

HIGH POWER PIN DIODE SERIES

- Power Rating up to Multi Kilowatts
- Voltage Rating up to 2.5 Kilovolts
- Low Loss, Low Distortion through HF Band
- Very Low Thermal Impedance and High Dissipation Capabilities
- Surface Mount Stud and Insulated Stud Packages
- Non-Magnetic Packaging Available



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.

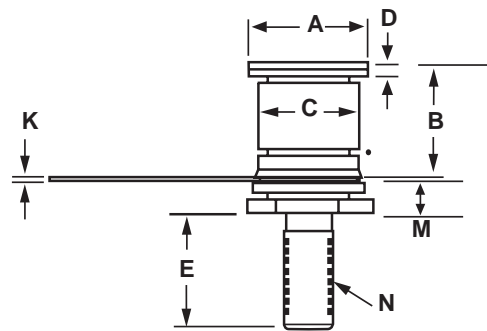
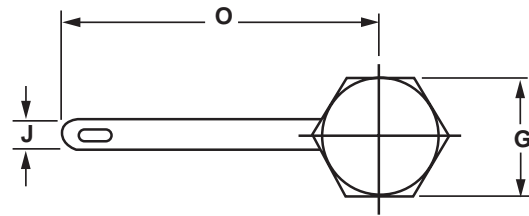
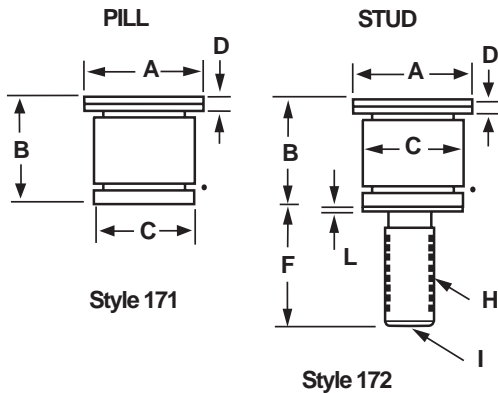
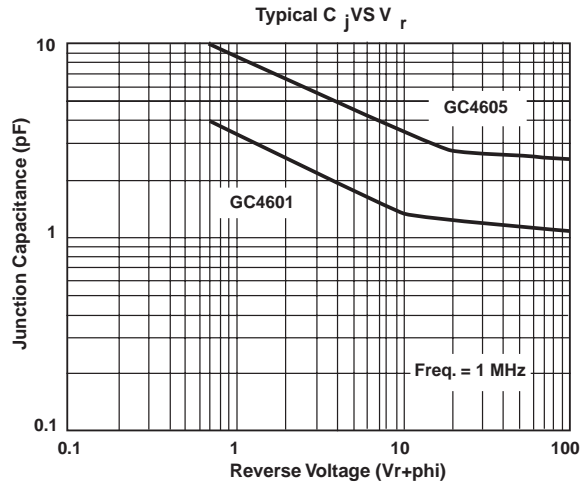
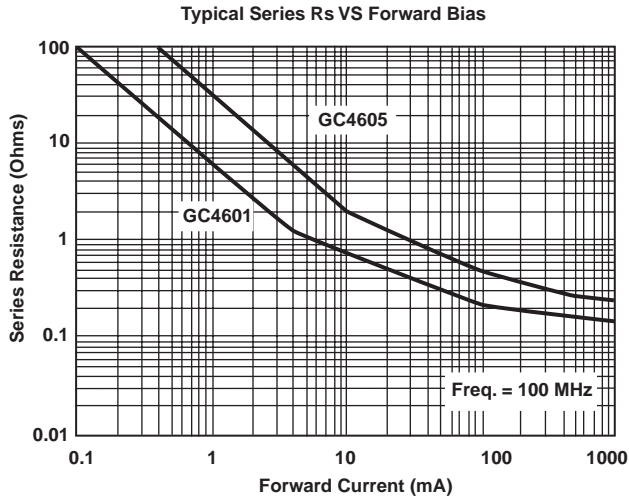
APPLICATIONS

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.

GUARANTEED SPECIFICATIONS at 25°C (TYPICAL)

| MODEL NUMBER | BREAKDOWN VOLTAGE ($I_R=10\mu A$) V_B (MIN) (Volts) | JUNCTION CAPACITANCE ($V_R=50V$) C_J (MAX) (pF) | SERIES RESISTANCE (500mA, 100 MHz) R_S (MAX) (Ohms) | CARRIER LIFETIME ($I_R=6mA$, $I_F=10mA$) T_L (TYP) (μ Sec) | THERMAL RESISTANCE (MAX) (°C/W) |
|--------------|---|---|---|---|---------------------------------------|
| GC4600 | 1500 | 0.75 | 0.3 | 5 | 5 |
| GC4601 | 1500 | 1.5 | 0.25 | 8 | 4 |
| GC4602 | 2000 | 1.0 | 0.25 | 10 | 3 |
| GC4603 | 2000 | 2.0 | 0.20 | 15 | 3 |
| GC4604 | 2500 | 2.0 | 0.20 | 20 | 2 |
| GC4605 | 2500 | 3.0 | 0.15 | 25 | 1 |

HIGH POWER PIN DIODE SERIES



Style 173

| DIM. | INCHES | | |
|------|--------|-------|--------------------------------|
| | MIN. | MAX. | |
| A | 0.304 | 0.316 | |
| B | 0.254 | 0.270 | |
| C | 0.245 | 0.255 | |
| D | 0.023 | 0.031 | |
| E | 0.221 | 0.252 | |
| F | 0.281 | 0.350 | |
| G | 0.245 | 0.255 | |
| H | | | #6-40 UNF-3A |
| I | | | 0.072 SPLINE * 0.07 DP OR SLOT |
| J | 0.120 | 0.130 | |
| K | 0.007 | 0.009 | |
| L | 0.025 | 0.035 | |
| M | 0.128 | 0.137 | |
| N | | | |
| O | 0.078 | 0.790 | |

SEMICONDUCTOR OPERATION

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