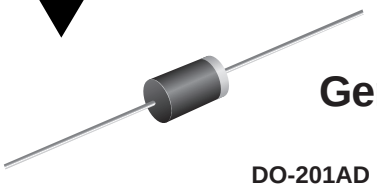
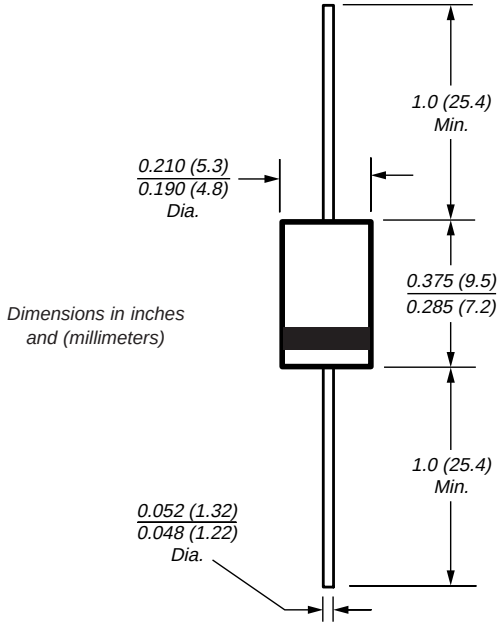
General Purpose Plastic Rectifiers



Reverse Voltage
50 to 1000V
Forward Current 3.0A

DO-201AD



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High surge current capability
- Construction utilizes void-free molded plastic technique
- 3.0 Ampere operation at T_L=105°C with no thermal runaway
- Typical I_R less than 0.1µA
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

Case: JEDEC DO-201AD, molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.04 oz., 1.1 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symb.	1N 5400	1N 5401	1N 5402	1N 5403	1N 5404	1N 5405	1N 5406	1N 5407	1N 5408	Unit
* Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
* Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
* Maximum DC blocking voltage to T_A = 150°C	V_{DC}	50	100	200	300	400	500	600	800	1000	V
* Maximum average forward rectified current 0.5" (12.5mm) lead length at T_L = 105°C	$I_{F(AV)}$	3.0									A
* Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=105°C	I_{FSM}	200									A
* Maximum full load reverse current, full cycle average 0.5" (12.5mm) lead length at T_L = 105°C	$I_{R(AV)}$	500									µA
* Typical thermal resistance(1)	$R_{\theta JA}$	20									°C/W
Maximum DC blocking voltage temperature	T_A	+150									°C
* Operating junction and storage temperature range	T_J, T_{STG}	–50 to +170									°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

* Maximum instantaneous forward voltage at 3.0A		V_F	1.2	V
* Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C T_A = 150°C	I_R	5 500	µA
Typical junction capacitance at 4.0V, 1MHz		C_J	30	pF

Note: (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted with 0.8 x 0.8" (20 x 20mm) copper heatsinks
*JEDEC registered values

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

Fig. 1 — Forward Current Derating Curve

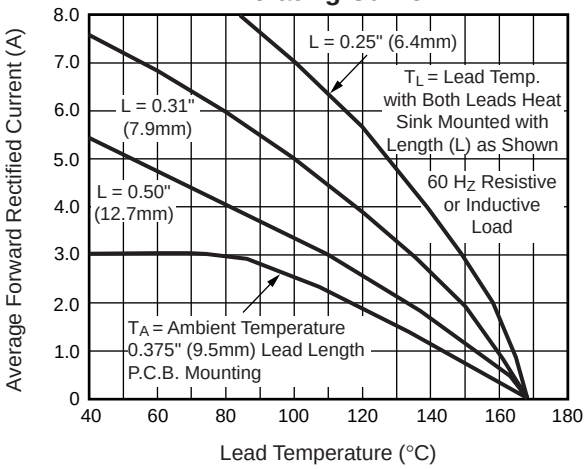


Fig. 2 — Maximum Non-Repetitive Peak Forward Surge Current

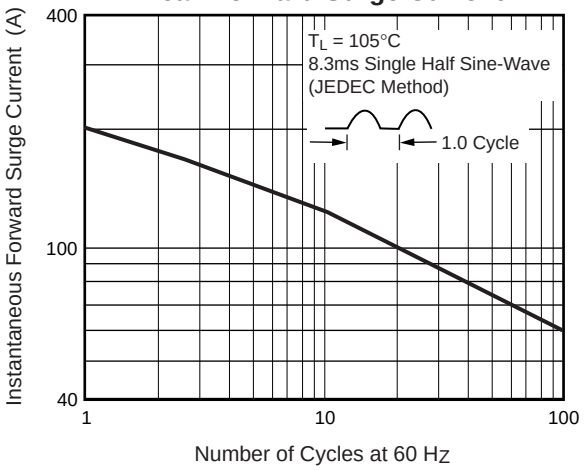


Fig. 3 — Typical Instantaneous Forward Characteristics

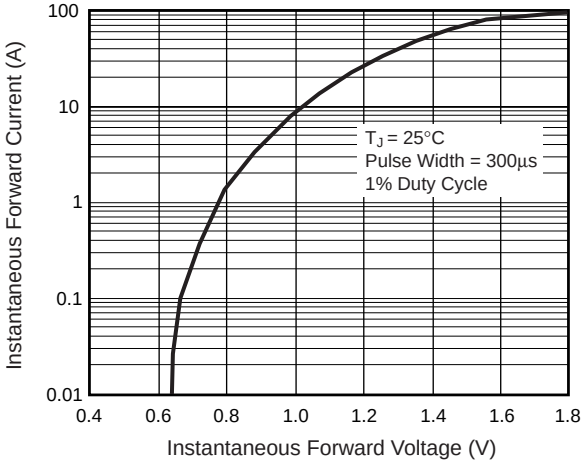


Fig. 4 — Typical Reverse Characteristics

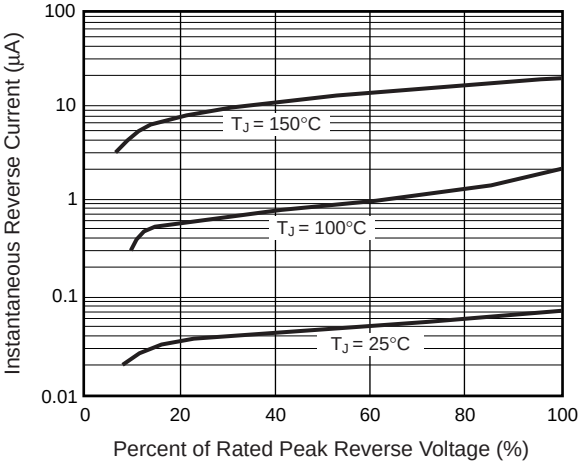


Fig. 5 — Typical Junction Capacitance

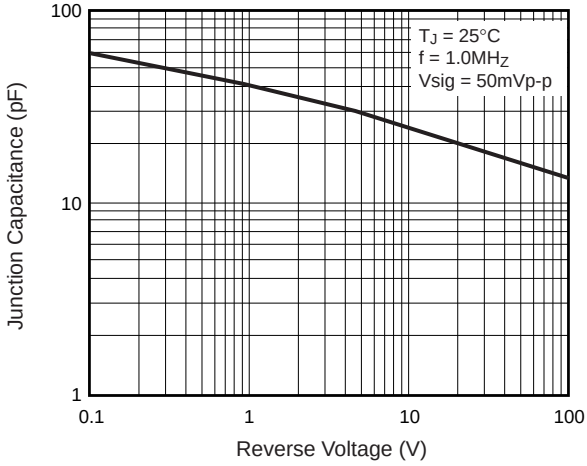


Fig. 6 — Typical Transient Thermal Impedance