

GUNN Diodes

Anode Heat Sink

MG1041 – MG1059

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.



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(Discrete Frequency: Anode Heatsink)

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

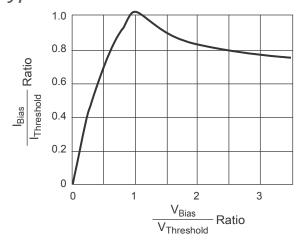
Part Number	Operating Frequency ¹ (GHz)	Min. Power² (mW)	Typ. Operating Voltage (V)	Max. Operating Current (mA)	Package Outline³
MG1052-11	9.5–11.5	10	8	140	M11
MG1056-11	9.5–11.5	20	8	200	M11
MG1054-11	23.0–25.0	5	5	200	M11
MG1058-11	23.0–25.0	10	5	300	M11
MG1059-11	33.5–35.5	5	5	300	M11

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

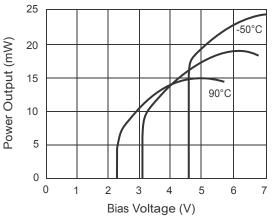
Part Number	Operating Frequency ¹ (GHz)	Min. Power² (mW)	Typ. Operating Voltage (V)	Max. Operating Current (mA)	Package Outline³
MG1041-11	9.5–11.5	10	9	110	M11
MG1042-11	9.5–11.5	20	9	140	M11
MG1043-11	9.5–11.5	30	10	180	M11
MG1044-11	23.0–25.0	5	8	120	M11
MG1045-11	23.0–25.0	10	8	150	M11
MG1046-11	23.0–25.0	20	8	200	M11

¹Microsemi 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.

Typical Characteristics



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



Power Output vs. Bias Voltage

IMPORTANT: For the most current data, consult our website: <u>www.MICROSEMI.com</u> Specifications are subject to change. Consult factory for the latest information.

These devices are ES

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

These products are supplied with a RoHS complaint Gold finish.

²Power is measured using a critically coupled test cavity. For pulsed diodes, pulse width = 1 µS, duty factor = 1% typ.

³ Polarity: cathode is the cap and anode is the heatsink.