

## 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
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

## Mechanical Data

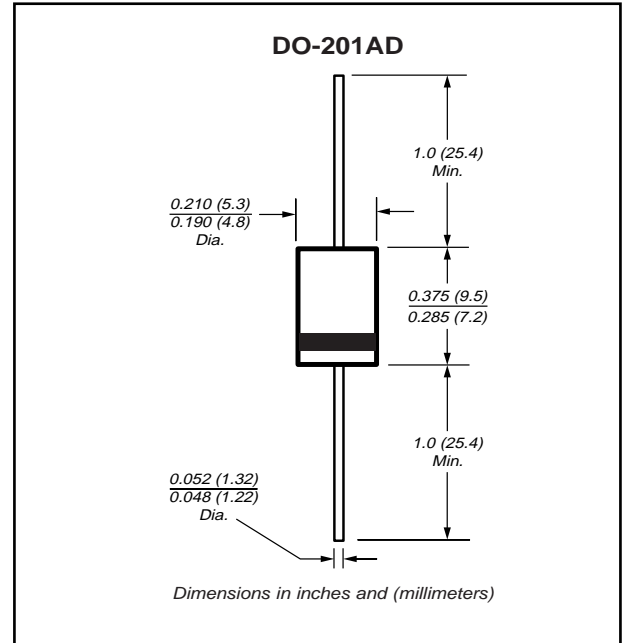
**Case:** JEDEC DO-201AD molded plastic body over passivated chip

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

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.045 oz., 1.2 g



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	SBYV28-50	SBYV28-100	SBYV28-150	SBYV28-200	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
Minimum reverse breakdown voltage at 100 $\mu$ A	$V_{(BR)}$	55	110	165	220	V
Maximum average forward rectified current 0.375" (9.5mm) lead lengths at $T_L = 85^\circ\text{C}$	$I_{F(AV)}$	3.5				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load at $T_J = 150^\circ\text{C}$	$I_{FSM}$	90				A
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	25				$^\circ\text{C/W}$
Operating and storage temperature range	$T_J, T_{STG}$	-55 to +150				$^\circ\text{C}$

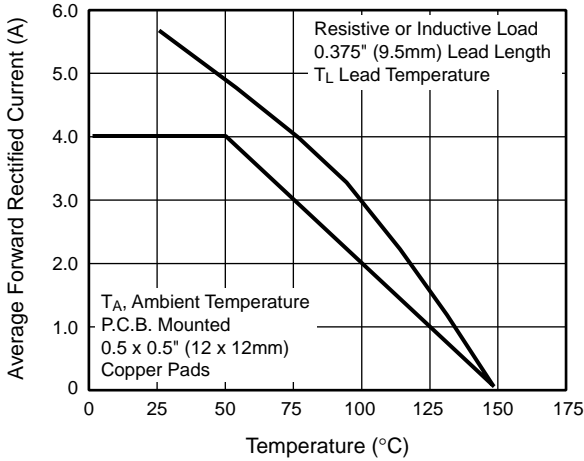
### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	SBYV28-50	SBYV28-100	SBYV28-150	SBYV28-200	Units
Maximum instantaneous forward voltage at 3.5A <sup>(2)</sup>	$V_F$	1.1 0.89				V
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 300				$\mu\text{A}$
Maximum reverse recovery time at $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{rr} = 0.25\text{A}$	$t_{rr}$	20				ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	20				pF

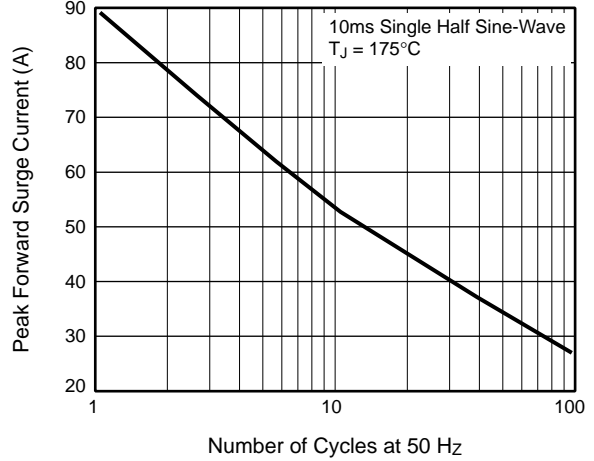
**Notes:**

- (1) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface  
 (2) Pulse test:  $t_p = 300\mu\text{s}$ , duty cycle  $\leq 2\%$

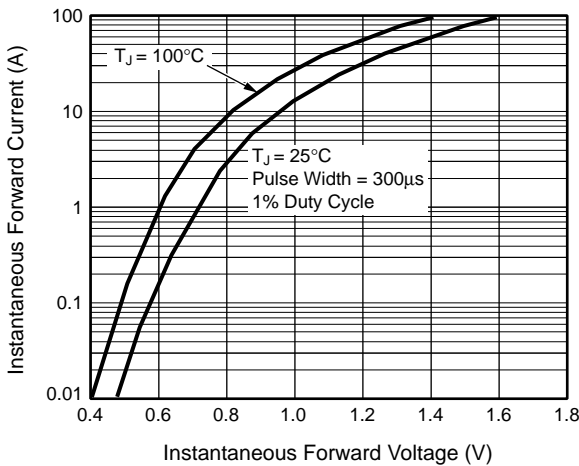
**Fig. 1 – Forward Current Derating Curves**



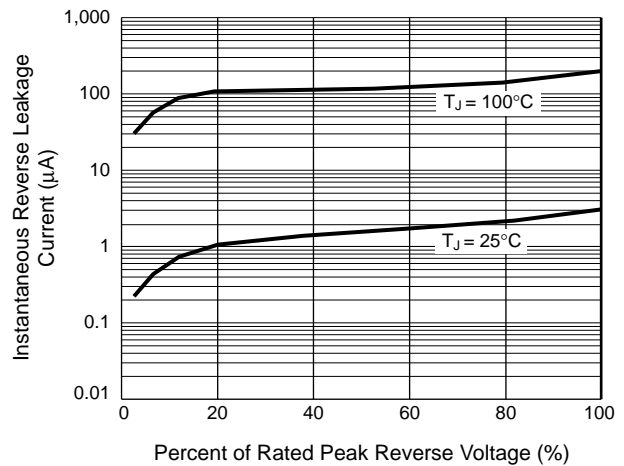
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



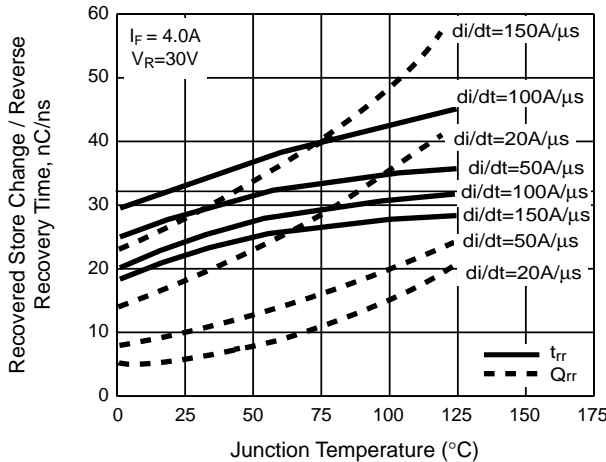
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Reverse Switching Characteristics**



**Fig. 6 – Typical Junction Capacitance**

