GC4600 – GC4605

CONTROL DEVICES
High Power PIN Diodes

RoHS Compliant e4

DESCRIPTION

The high power PIN diode series is available in surface mount stud and insulated stud packages. These PIN diode chips utilize high resistivity material and an intrinsic float zone process technology thus ensuring low loss and low distortion characteristics through HF band. Due to a thick base width of the "I" layer, these diodes have very high reverse voltage characteristics with very low thermal impedance. These PIN chips are passivated with a proprietary high voltage glassivation process yielding low leakage stable devices.

This series of devices meets RoHS requirements per EU Directive 2002/95/EC.

APPLICATIONS

High power PIN diodes are designed as switching elements with frequencies through UHF band. Applications for these devices include antenna coupler, high power filter switches and Magnetic Resonance Imaging (MRI) switches. These devices are designed to withstand very large CW and pulse power environments where CW and peak RF voltages are in the kilovolt range and are offered in rugged low thermal impedance, stud and insulated stud packages.

KEY FEATURES

- Kilowatt Power Handling
- 2.5 KV Breakdown Voltage
- Low Loss, Low Distortion through UHF Band
- Very Low Thermal Impedance for High Power Dissipation
- Non Magnetic Packaging available
- Surface Mount and Insulated Stud Packages
- RoHS Compliant[1]

[1] Most of our devices are supplied with Gold plated terminations. Other terminal finishes are available on request. Consult factory for details.

APPLICATIONS/BENEFITS

- Kilowatt Switching
- Transfer Switched
- MRI T/R Switching
- Power Attenuators

ABSOLUTE MAXIMUM RATINGS AT 25° C (UNLESS OTHERWISE SPECIFIED)

Rating	Symbol	Value	Unit
Maximum Leakage Current @80% of Minimum Rated V_B	I_R	1.0	uA
Storage Temperature	T_{STG}	-65 to +150	°C
Operating Temperature	T_{OP}	-55 to +125	°C

For the most current data, consult our website: ***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.

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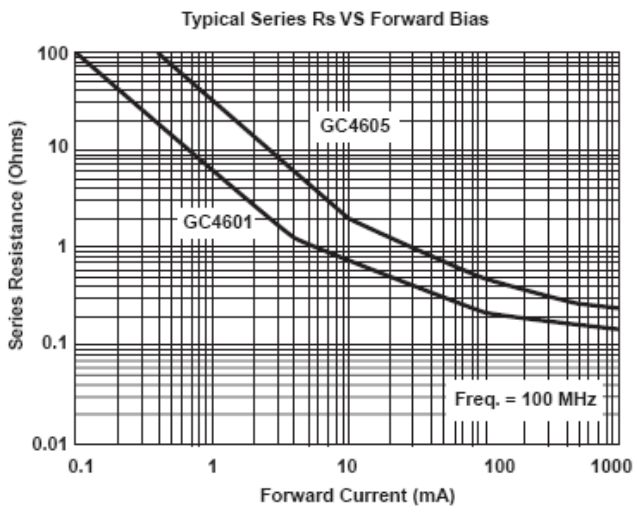
ELECTRICAL CHARACTERISTICS AT 25 ˚C

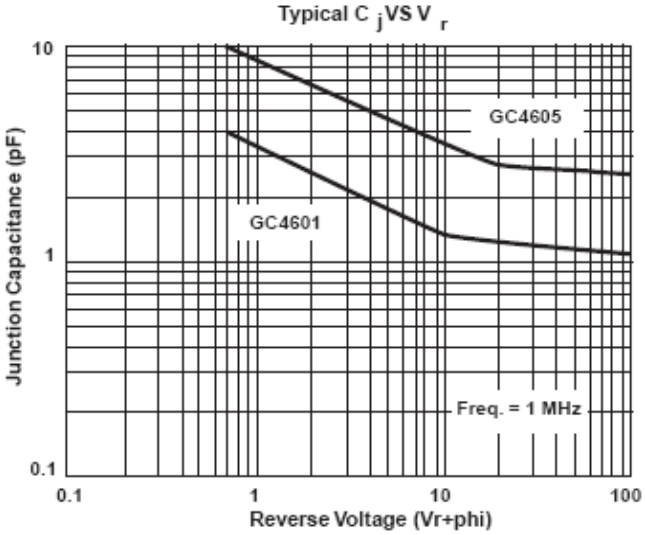
Model Number	V_B (V) I_R=10uA (Min)	C_J (pF)[1] V_R =50V (Max)	R_S(Ohms)[2] 500 mA, 100 mHz (Max)	T_L(uS) I_F=10 mA (Typ)	θP(˚C/W) THERMAL RESISTANCE (Max)
GC4600	1500	0.75	0.3	5	5
GC4601	1500	1.5	0.25	8	4
GC4602	2000	1	0.25	10	3
GC4603	2000	2	0.2	15	3
GC4604	2500	2	0.2	20	2
GC4605	2500	3	0.15	25	1

Notes
1. Capacitance is measured at 1 MHz and -50 volts.
2. Resistance is measured using transmission loss techniques using a 30 style package.
3. These devices are not available in all case styles. Please consult the factory for specific package styles offered.

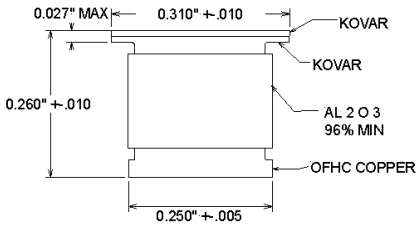
TYPICAL RS CURVES



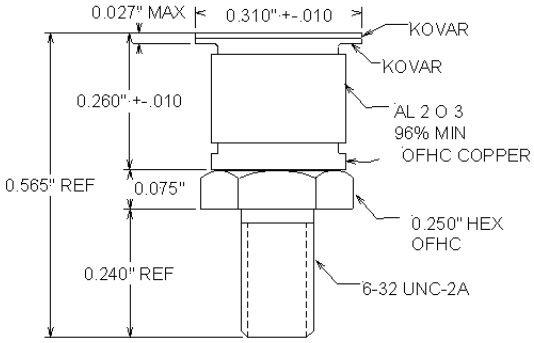
TYPICAL CV CURVES



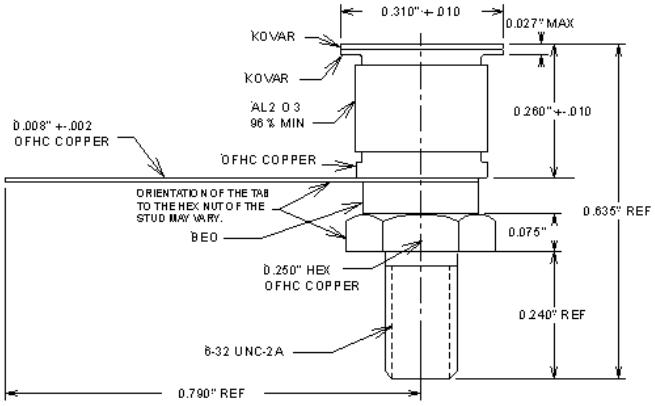
PACKAGE STYLE 171



PACKAGE STYLE 172



PACKAGE STYLE 173



OTHER PACKAGE STYLES AVAILABLE ON REQUEST
CONSULT FACTORY