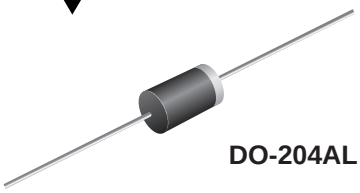
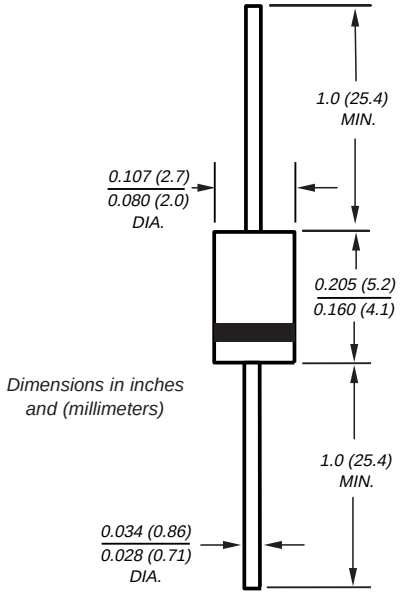
Fast Switching Plastic Rectifier

Reverse Voltage 50 to 600V
Forward Current 1.0A



DO-204AL (DO-41)



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Fast switching for high efficiency
- Construction utilizes void-free molded plastic technique
- 1.0 Ampere operation at T_A=75°C with no thermal runaway
- 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
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 oz., 0.3 g
Packaging codes/options:
E2/4K per Ammo mag. (52mm tape), 20K/box
E3/5K per 13" reel (52mm tape), 10K/box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	1N4933	1N4934	1N4935	1N4936	1N4937	Unit
*Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V
*Maximum RMS voltage	V_{RMS}	35	70	145	280	420	V
*Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V
*Maximum average forward rectified current 0.375" (9.5mm) lead length at T_A=75°C	$I_{F(AV)}$	1.0					A
*Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_A=75°C	I_{FSM}	30					A
*Maximum reverse recovery current (NOTE 1)	I_{RM}	2.0					A
Typical thermal resistance (1)	$R_{\Theta JA}$ $R_{\Theta JL}$	55 25					°C/W
*Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150					°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	1N4933	1N4934	1N4935	1N4936	1N4937	Unit
*Maximum instantaneous forward voltage at 1.0A	V_F	1.2					V
*Maximum DC reverse current T_A=25°C at rated DC blocking voltage T_A=100°C	I_R	5.0 100					µA
*Maximum reverse recovery time I_F=1.0A, V_R=30V, di/dt=50A/µs, and I_{rr}=10% I_{RM}	t_{rr}	200					ns
Typical junction capacitance at 4.0V, 1MHz	C_J	12					pF

Notes:
(1) Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted
*JEDEC registered values

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 — Forward Current Derating Curves

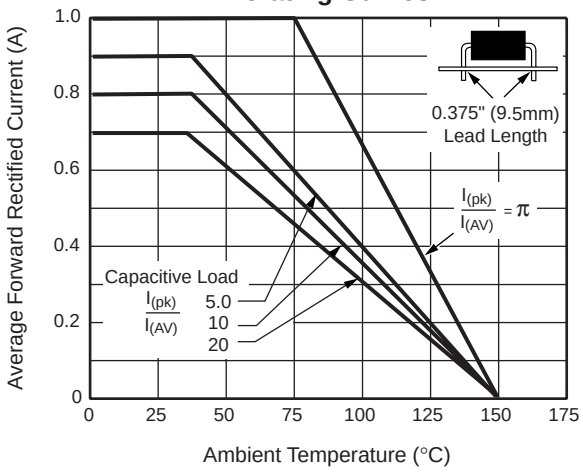


Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current

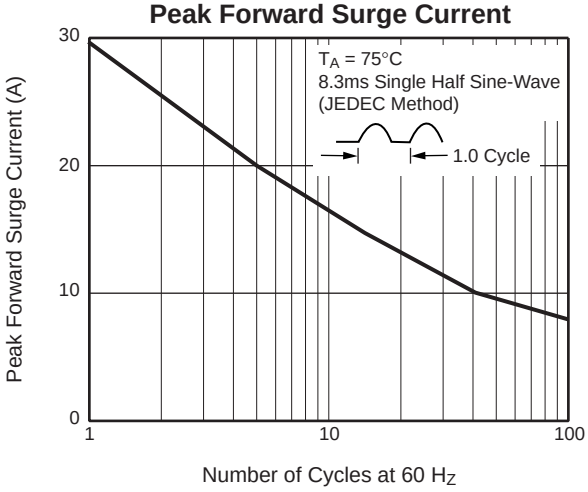


Fig. 3 — Typical Instantaneous Forward Characteristics

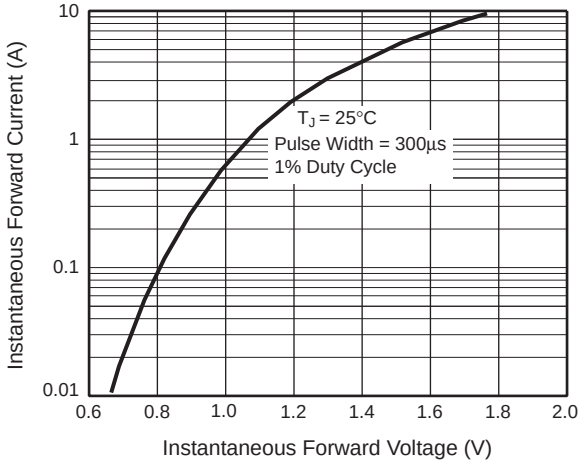


Fig. 4 — Typical Reverse Characteristics

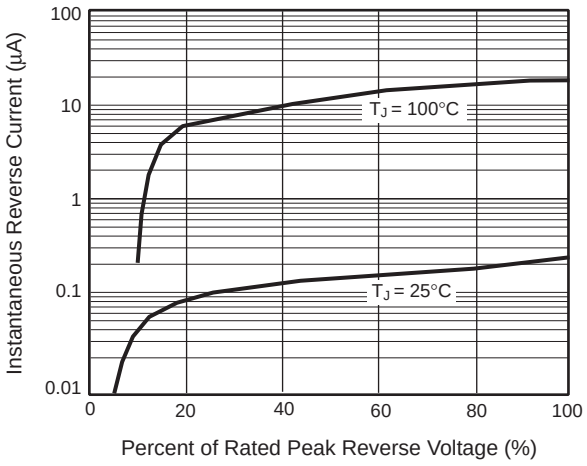


Fig. 5 — Typical Junction Capacitance

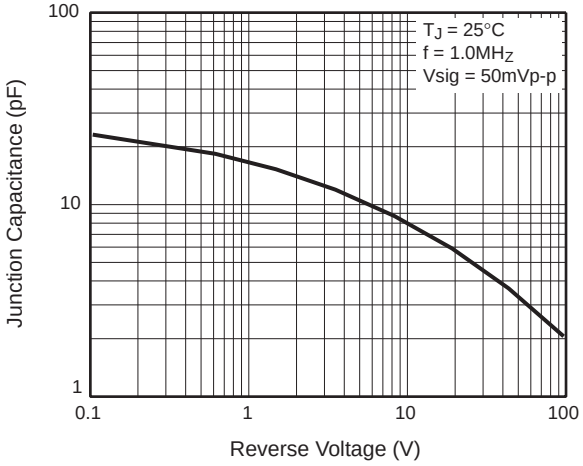


Fig. 6 — Typical Transient Thermal Impedance