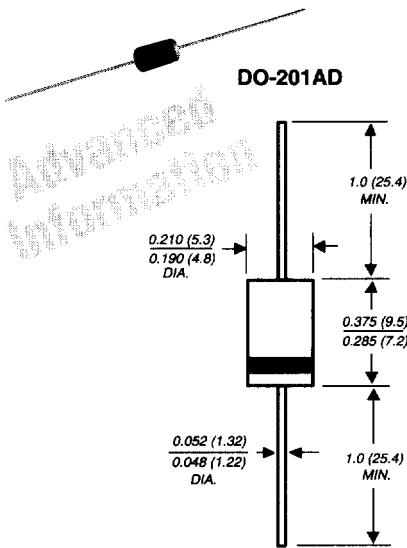


## Ultrafast Plastic Rectifier

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 <sub>RRM</sub>	400	600	V
Working peak reverse voltage	V <sub>RWM</sub>	400	600	V
Maximum DC blocking voltage	V <sub>DC</sub>	400	600	V
Maximum average forward rectified current at T <sub>A</sub> = 40°C See figure 1	I <sub>F(AV)</sub>	4.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150		A
Typical thermal resistance junction to ambient (NOTE 2)	R <sub>θJA</sub>	28		°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175°C		°C
Peak non-repetitive reverse avalanche energy at I <sub>R</sub> =1.0A, T <sub>J</sub> =25°C (unclamped inductive load)	E <sub>RSM</sub>	25		mJ

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. <sup>a</sup>

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

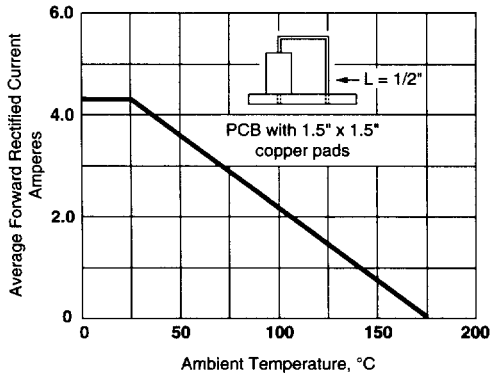
#### Notes:

(1) Pulse test: t<sub>p</sub>=300μs, duty cycle ≤ 2%

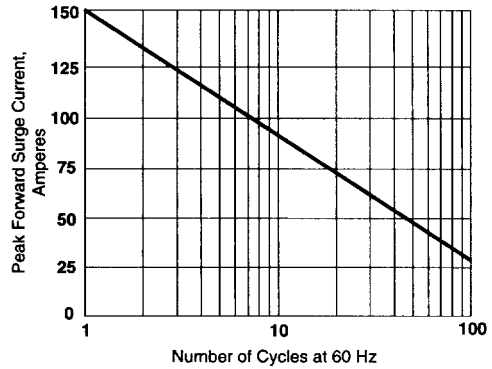
(2) Lead length = 1/2" on P.C. board with 1/2" x 1/2" copper surface

**Ultrafast Recovery**

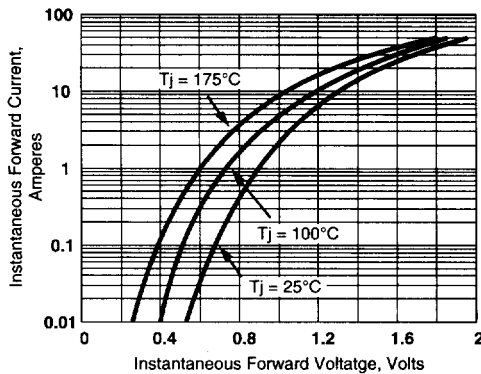
**Figure 1 – Forward Current Derating Curve**



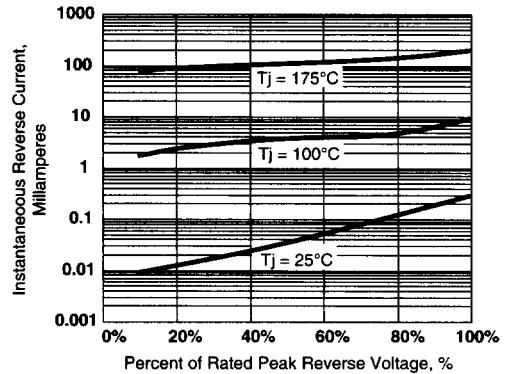
**Figure 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Figure 3 – Typical Instantaneous Forward Characteristics**



**Figure 4 – Typical Reverse Characteristics**



**Figure 5 – Typical Junction Capacitance per Leg**

