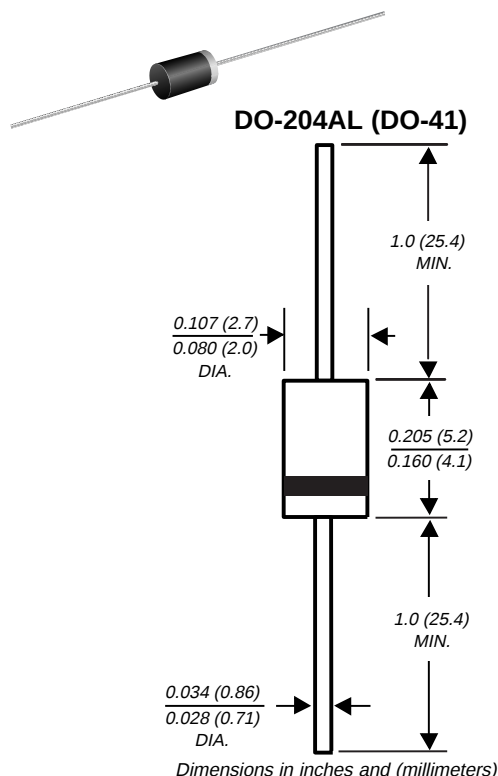


Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200 V

Forward Current 1.0 A



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics
- 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 & Thermal 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	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	V
Maximum average forward rectified current at 0.375" (9.5mm) lead length at T _L = 75°C	I _{F(AV)}	1.0				A
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				A
Typical thermal resistance (NOTE 1)	R _{θJA}	60				°C/W
	R _{θJL}	20				
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150°C				°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	Value	Units
Maximum instantaneous forward voltage at 1.0A (NOTE 2)	V_F	0.95	V
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	μA
Maximum reverse recovery time at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	15	ns
Maximum reverse recovery time at $T_J = 25^\circ\text{C}$ $I_F = 1.0\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$	t_{rr}	25 35	ns
Maximum recovered stored charge $T_J = 25^\circ\text{C}$ $I_F = 1.0\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$	Q_{rr}	8.0 12	nC
Typical junction capacitance at 4V, 1MHz	C_J	7.0	pF

NOTES:

- (1) 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}
- (2) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - FORWARD CURRENT DERATING CURVES

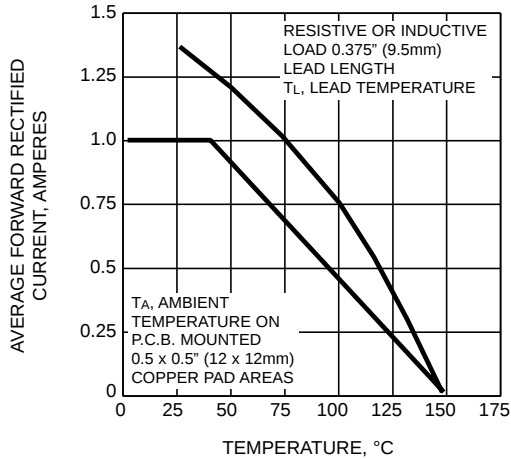


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

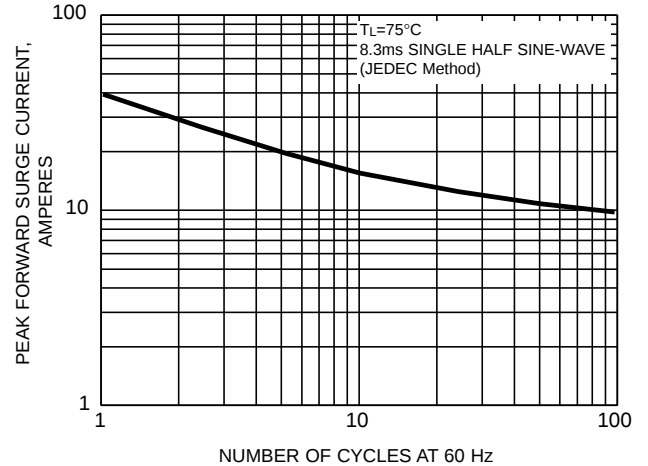


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

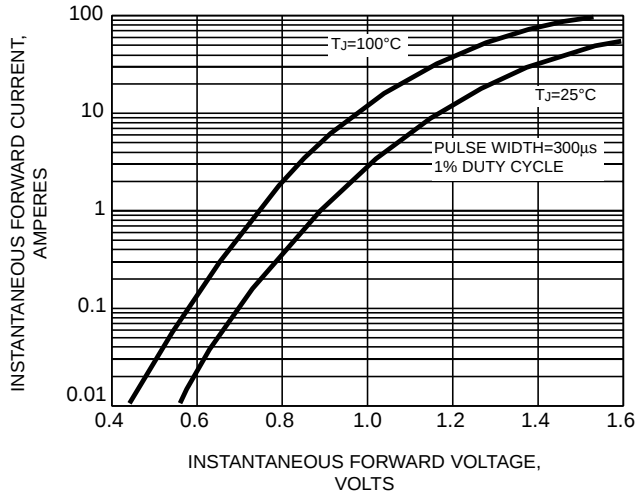


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

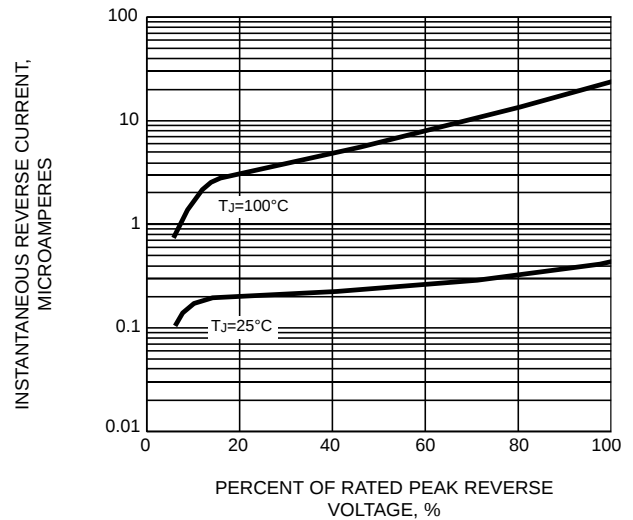


FIG. 5 - REVERSE SWITCHING CHARACTERISTICS

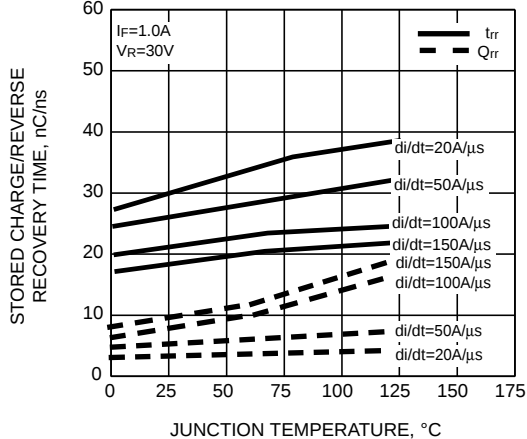


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

