

2.0 to 24.0 GHz GaAs MMIC Power Amplifier

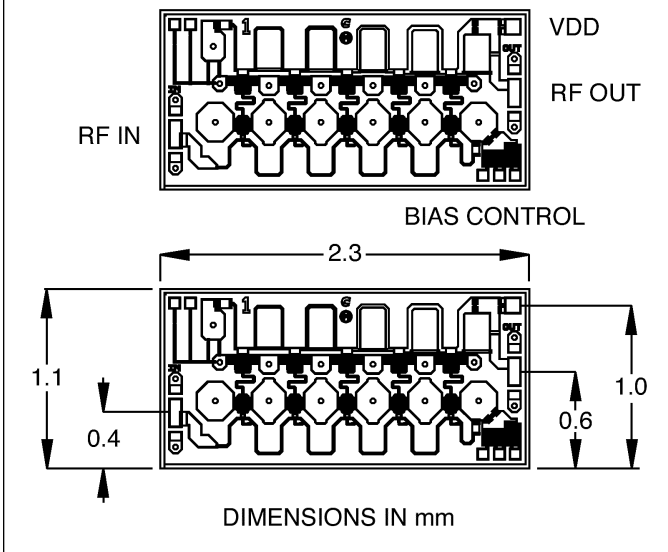
Advanced Product Information
April 2003

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Features

- ❑ Small Size: 43 x 92 mils
- ❑ High Gain
- ❑ Directly Cascadable
- ❑ Medium Power: +23 dBm
- ❑ Ion-Implanted Active Layers
- ❑ Silicon Nitride Passivation

Chip Diagram



Specifications ($T_A = 25^\circ\text{C}$, $V_{DD} = 8\text{V}$)

Parameters	Units	Min	Typ	Max
Frequency Range	GHz	2.0		24.0
Small Signal Gain	dB	8.0	9.0	
Gain Flatness	±dB		0.5	0.75
Input/Output VSWR	—		1.8:1	2.0:1
Power Output (@1 dB Gain Compression)	dBm	22.0	23.0	
Second Order Intercept Point	dBm		40.0	
Third Order Intercept Point	dBm		30.0	
Current	mA	225		275

Absolute Maximum Ratings

Parameter	Rating
Drain Voltage	12V
Drain Current	350 mA
Continuous Power Dissipation	3.0 W
Channel Temperature	+175°C
Storage Temperature	-65°C to +175°C
Mounting Temperature	+320°C
Input Power	+23 dBm

Die Attach and Bonding Procedures

Die Attach: Eutectic die attach is recommended. For eutectic die attach: Preform: AuSn (80% Au, 20% Sn); Stage Temperature: 290°C, ±5°C; Handling Tool: Tweezers; Time: 1 min or less.

Wire Bonding: Wire Size: 0.7 to 1.0 mil in diameter (pre-stressed); Thermocompression bonding is preferred over thermosonic bonding. For thermocompression bonding: Stage Temperature: 250°C; Bond Tip Temperature: 150°C; Bonding Tip Pressure: 18 to 40 gms depending on size of wire.

Ordering Information

The CMM-0014-BD is available in bare die and is shipped in Gel Pak.

Part Number for Ordering

CMM0014-BD

Package

Bare Die

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