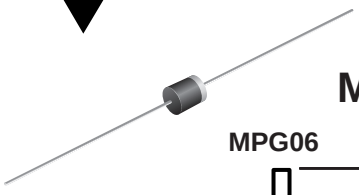
Miniature Ultrafast Plastic Rectifier



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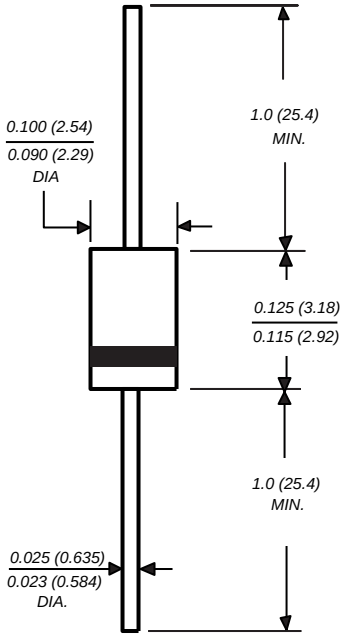

Dimensions in inches and (millimeters)

Reverse Voltage 50 to 200V
Forward Current 0.6A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics
- 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 glass 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 oz., 0.181 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbols	UG06A	UG06B	UG06C	UG06D	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	V
Maximum average forward rectified current at 0.375" (9.5mm) lead length at T_L = 75ºC	$I_{F(AV)}$	0.6				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L = 75ºC	I_{FSM}	40				A
Typical thermal resistance (1)	$R_{\Theta JA}$ $R_{\Theta JL}$	97 28				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150°C				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters		Symbols	UG06A	UG06B	UG06C	UG06D	Units
Maximum instantaneous forward voltage at 0.6A		V_F	0.95				V
Maximum DC reverse current at rated DC blocking voltage	T_A= 25°C T_A=100°C	I_R	5.0 100				µA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A		t_{rr}	15				ns
Maximum reverse recovery time I_F=0.6A, V_R=30V, di/dt=50A/µs, I_{rr}=10% I_{RM}	T_J = 25°C T_J = 100°C	t_{rr}	25 35				ns
Maximum recovered stored charge I_F=0.6A, V_R=30V, di/dt=50A/µs, I_{rr}=10% I_{RM}	T_J = 25°C T_J = 100°C	Q_{rr}	8.0 20				nC
Typical junction capacitance at 4V, 1MHz		C_J	9.0				pF

Notes: (1) 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
(2) Pulse test: 300µs pulse width, 1% duty cycle

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 — Maximum Forward Current Derating Curves

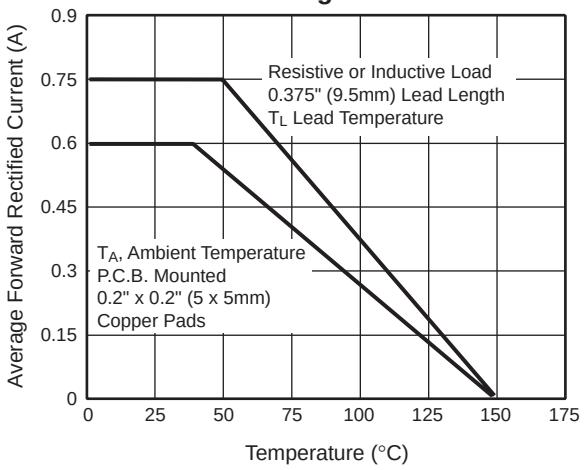

Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current

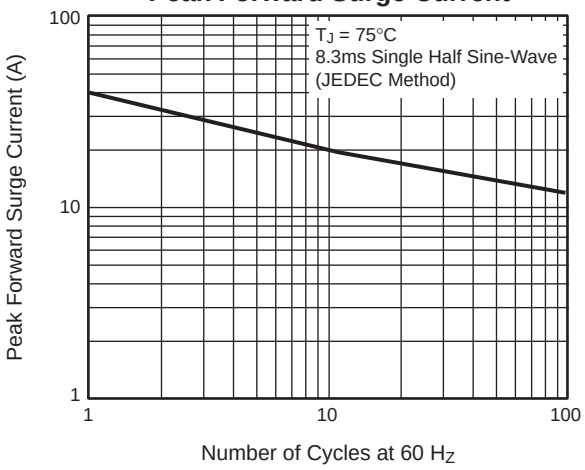

Fig. 3 — Typical Instantaneous Forward Characteristics

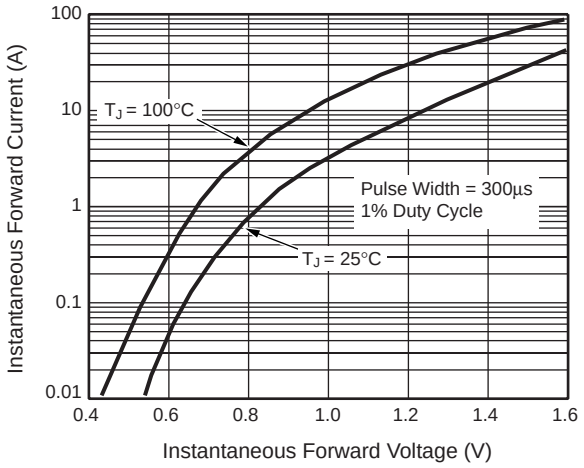

Fig. 4 — Typical Reverse Leakage Characteristics

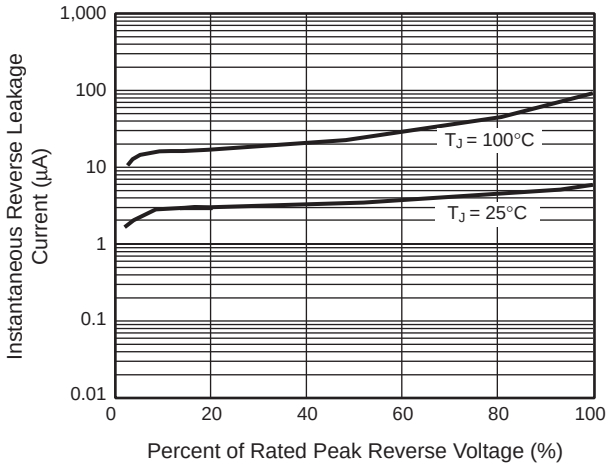

Fig. 5 — Reverse Switching Characteristics

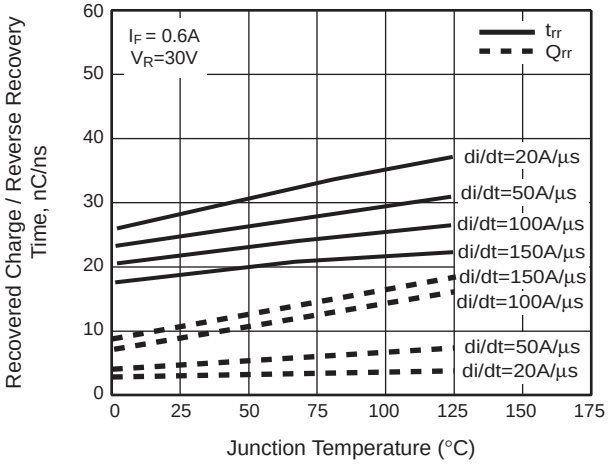

Fig. 6 — Typical Junction Capacitance