

Open Carrier Frequency Doubler For Microwave Telecommunications

Rev. V1

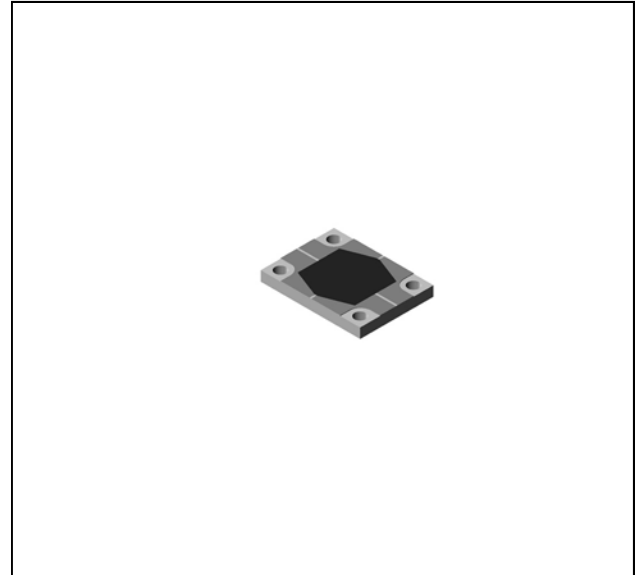
Features

- 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 quad 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

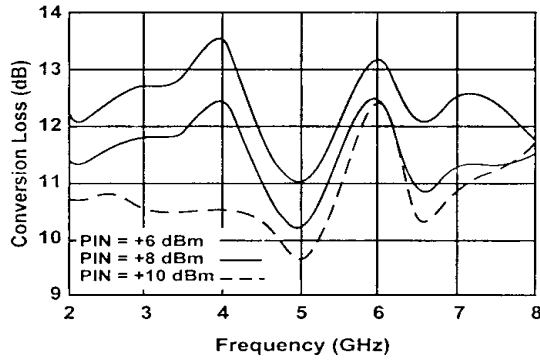
| Part Number | Package |
|-------------|--------------|
| FDC2310 | Open Carrier |

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

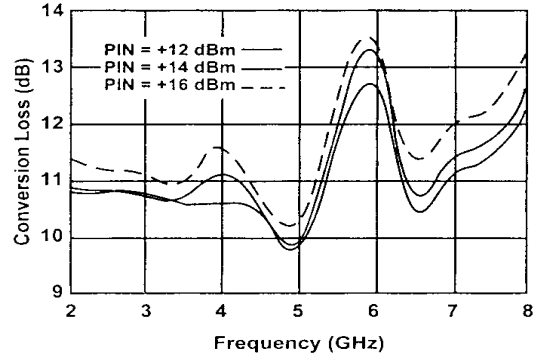
| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|----------------------------------|---------------------------|-------|---------|------------|---------------|
| | | | | +25°C | -40° to +85°C |
| SSB Conversion Loss (max) | $f_{in} = 1.5$ to 8.0 GHz | dB | 11 | 14.0 | 14.5 |
| Fundamental Suppression (min) | $f_{in} = 1.5$ to 8.0 GHz | dBc | 35 | 19.5 | 19 |
| Third Harmonic Suppression (min) | $f_{in} = 1.5$ to 8.0 GHz | dBc | 40 | 20 | 18 |
| Input VSWR | $f_{in} = 1.5$ to 8.0 GHz | | 2.0:1 | | |

Typical Performance Curves

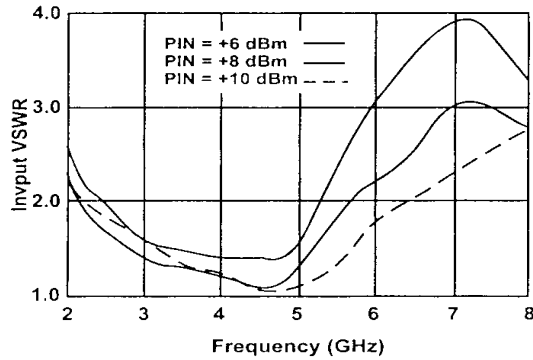
Conversion Loss



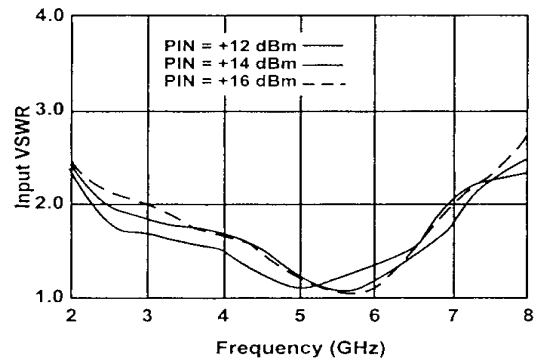
Conversion Loss



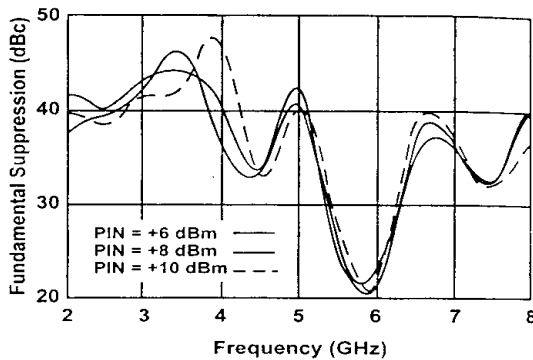
Input VSWR



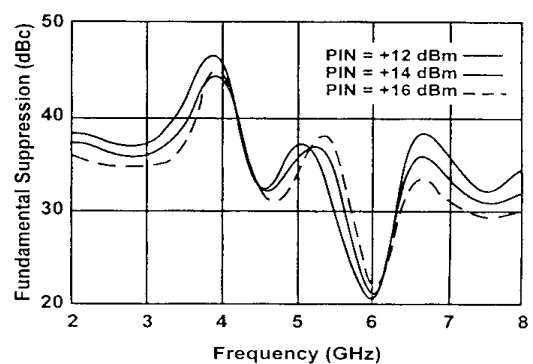
Input VSWR



Fundamental Suppression



Fundamental Suppression



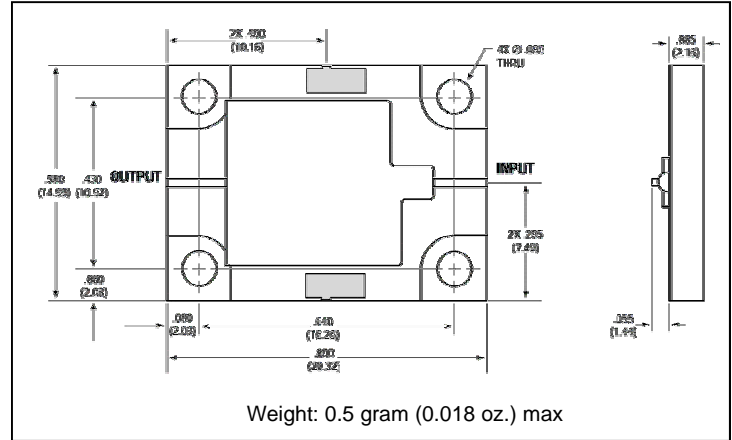
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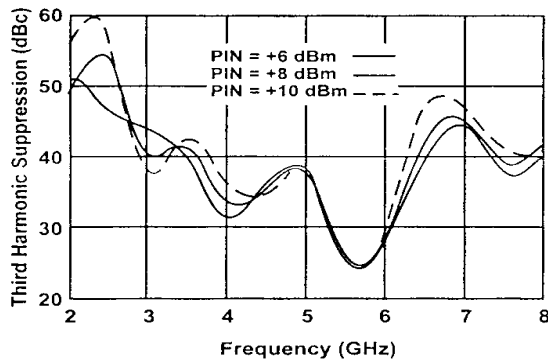
Absolute Maximum Ratings

| 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: Open Carrier *



Third Harmonic Suppression



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

Third Harmonic Suppression

