

### *Features*

- High Reliability
- Low-Phase Noise
- 9.5–35.5 GHz Operation
- Pulsed and CW Designs to 20 mW

### *Applications*

- Motion Detectors
- Transmitters and Receivers
- Beacons
- Automotive Collision Avoidance Radars
- Radars
- Radiometers
- Instrumentation



### *Description*

Microsemi's GaAs Gunn diodes, epi-up (anode heatsink), are fabricated from epitaxial layers grown at MSC by the Vapor Phase Epitaxy technique. The layers are processed using proprietary techniques resulting in ultra- low phase and 1/f noise. The diodes are available in a variety of microwave ceramic packages for operation from 9.5–35.5 GHz.

(Discrete Frequency: Anode Heatsink)

*CW Epi-Up Gunn Diodes (Specifications @ 25°C)*

Part Number	Operating Frequency <sup>1</sup> (GHz)	Min. Power <sup>2</sup> (mW)	Typ. Operating Voltage (V)	Max. Operating Current (mA)	Package Outline <sup>3</sup>
MG1052-11	9.5–11.5	10	8	140	M11
MG1056-11	9.5–11.5	20	8	200	M11
MG1054-11	23.0–25.0	5	5	200	M11
MG1058-11	23.0–25.0	10	5	300	M11
MG1059-11	33.5–35.5	5	5	300	M11

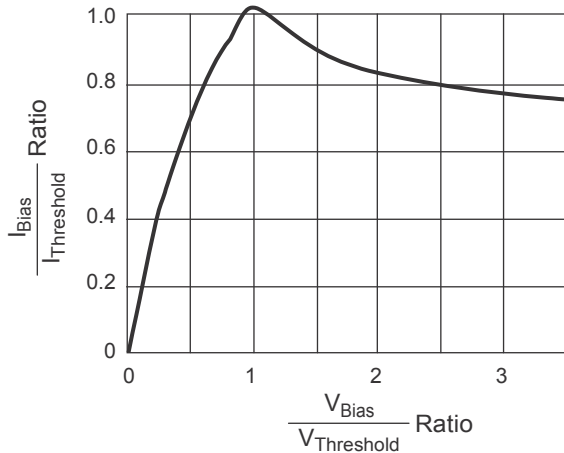
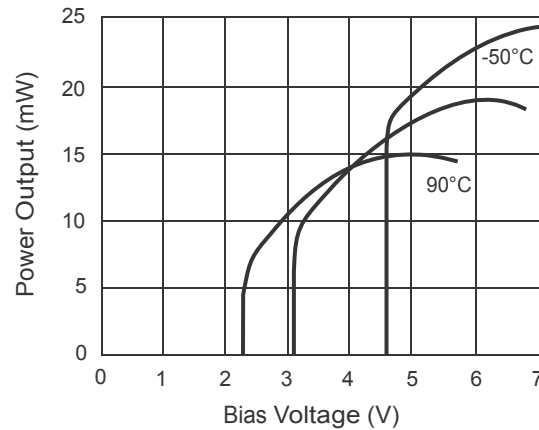
*Pulsed Epi-Up Gunn Diodes (Specifications @ 25°C)*

Part Number	Operating Frequency <sup>1</sup> (GHz)	Min. Power <sup>2</sup> (mW)	Typ. Operating Voltage (V)	Max. Operating Current (mA)	Package Outline <sup>3</sup>
MG1041-11	9.5–11.5	10	9	110	M11
MG1042-11	9.5–11.5	20	9	140	M11
MG1043-11	9.5–11.5	30	10	180	M11
MG1044-11	23.0–25.0	5	8	120	M11
MG1045-11	23.0–25.0	10	8	150	M11
MG1046-11	23.0–25.0	20	8	200	M11

<sup>1</sup>Microsemi Gunn diodes are specified to operate within a narrow range of a customer-designated center frequency within the operating frequency range shown. Additional frequencies are available; Please contact the factory.

<sup>2</sup>Power is measured using a critically coupled test cavity. For pulsed diodes, pulse width = 1 μs, duty factor = 1% typ.

<sup>3</sup>Polarity: cathode is the cap and anode is the heatsink.

**Typical Characteristics**

 **$I_{Bias}$  Ratio vs.  $V_{Bias}$  Ratio**

**Power Output vs. Bias Voltage**
**IMPORTANT:** For the most current data, consult our website: [www.MICROSEMI.com](http://www.MICROSEMI.com)  
 Specifications are subject to change. Consult factory for the latest information.


These devices are ESD sensitive and must be handled using ESD precautions.

These products are supplied with a RoHS compliant Gold finish.