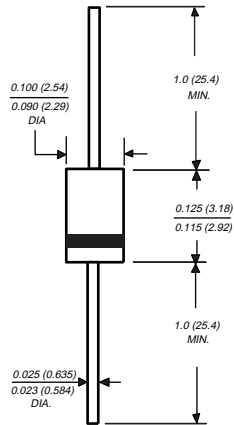


UG06A THRU UG06D

MINIATURE ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 0.6 Ampere

Case Style MPG06



Dimensions in inches and (millimeters)

FEATURES

- ◆ Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- ◆ Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- ◆ Ultrafast reverse recovery times for high efficiency
- ◆ Soft recovery characteristics
- ◆ Excellent high temperature switching
- ◆ Glass passivated junction
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Void free molded plastic body over passivated chip
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0064 ounce, 0.181 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| | SYMBOLS | UG06A | UG06B | UG06C | UG06D | UNITS |
|---|--------------------------------------|--------------|-------|-------|-------|-------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 150 | 200 | Volts |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 105 | 140 | Volts |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 150 | 200 | Volts |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at T _L =75°C | I _(AV) | 0.6 | | | | Amp |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T _L =75°C | I _{FSM} | 40.0 | | | | Amps |
| Maximum instantaneous forward voltage at 0.6A | V _F | 0.95 | | | | Volts |
| Maximum DC reverse current at rated DC blocking voltage | I _R | 5.0 100.0 | | | | μA |
| Maximum reverse recovery time (NOTE 1) | t _{rr} | 15.0 | | | | ns |
| Maximum reverse recovery time (NOTE 2) | t _{rr} | 25.0 35.0 | | | | ns |
| Maximum recovered stored charge (NOTE 2) | Q _{rr} | 8.0 20.0 | | | | nC |
| Typical junction capacitance (NOTE 3) | C _J | 9.0 | | | | pF |
| Typical thermal resistance (NOTE 4) | R _{θJA} R _{θJL} | 97.0 28.0 | | | | °C/W |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | | | | °C |

NOTES:

- (1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
- (2) t_{rr} and Q_{rr} measured at I_F=0.6A: V_R=30V, di/dt=50A/μs, I_{rr}=10% I_{RM} for measurement of t_{rr}
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Thermal resistance from junction to ambient and junction to lead at 0.375" (9.5mm) lead length
P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pads

RATINGS AND CHARACTERISTIC CURVES UG06A THRU UG06D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES

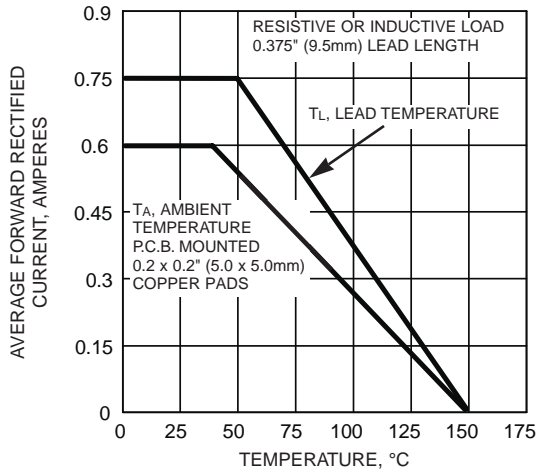


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

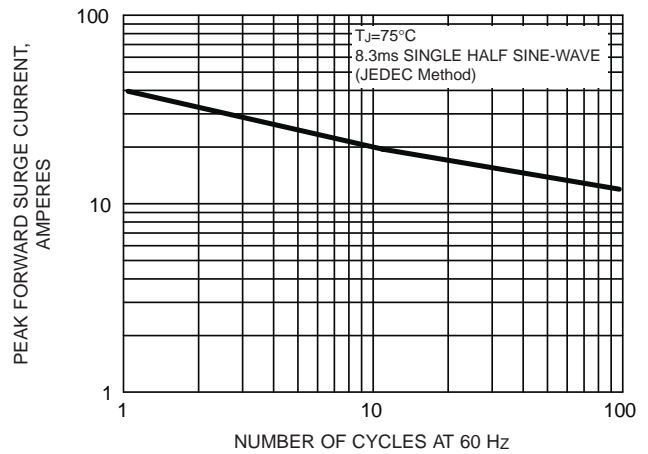


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

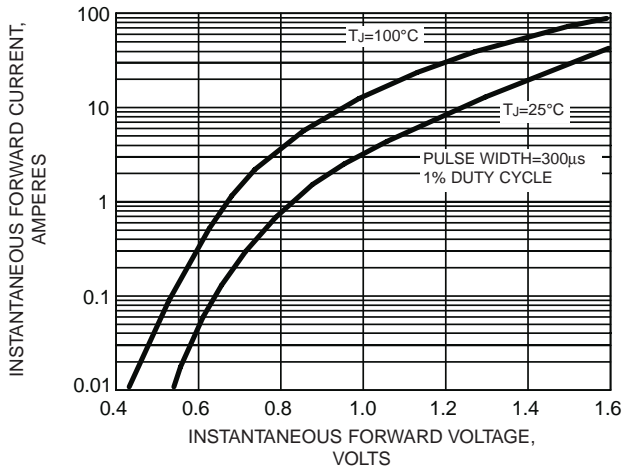


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

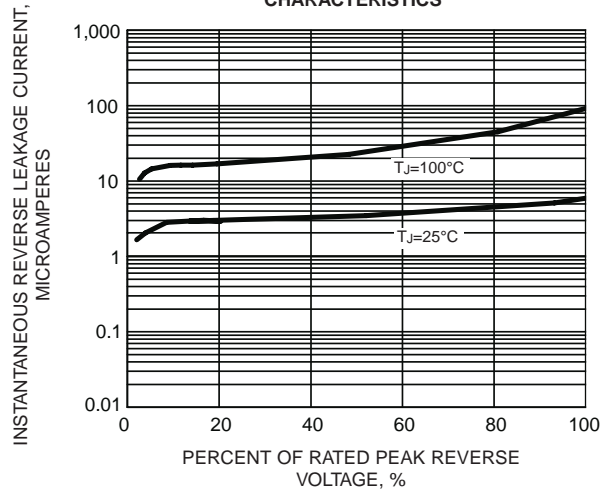


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

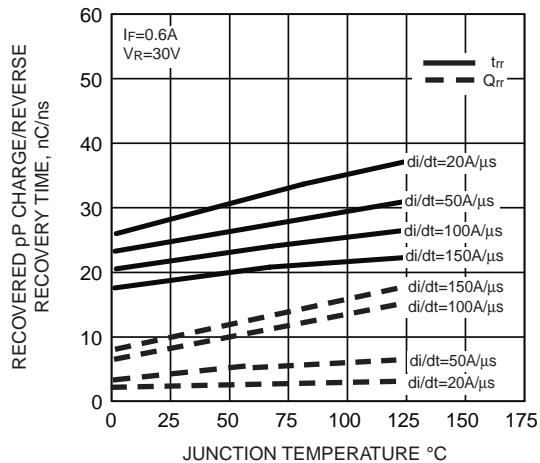


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

