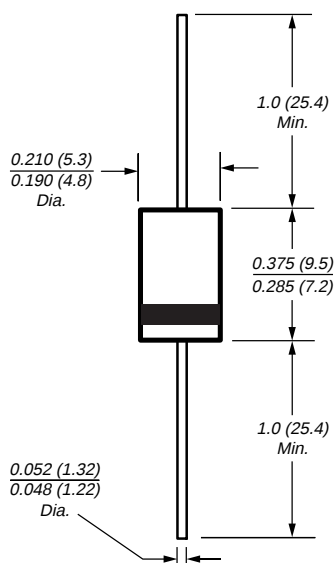


Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200V
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
- 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: 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 oz., 1.2 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	UG4A	UG4B	UG4C	UG4D	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 $T_L = 75^\circ\text{C}$	$I_{F(AV)}$	4.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L = 75^\circ\text{C}$	I_{FSM}	150				A
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$	25				$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150°C				$^\circ\text{C}$

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	Value	Units
Maximum instantaneous forward voltage at 4.0A (NOTE 2)	V_F	0.95	V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	I_R	5.0 300	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}	20	ns
Maximum reverse recovery time at $T_J = 25^\circ\text{C}$ $I_F = 4.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$, $V_R = 30\text{V}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$	t_{rr}	30 50	ns
Maximum recovered stored charge $T_J = 25^\circ\text{C}$ $I_F = 4.0\text{A}$, $di/dt = 50\text{A}/\mu\text{s}$, $V_R = 30\text{V}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$	Q_{rr}	15 30	nC
Typical junction capacitance at 4V, 1MHz	C_J	20	pF

Notes:

(1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length

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

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curves

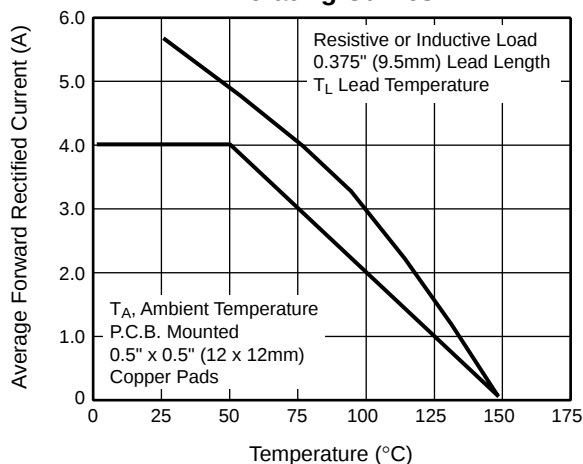


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

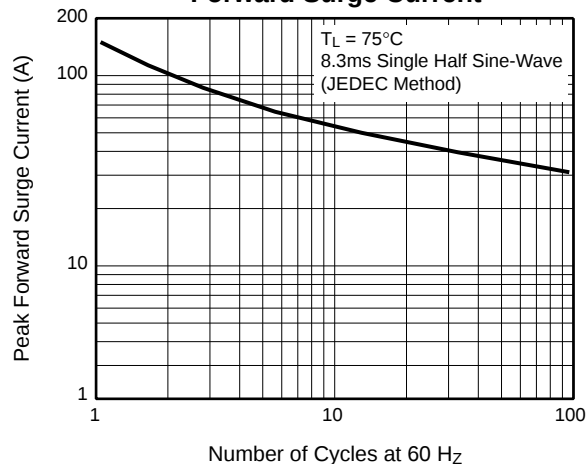


Fig. 3 – Typical Instantaneous Forward Characteristics

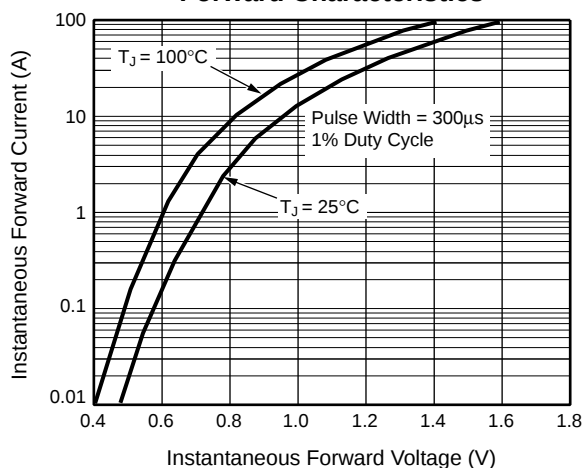


Fig. 4 – Typical Reverse Leakage Characteristics

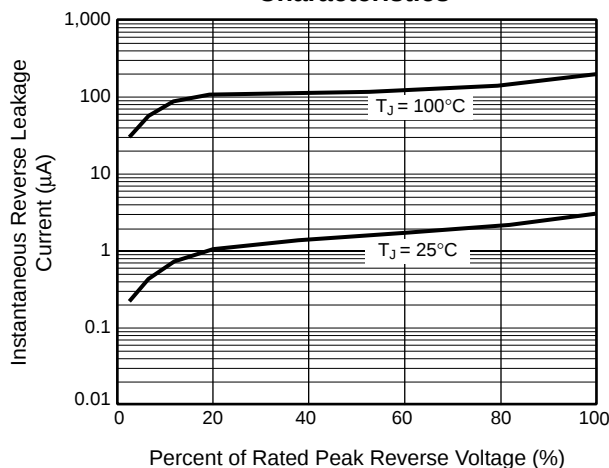


Fig. 5 – Reverse Switching Characteristics

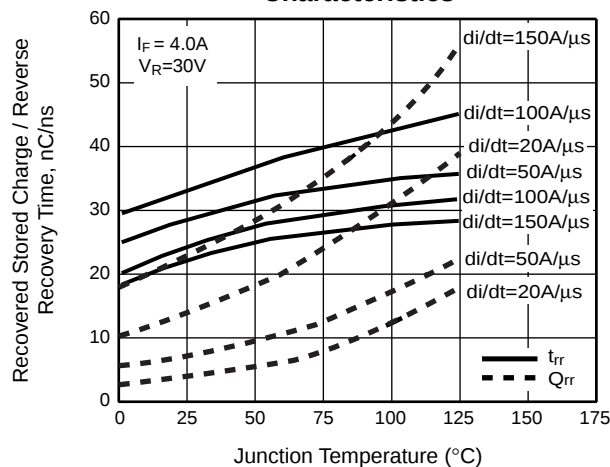


Fig. 6 – Typical Junction Capacitance

