

## 20-50 GHz X2 Active Multiplier Module

### Features

- Convenient Single +8V Supply Operation
- Internally Bias Sequenced and Regulated
- High Output +20 dBm (typ.) 23-50 GHz
- Excellent Fundamental Rejection



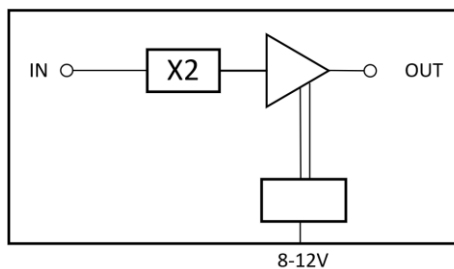
### Applications

These multiplier modules are ideal for many applications requiring sources in the frequency range of 20 GHz to 50 GHz. An internal multiplier with a multiplication factor of two (a.k.a. “doubler”), is followed by a GaAs MMIC amplifier to produce 20dBm or 100mW of RF from 23 to 50 GHz and covers Ka-Band and Q-band frequencies. They have excellent fundamental rejection that typically exceed 40dB up to 40 GHz.

For test and measurement applications, these multipliers can be used to extend the maximum frequency range of RF sources from 18 GHz to 36 GHz, or from 25 GHz to 50 GHz. The input required is +14dBm. Only a single +8V to +12V supply is needed to power the module. An EMI suppressing feed thru and ground turret terminals are used to connect DC. Negative bias is generated internally though an inverter on the power conditioning board that includes voltage regulation and bias sequence electronics. A reverse polarity shunt diode helps protect the module against misconnection of DC. The result is a simplified and easy-to-use DC interface. Four conveniently located through holes for either #4 or M3 fasteners can be used for attaching the device to a bracket or baseplate.

The input connector is 2.92 mm and is also SMA compatible. The output connector is 2.92 mm for the 40 GHz version (-02) and 2.4mm for the 50 GHz version (-01). The housing is constructed of gold-plated aluminum.

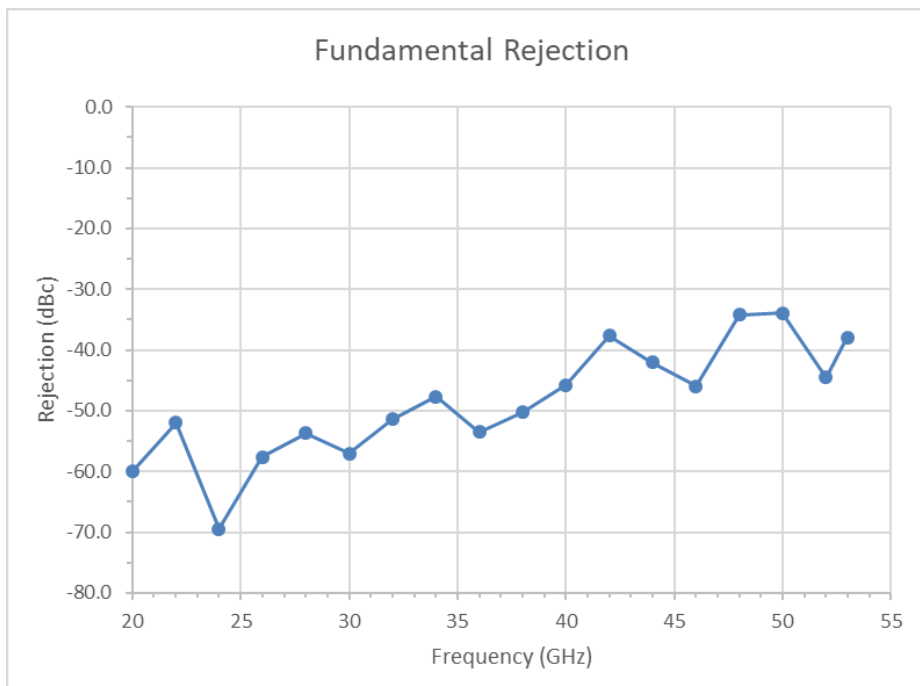
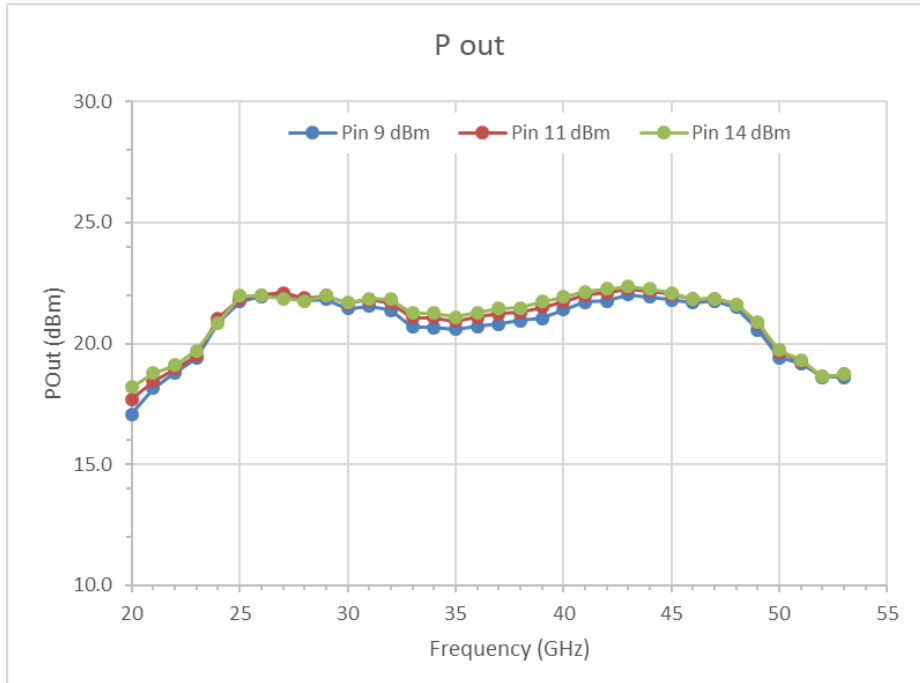
### Block Diagram



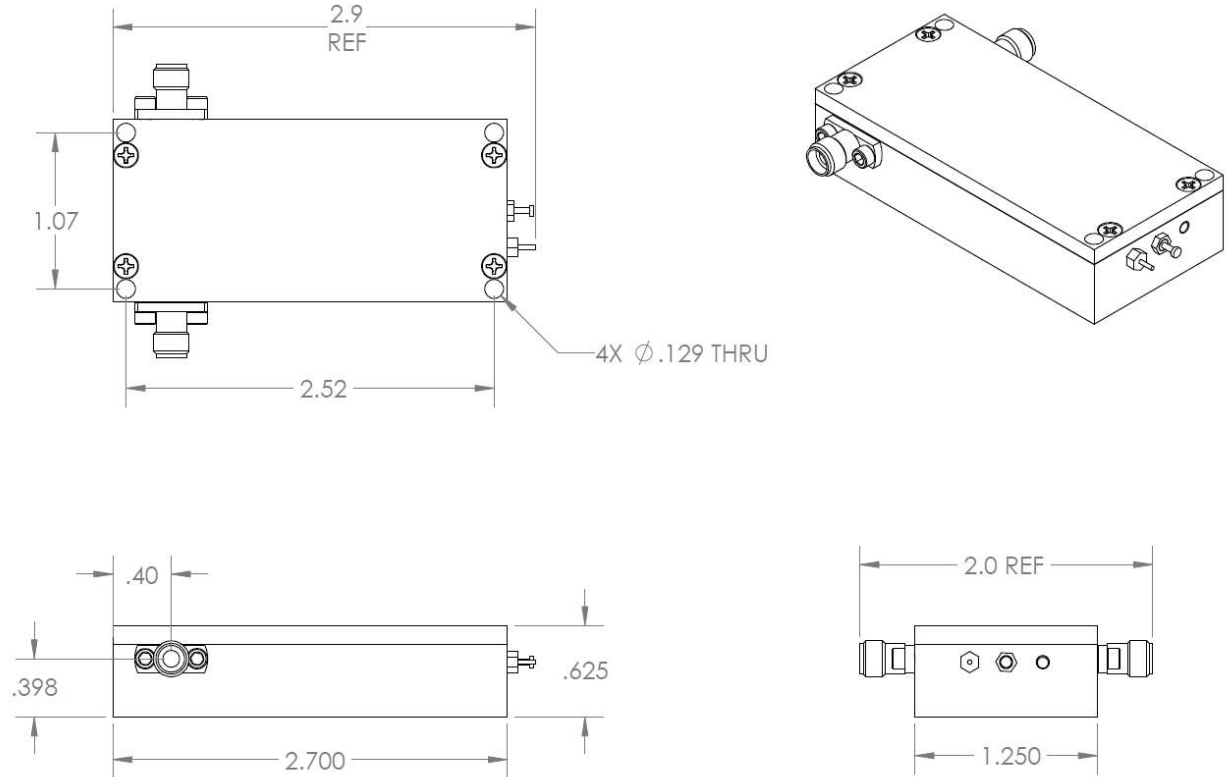
## Specifications

Parameter	Specification	Notes
Fout Frequency Range	-01 version 20 GHz to 50 GHz -02 version 20 GHz to 40 GHz	
Fin Frequency Range	-01 version 10 GHz to 25 GHz -02 version 10 GHz to 20 GHz	
X1 Harmonic	-45 dBc typ. Fout=20-40 GHz -35 dBc typ. Fout=40-50 GHz	
DC Supply	8 to 12 VDC @ 400 mA	Current listed is maximum under RF drive
Pin	14 dBm	Useable 10-14 dBm Pin
Pout	20 dBm typ., >23 GHz 23dBm max.	
Output Connector	-01 version 2.4mm (50 GHz) -02 version 2.92mm (40 GHz)	
Input Connector	2.92mm	SMA compatible

## Measured Data



### Outline Drawing (Inches)



### Ordering Information

200437-01	20-50 GHz X2 Active Multiplier, 2.4mm output
200437-02	20-40 GHz X2 Active Multiplier, 2.92mm output
ECCN	EAR99

Specifications subject to change without notice.