +20 dBm max @ +100⁰C		
Peak Input Current	50 mA DC		

## Third Harmonic Suppression



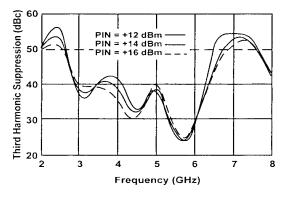
# Outline Drawing: Open Carrier



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

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# Third Harmonic Suppression



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