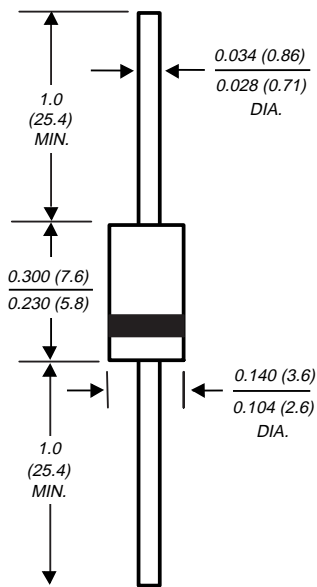


# UG2A THRU UG2D

## ULTRAFAST EFFICIENT PLASTIC RECTIFIER

**Reverse Voltage - 50 to 200 Volts    Forward Current - 2.0 Amperes**

DO-204AC



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 for high efficiency times
- ♦ 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-204AC 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:** 0.015 ounce, 0.4 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	UG2A	UG2B	UG2C	UG2D	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 $T_L=75^\circ\text{C}$	$I_{(AV)}$	2.0				Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=75^\circ\text{C}$	$I_{FSM}$	80.0				Amps
Maximum instantaneous forward voltage at 2.0A	$V_F$	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				$\mu\text{A}$
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 stored charge (NOTE 2) $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$Q_{rr}$	10.0 22.0				nC
Typical junction capacitance (NOTE 3)	$C_J$	15.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$	45.0				$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150				$^\circ\text{C}$

#### NOTES:

(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

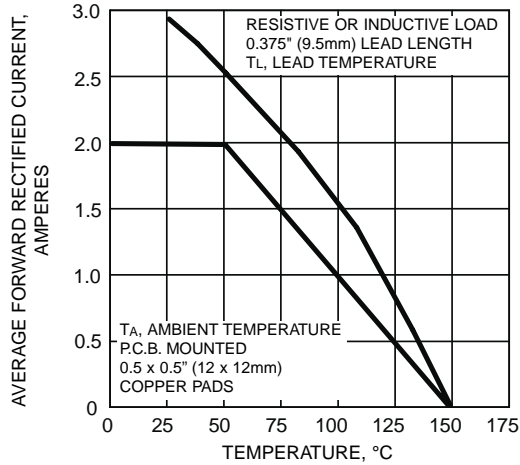
(2)  $t_{rr}$  and  $Q_{rr}$  at:  $I_F=2.0\text{A}$ ,  $V_R=30\text{V}$ ,  $di/dt=50\text{A}/\mu\text{s}$ ,  $I_{rr}=10\%$   $I_{RM}$  for measurement of  $t_{rr}$

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

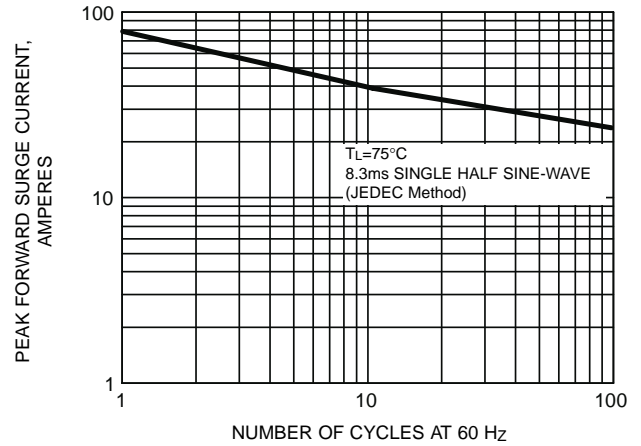
(4) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length

# RATINGS AND CHARACTERISTIC CURVES UG2A THRU UG2D

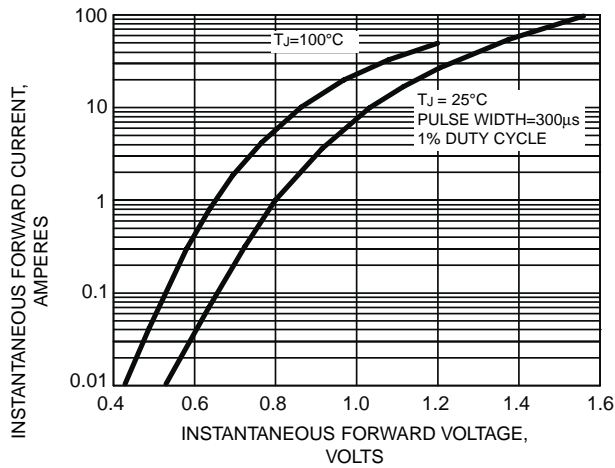
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVES**



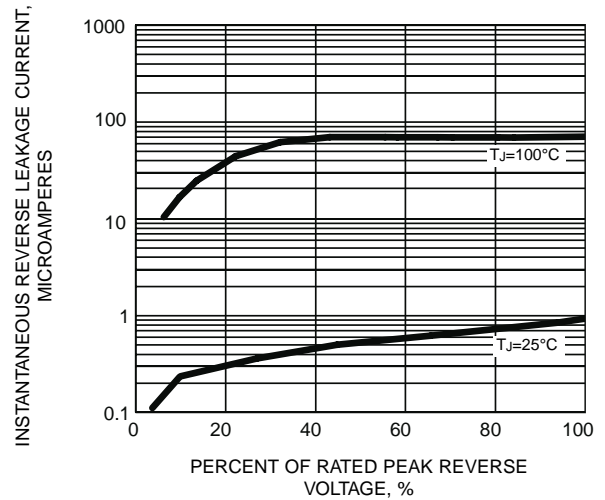
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



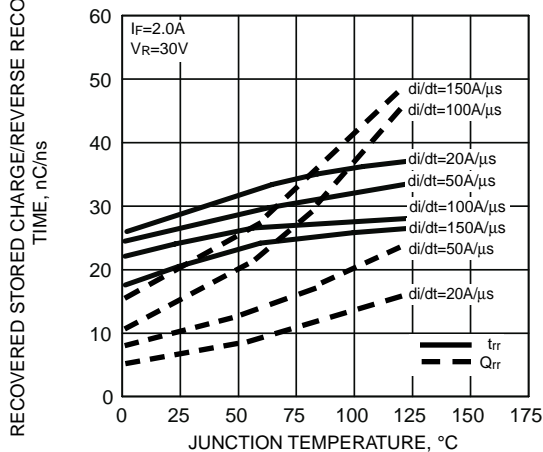
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS**



**FIG. 5 - REVERSE SWITCHING CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**

