

X=1100 μm Y=1450 μm

Product Features

- ◆ RF frequency: 72 to 90 GHz
- ◆ Conversion Loss: 20 dB
- ◆ Pin Drive: +13 dBm
- ◆ No External Bias Required
- ◆ Die Size: < 1.6 sq. mm

Performance Characteristics (Ta = 25°C)

Specification	Min	Typ	Max	Unit
RF Frequency In	24		30	GHz
RF Frequency Out	72		90	GHz
Conversion Loss		19		dB
Input Power		13		dBm
Output Power		-5		V

Applications

- ◆ New FCC E-Band Communication Systems
 - Covers both 71-76 GHz and 81-86 GHz Frequency Bands
- ◆ Short-Haul / High Capacity Links
- ◆ Enterprise Wireless LAN
- ◆ Wireless Fiber Replacement
- ◆ Automotive Radar

Product Description

The XTB106 is a passive broadband, Schottky Diode, frequency multiplier MMIC. To ensure rugged and reliable operation, Diodes devices are fully passivated. Both bond pad and backside metallization are Ti/Au, which is compatible with conventional die attach, thermocompression and thermosonic wire bonding assembly techniques.

Absolute Maximum Ratings (Ta = 25°C)

Parameter	Min	Max	Unit
Input drive level		18	dBm
Assy. Temperature (60 seconds)		300	deg. C

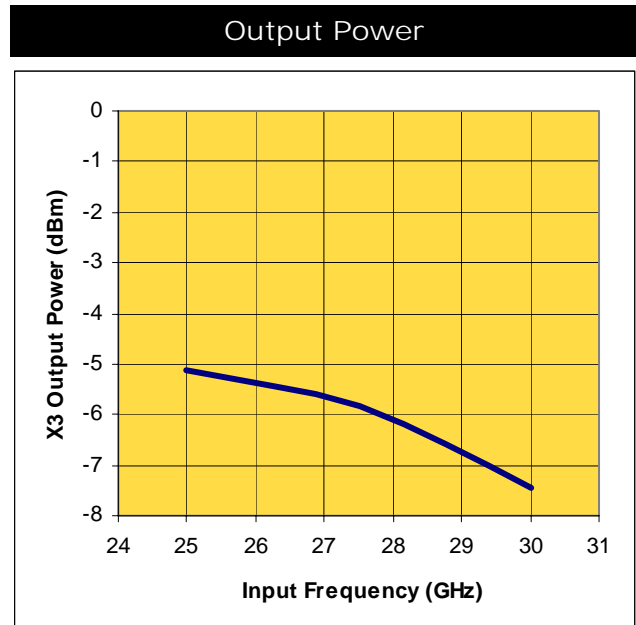
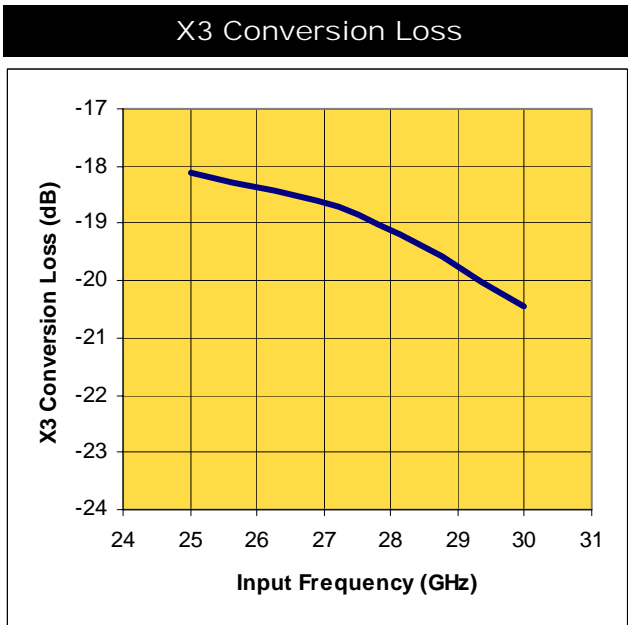
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Preliminary Datasheet

Revision: May 2007

Measured Performance Characteristics (Typical Performance at 25°C)
Pin = 13dBm

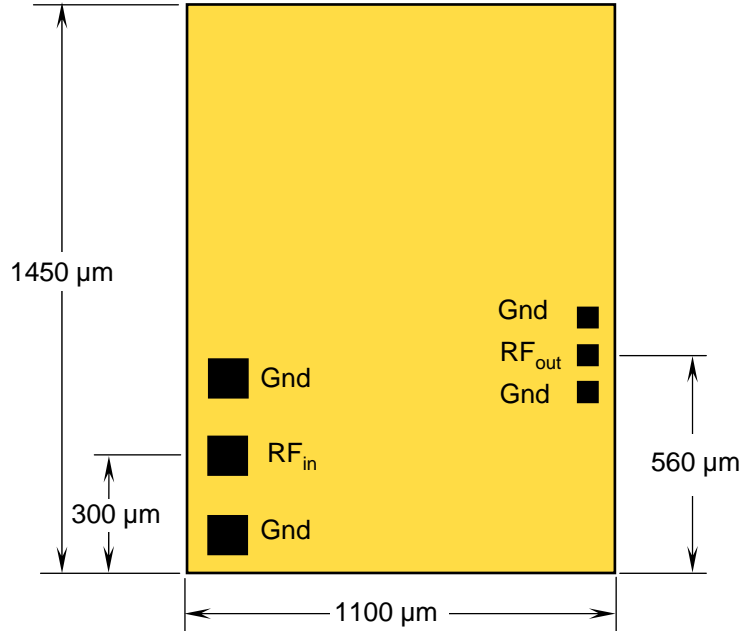


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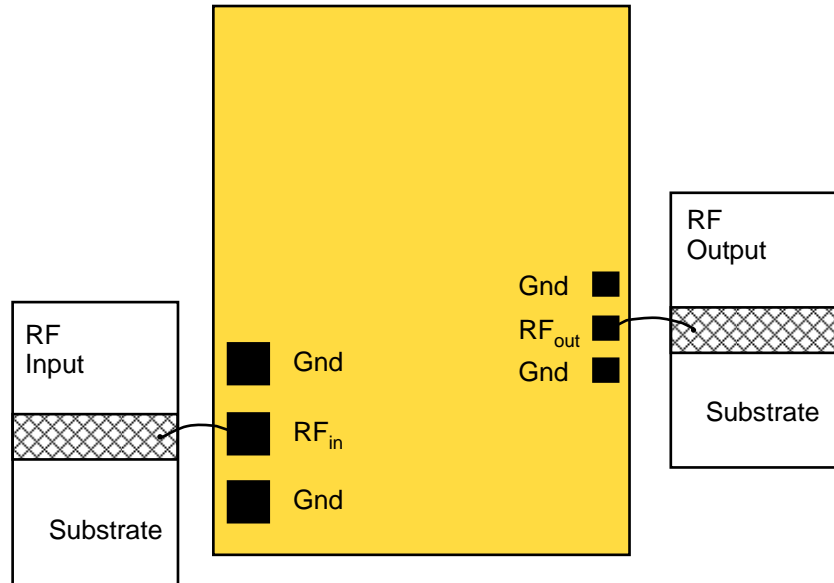


Die Size and Bond Pad Locations

X Dimension: $1100 \pm 25 \mu\text{m}$
 Y Dimension: $1450 \pm 25 \mu\text{m}$
 RF Bond Pad Dimensions:
 Input: $101 \times 101 \mu\text{m} \pm 0.5 \mu\text{m}$
 Output: $50 \times 50 \mu\text{m} \pm 0.5 \mu\text{m}$
 Chip Thickness = $101 \pm 5 \mu\text{m}$



Suggested Bonding Arrangement



Recommended Assembly Notes

1. XTB106 RF ports require DC Blocks.
2. Best performance obtained from use of <10 mil (long) by 3 by 0.5 mil ribbon on input and <6 mil (long) by 1.5 by 0.5 mil ribbon on output.

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