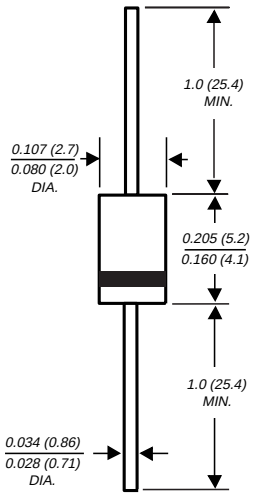
UG1A THRU UG1D

ULTRAFAST EFFICIENT PLASTIC RECTIFIER

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

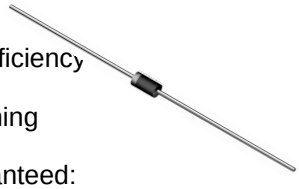
DO-204AL



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°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°C	I_{FSM}	40.0				Amps
Maximum instantaneous forward voltage at 1.0A	V_F	0.95				Volts
Maximum DC reverse current at rated DC blocking voltage T_A= 25°C / T_A=100°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°C / T_J=100°C	t_{rr}	25.0 / 35.0				ns
Maximum recovered stored charge (NOTE 2) T_J=25°C / T_J=100°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				°C/W
Operating and storage temperature range	T_J, T_{STG}	-55 to +150				°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R =1.0A, I_{rr}=0.25A
(2) t_{rr} and Qrr measured at: I_F=1.0A V_R=30V, di/dt=50A/µs, I_{rr}=10% I_{RM} for measurement of t_{rr}
(3) Measured at 1.0 MH_Z 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

GENERAL SEMICONDUCTOR®

RATINGS AND CHARACTERISTIC CURVES UG1A THRU UG1D

FIG. 1 - FORWARD CURRENT DERATING CURVES

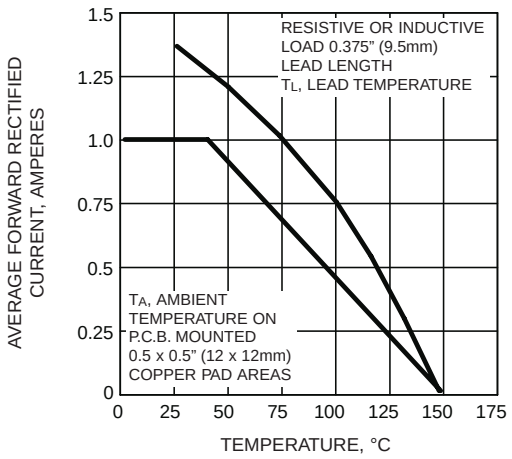


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

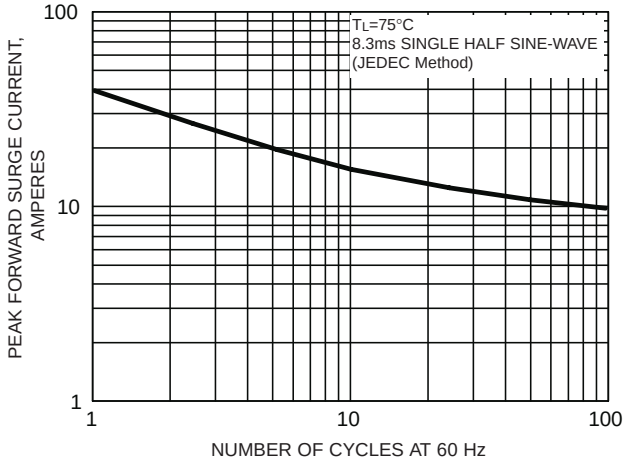


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

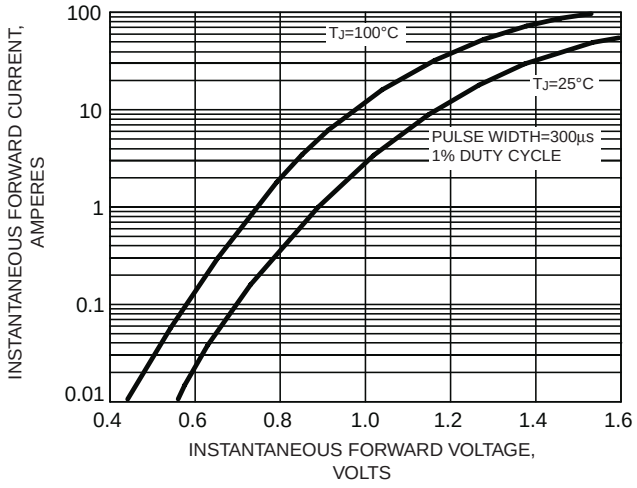


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

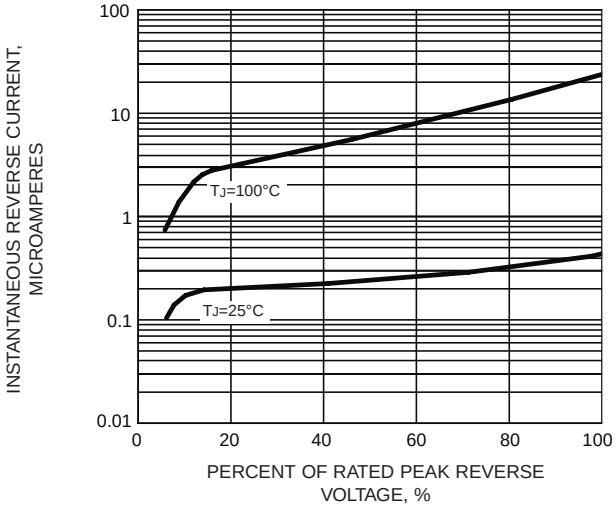


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

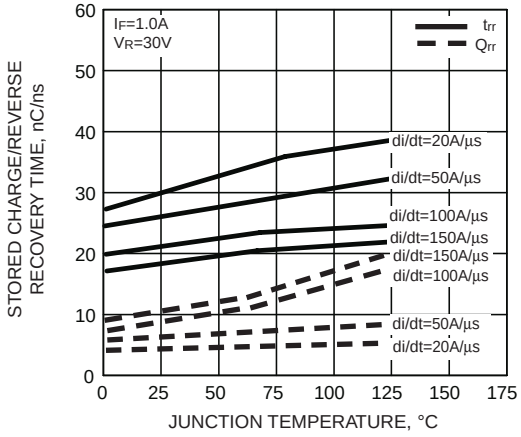
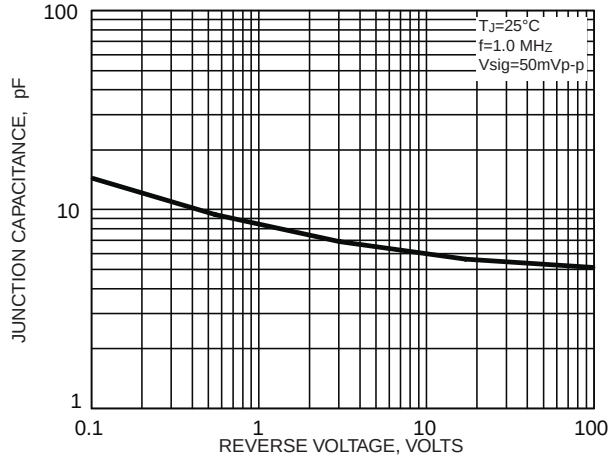


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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