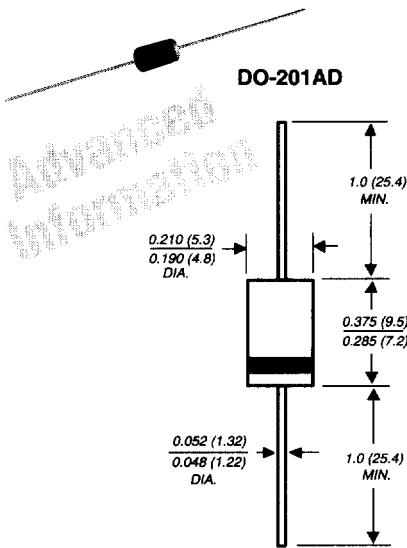


Ultrafast Plastic Rectifier

Reverse Voltage 400 to 600V

Forward Current 4.0A



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 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.

	Symbol	GUR440	GUR460	Unit
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°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 _{θJA}	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 =1.0A, T _J =25°C (unclamped inductive load)	E _{RSM}	25		mJ

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. ^a

	Symbol	GUR440	GUR460	Unit
Maximum instantaneous forward voltage (NOTE 1) at 3.0A, T _J =150°C at 3.0A, T _J =25°C at 4.0A, T _J =25°C	V _F	1.05 1.25 1.28		V
Maximum instantaneous reverse current at rated DC blocking voltage (NOTE 1) T _J =25°C T _J =150°C	I _R		10 250	μA
Maximum reverse recovery time at I _F =0.5A, I _R =1.0A, I _r =0.25A	t _{rr}		45	ns
Maximum reverse recovery time at I _F =1.0A, di/dt=50A/μs, V _R =30V, I _r =10% I _{RM}	t _{rr}		60	ns
Maximum forward recovery time (I _F =1.0A, di/dt=100A/μs, Rec. to 1.0V)	t _{fr}		50	ns

Notes:

(1) Pulse test: t_p=300μs, duty cycle ≤ 2%

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

Ultrafast Recovery

Figure 1 – Forward Current Derating Curve

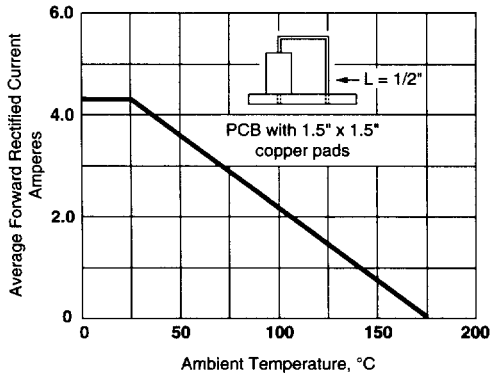


Figure 2 – Maximum Non-Repetitive Peak Forward Surge Current

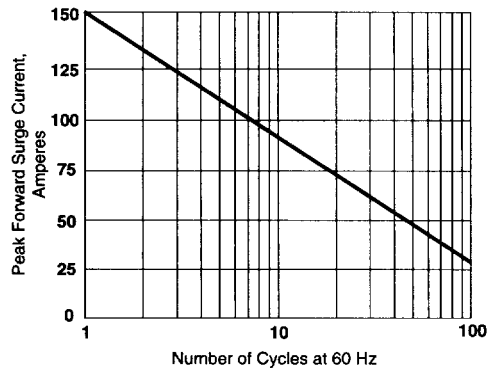


Figure 3 – Typical Instantaneous Forward Characteristics

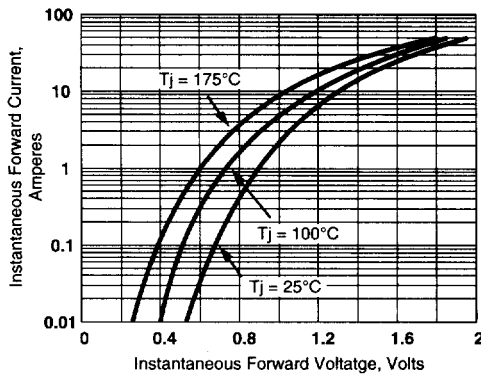


Figure 4 – Typical Reverse Characteristics

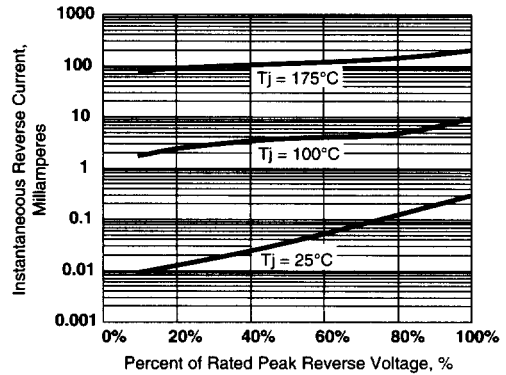


Figure 5 – Typical Junction Capacitance per Leg

