

Packaged and Bondable Chips

Features

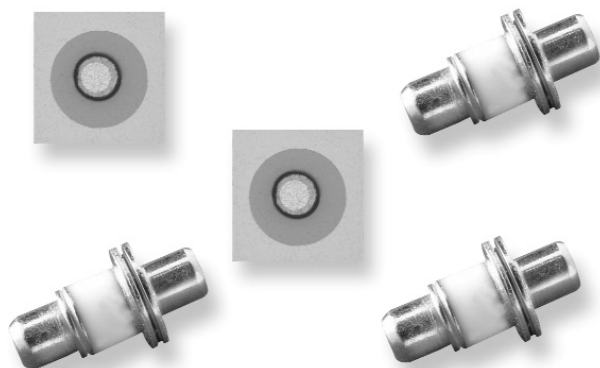
- Low Series Resistance
- Fast Switching Speed
- Low Capacitance
- No Reverse Bias Required
- Available in Packages and Bondable Chips
- Available as Chip-on-Board Components

Applications

- Switches
- Attenuators
- Phase Shifters

Maximum Ratings

Reverse Voltage	Breakdown Voltage
Forward Current	50 mA @ 25°C
Incident Power	+20 dBm @ 25°C
Operating Temperature	-55°C to +175°C
Storage Temperature	-55°C to +200°C



Description

Microsemi's GaAs PIN diodes are fabricated utilizing a gold contact mesa and protected with silicon nitride. The diodes have short carrier lifetime for fast switching speed and low series resistance. GaAs P00 diodes are available as bondable chips, chip-on-board components and in a variety of packages.

GaAs PIN diodes, in comparison to Si PIN diodes, reach its high impedance state at zero bias and do not require reverse bias for low loss. Nanosecond switching speed is achieved with GaAs PIN diodes, using low-cost TTL drivers.

GaAs PIN Diodes (Packaged and Bondable Chips)
Gallium Arsenide PIN Diodes (Specifications @ 25°C)

Part Number	Max. C_J @ -10 V ¹ (pF)	Min. Breakdown Voltage (V)	Max. Resistance @ 20 mA ² (Ω)	Nominal Switching Speed (ns)	Nominal Carrier Lifetime ³ (ns)
MP61001	0.03	200	3.0	20.0	50
MP61002	0.04	200	3.0	20.0	50
MP61003	0.05	200	3.0	20.0	50
MP61004	0.06	100	2.0	9.0	15
MP61005	0.07	100	2.0	9.0	15
MP61006	0.08	100	2.0	9.0	15
MP61007	0.10	75	2.0	6.0	10
MP61008	0.12	75	2.0	6.0	10
MP61009	0.15	50	1.0	3.5	5
MP61010	0.18	50	1.0	3.5	5
MP61011	0.23	50	0.8	3.5	5
MP61012	0.35	50	0.8	3.5	5

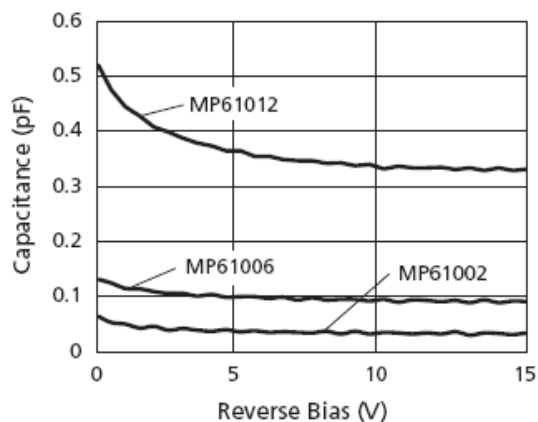
¹ Capacitance is specified at 1 MHz.

² Resistance is specified at 1 GHz.

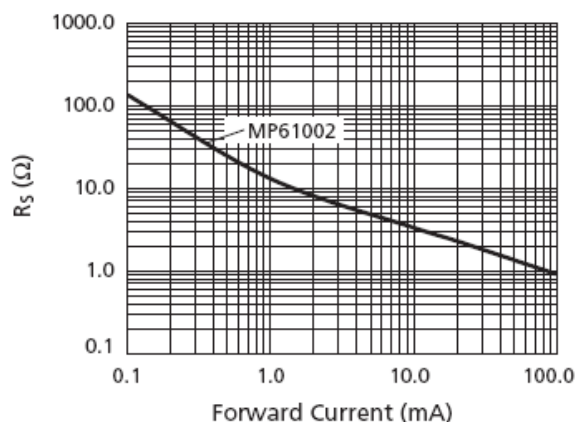
³ Carrier lifetime is inferred from stored charge measurement at 10 mA.

Note:

GaAs PIN diode chips have a minimum bonding area diameter of 50 microns.

Typical Characteristics


**Typical 1 MHz
Capacitance vs. Reverse Bias**



**Typical Forward Series Resistance
vs. Forward Current at 1 GHz**