



# TAYCHIPST ULTRAFAST EFFICIENT PLASTIC RECTIFIER

**UG4A THRU UG4D**

50V-200V 4.0A

## 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-204AD, molded plastic body over passivated chip

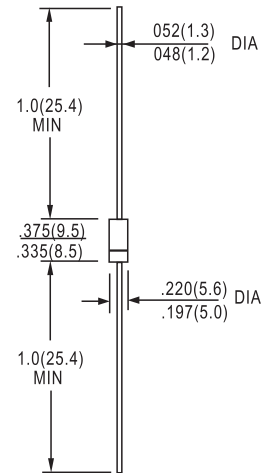
**Terminals:** Axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 ounce, 0.34 gram

DO-27



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL 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	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 $T_L=75^\circ\text{C}$	$I_{(AV)}$	4.0				Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_L=75^\circ\text{C}$	$I_{FSM}$	150.0				Amps
Maximum instantaneous forward voltage at 4.0A	$V_F$	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 300.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	20.0				ns
Maximum reverse recovery time (NOTE 2)	$t_{rr}$	30.0 50.0				ns
Maximum recovered stored charge (NOTE 2)	$Q_{rr}$	15.0 30.0				nC
Typical junction capacitance (NOTE 3)	$C_J$	20.0				pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$	25.0				$^\circ\text{C}/\text{W}$
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  $Q_{RR}$  measured at tester:  $I_F=4.0\text{A}$ ,  $V_R=30\text{V}$ ,  $di/dt=50\text{A}/\mu\text{s}$ ,  $I_{rr}=10\% I_{RM}$  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



TAYCHIPST

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

UG4A THRU UG4D

50V-200V 4.0A

RATINGS AND CHARACTERISTIC CURVES

UG4A THRU UG4D

FIG. 1 - FORWARD CURRENT DERATING CURVE

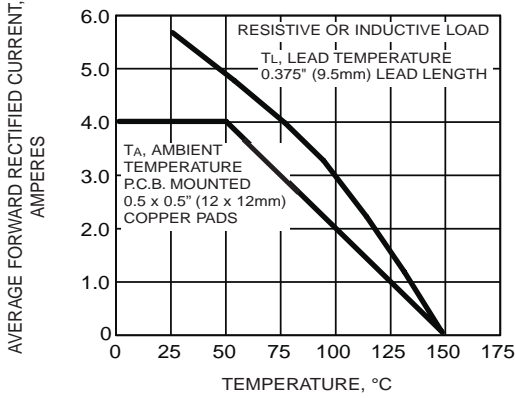


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

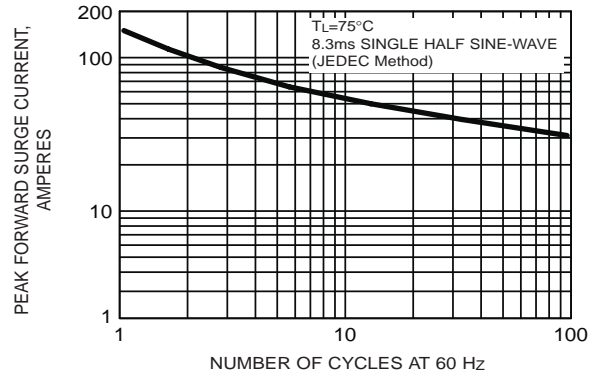


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

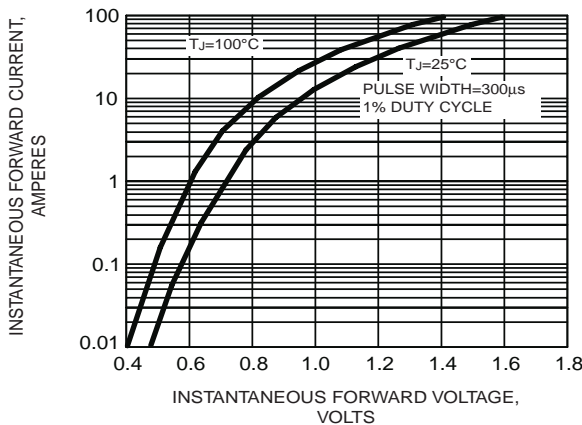


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

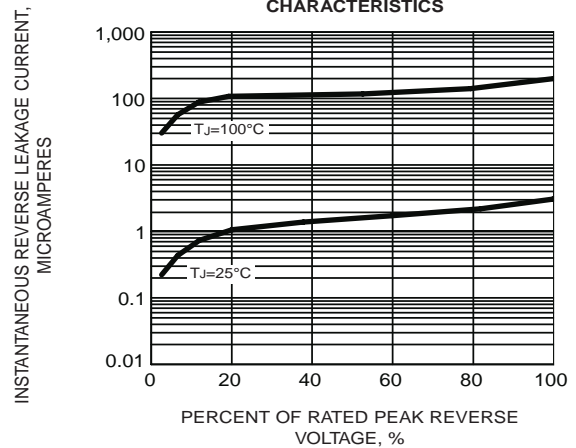


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

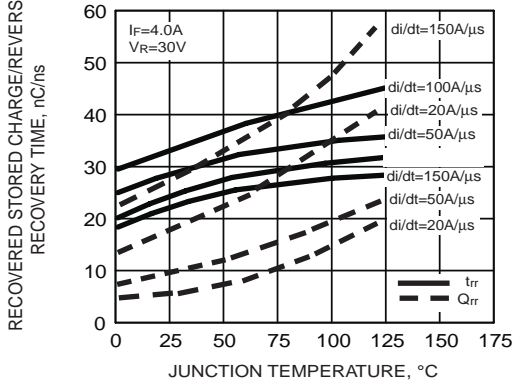


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

