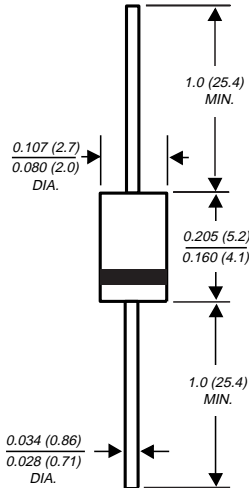


# UG1A THRU UG1D

## ULTRAFAST EFFICIENT PLASTIC RECTIFIER

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

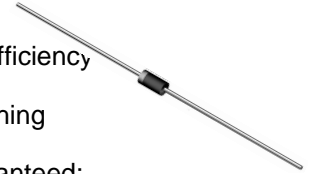
DO-204AL



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.

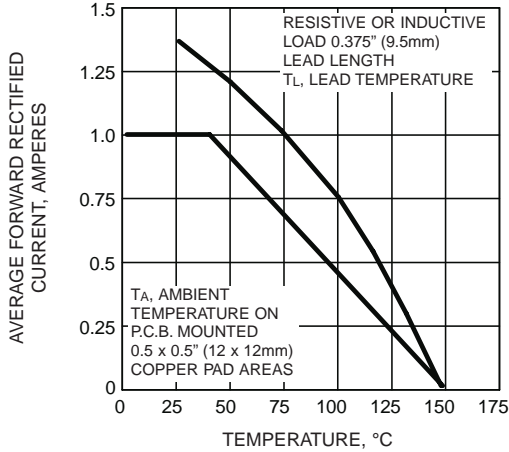
	SYMBOLS	UG1A	UG1B	UG1C	UG1D	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at T <sub>L</sub> =75°C	I <sub>(AV)</sub>	1.0				Amp
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>L</sub> =75°C	I <sub>FSM</sub>	40.0				Amps
Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	5.0 200.0				μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	15.0				ns
Maximum reverse recovery time (NOTE 2)	t <sub>rr</sub>	25.0 35.0				ns
Maximum recovered stored charge (NOTE 2)	Q <sub>rr</sub>	8.0 12.0				nC
Typical junction capacitance (NOTE 3)	C <sub>J</sub>	7.0				pF
Typical thermal resistance (NOTE 4)	R <sub>θJA</sub> R <sub>θJL</sub>	60.0 20.0				°C/W
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150				°C

**NOTES:**

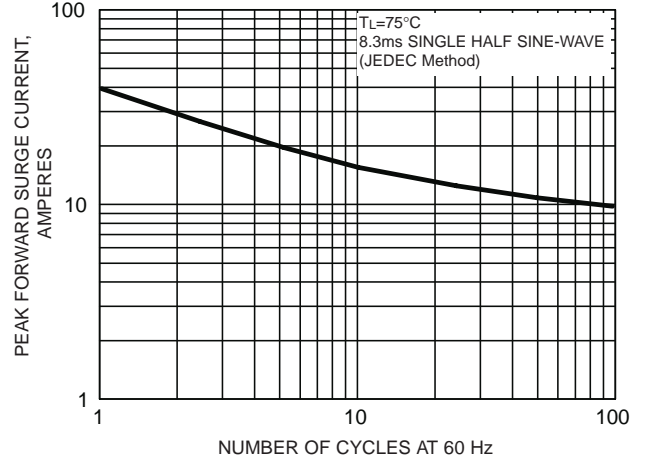
- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A
- (2) t<sub>rr</sub> and Q<sub>rr</sub> measured at: I<sub>F</sub>=1.0A V<sub>R</sub>=30V, di/dt=50A/μs, I<sub>rr</sub>=10% I<sub>RM</sub> for measurement of t<sub>rr</sub>
- (3) Measured at 1.0 MHz and 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

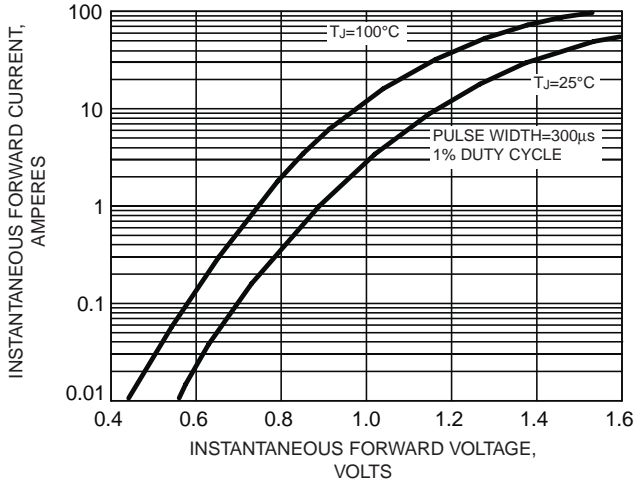
**FIG. 1 - FORWARD CURRENT DERATING CURVES**



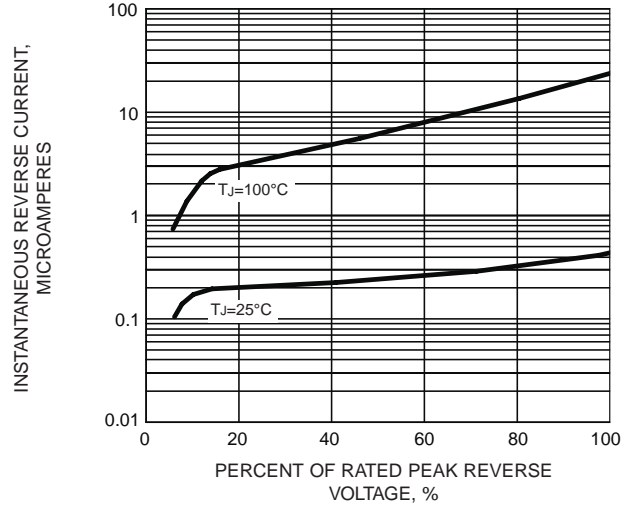
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



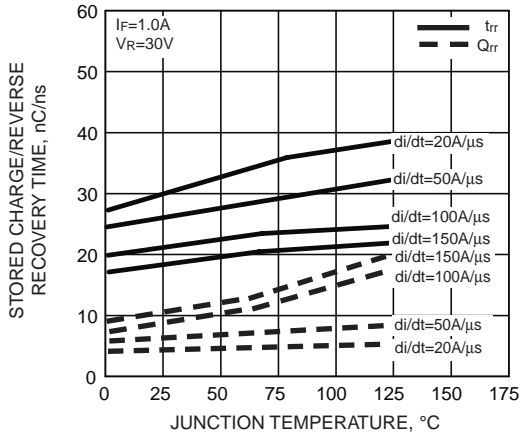
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - REVERSE SWITCHING CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**

