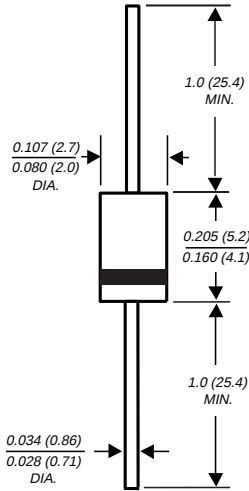


UG1A THRU UG1D

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts Forward Current - 1.0 Ampere

DO-204AL



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 a free wheeling diode
- ♦ Ultrafast recovery time for high efficiency
- ♦ Soft recovery characteristics
- ♦ 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-204AL, molded plastic body over passivated chip

Terminals: Axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.012 ounce, 0.34 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UG1A	UG1B	UG1C	UG1D	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=75^\circ\text{C}$	$I_{(AV)}$	1.0				Amp
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}	40.0				Amps
Maximum instantaneous forward voltage at 1.0A	V_F	0.95				Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	I_R	5.0 200.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	15.0				ns
Maximum reverse recovery time (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	t_{rr}	25.0 35.0				ns
Maximum recovered stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	Q_{rr}	8.0 12.0				nC
Typical junction capacitance (NOTE 3)	C_J	7.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$ $R_{\theta JL}$	60.0 20.0				$^\circ\text{C/W}$
Operating and storage temperature range	T_J, T_{STG}	-55 to +150				$^\circ\text{C}$

NOTES:

- (1) Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
- (2) t_{rr} and Q_{rr} measured at: $I_F=1.0\text{A}$, $V_R=30\text{V}$, $di/dt=50\text{A}/\mu\text{s}$, $I_{rr}=10\%$ I_{RM} for measurement of t_{rr}
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length

RATINGS AND CHARACTERISTIC CURVES UG1A THRU UG1D

FIG. 1 - FORWARD CURRENT DERATING CURVES

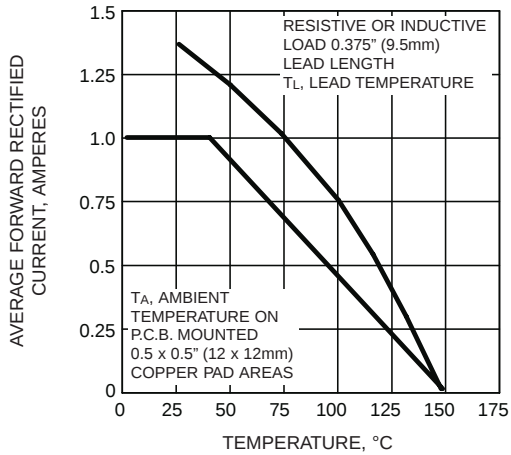


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

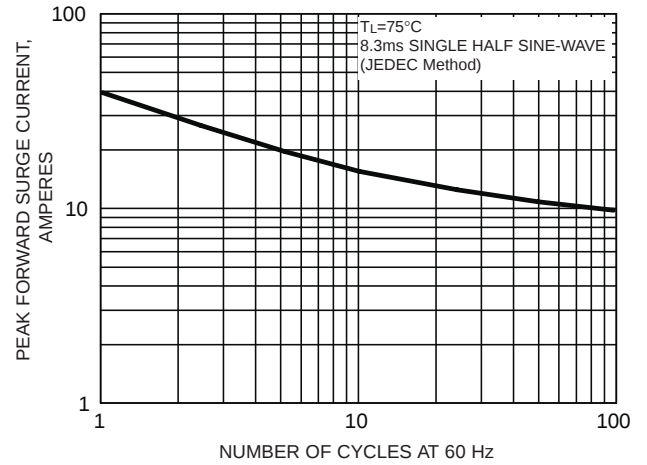


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

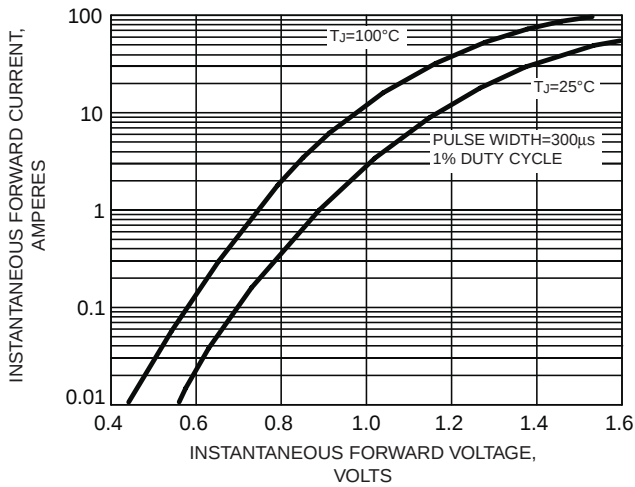


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

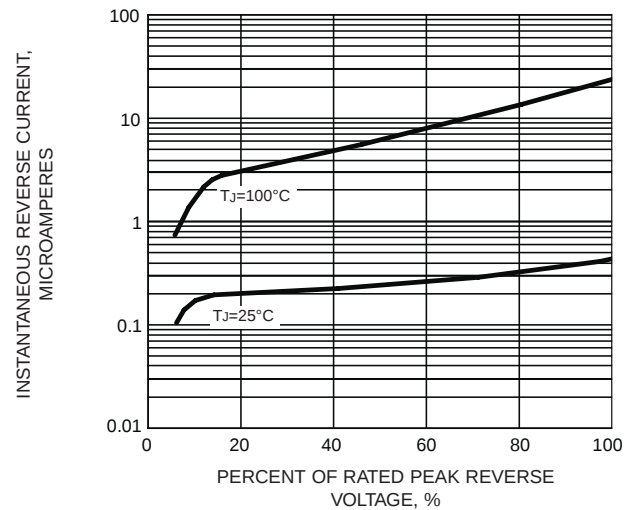


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

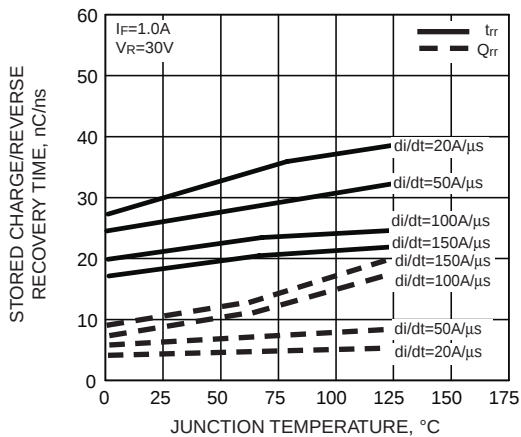


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

