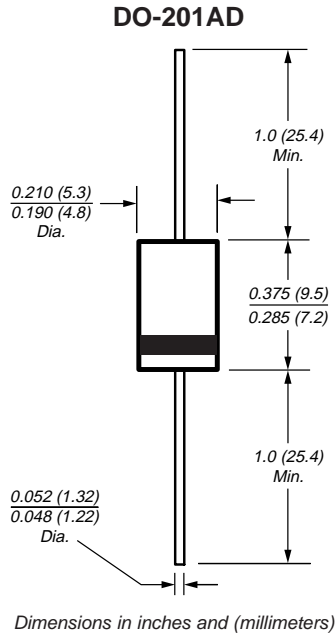


## Soft Recovery Ultrafast Plastic Rectifier

**Reverse Voltage** 50 to 200V  
**Forward Current** 3.5A


### 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 & 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 <sub>RRM</sub>	50	100	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	V
Minimum reverse breakdown voltage at 100µA	V <sub>(BR)</sub>	55	110	165	220	V
Maximum average forward rectified current 0.375" (9.5mm) lead lengths at T <sub>L</sub> = 85°C	I <sub>F(AV)</sub>	3.5				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load at T <sub>J</sub> = 150°C	I <sub>FSM</sub>	90				A
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub>	25				°C/W
Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150				°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>	T <sub>J</sub> =25°C T <sub>J</sub> =150°C V <sub>F</sub>	1.1 0.89				V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> =25°C T <sub>A</sub> =100°C I <sub>R</sub>	5.0 300				µA
Maximum reverse recovery time at I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	T <sub>J</sub> =25°C t <sub>rr</sub>	20				ns
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	20				pF

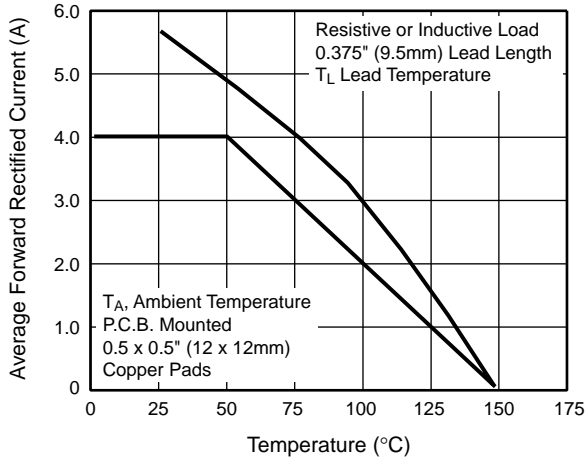
**Notes:**

(1) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

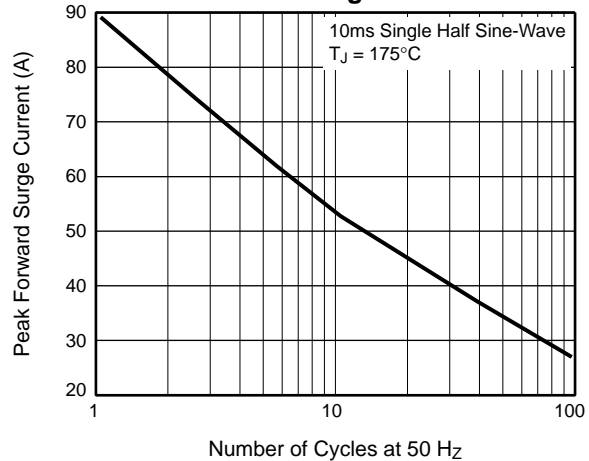
 (2) Pulse test: t<sub>p</sub> = 300µs, duty cycle ≤ 2%

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

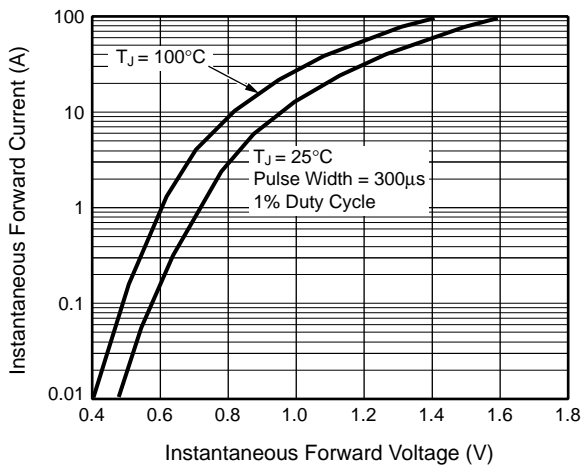
**Fig. 1 – Forward Current Derating Curves**



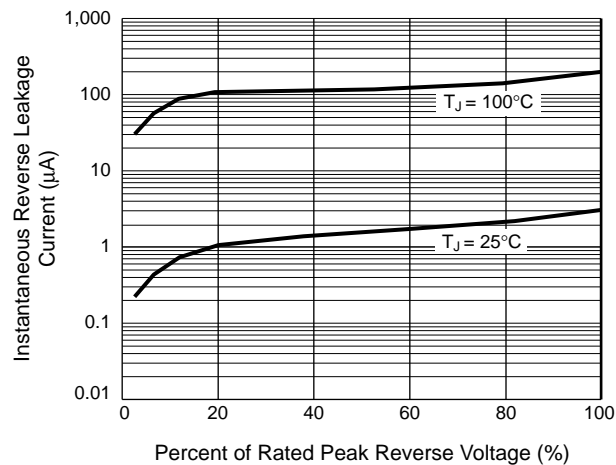
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



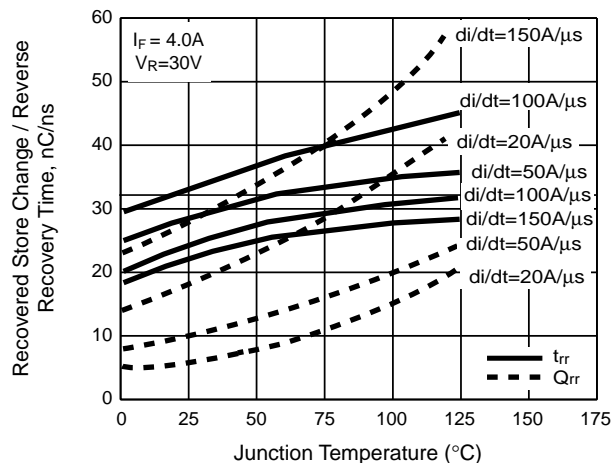
**Fig. 3 – Typical Instantaneous Forward Characteristics**



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



**Fig. 5 – Reverse Switching Characteristics**



**Fig. 6 – Typical Junction Capacitance**

