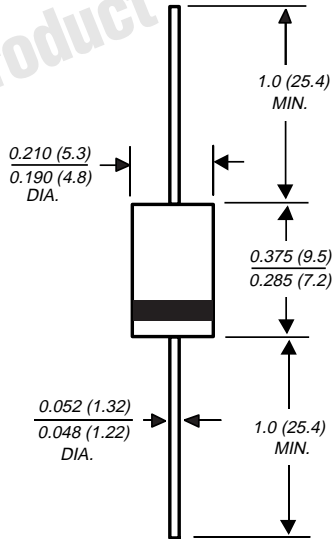


GUR440 and GUR460

Ultrafast Plastic Rectifier

Reverse Voltage 400 to 600V

Forward Current 4.0A



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
- 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: JEDEC DO-201AD 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: 0.045 ounce, 1.2 grams

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GUR440	GUR460	Units
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	V
Working peak reverse voltage	V_{RWM}	400	600	V
Maximum DC blocking voltage	V_{DC}	400	600	V
Maximum average forward rectified current at $T_A = 40^\circ\text{C}$ See figure 1	$I_{F(AV)}$	4.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150		A
Typical thermal resistance junction to ambient (NOTE 2)	$R_{\theta JA}$	28		°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175°C		°C
Peak non-repetitive reverse avalanche energy at $I_R=1.0\text{A}, T_J=25^\circ\text{C}$ (unclamped inductive load)	E_{RSM}	25		mJ

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	GUR440	GUR460	Units
Maximum instantaneous forward voltage (NOTE 1) at 3.0A, $T_J=150^\circ\text{C}$ at 3.0A, $T_J=25^\circ\text{C}$ at 4.0A, $T_J=25^\circ\text{C}$	V_F	1.05 1.25 1.28		V
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1) $T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$	I_R	10 250		μA
Maximum reverse recovery time at $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	t_{rr}	45		ns
Maximum reverse recovery time at $I_F=1.0\text{A}, di/dt=50\text{A}/\mu\text{s}, V_R=30\text{V}, I_{rr}=10\% I_{RM}$	t_{rr}	60		ns
Maximum forward recovery time ($I_F=1.0\text{A}, di/dt=100\text{A}/\mu\text{s}, \text{Rec. to } 1.0\text{V}$)	t_{fr}	50		ns

NOTES:

(1) Pulse test: $t_p=300\mu\text{s}$, duty cycle $\leq 2\%$

(2) Lead length = 1/2" on P.C. board with 1/2" x 1/2" copper surface

Ratings & Characteristic Curves

Figure 1 – Forward Current Derating Curve

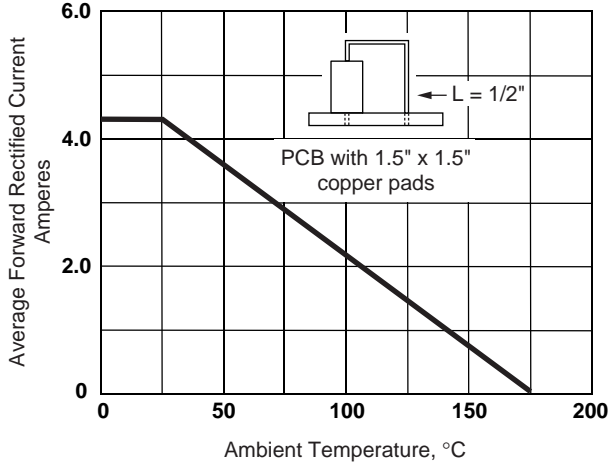


Figure 2 – Maximum Non-Repetitive Peak Forward Surge Current

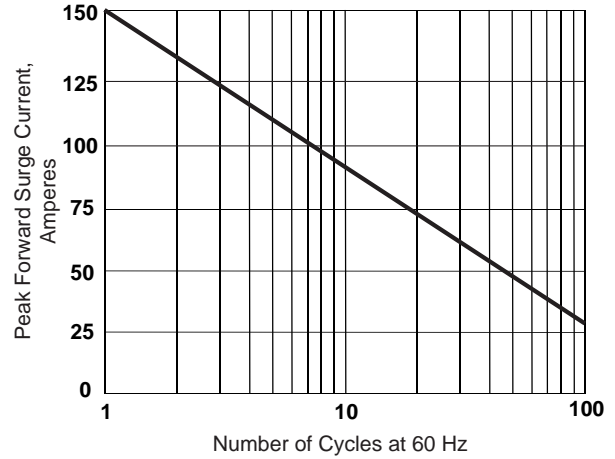


Figure 3 – Typical Instantaneous Forward Characteristics

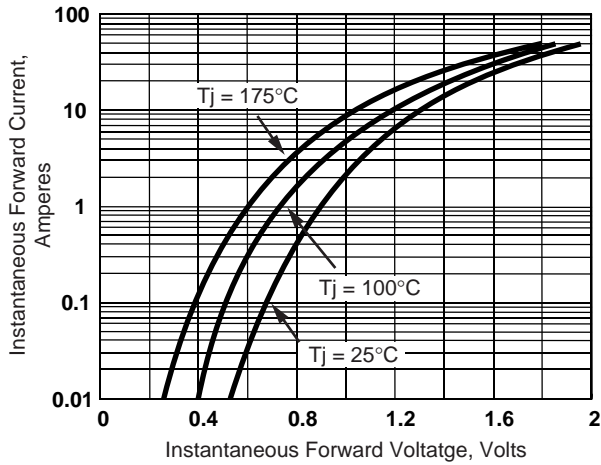


Figure 4 – Typical Reverse Characteristics

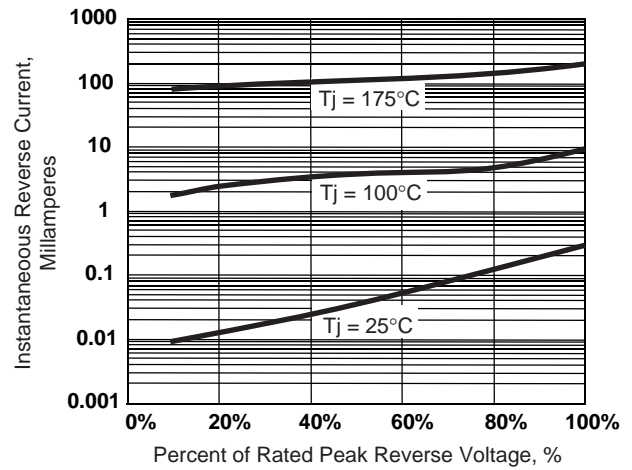


Figure 5 – Typical Junction Capacitance per Leg

