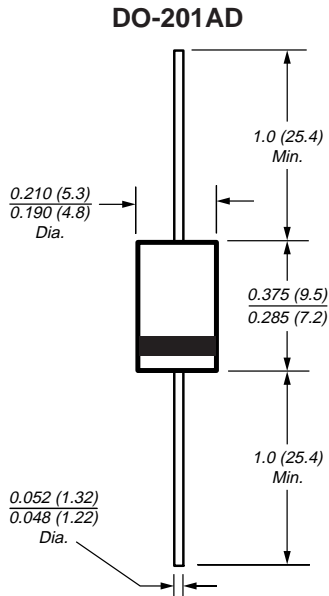




## Soft Recovery Ultrafast Plastic Rectifier

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	$V_{RRM}$	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 100µA	$V_{(BR)}$	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				°C/W
Operating and storage temperature range	$T_J, T_{STG}$	-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>	$V_F$	1.1 0.89				V
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 300				µA
Maximum reverse recovery time at $I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	$t_{rr}$	20				ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	20				pF

**Notes:**

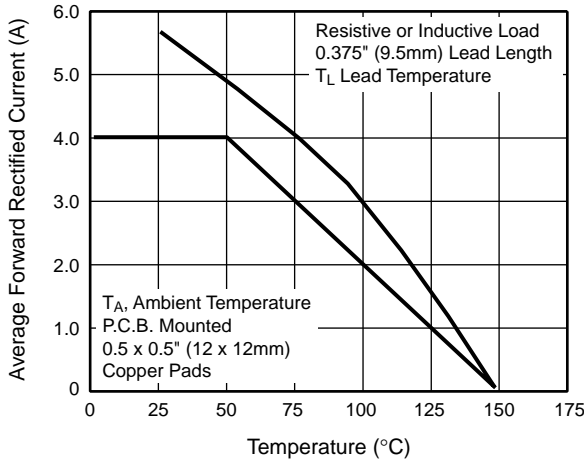
(1) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

(2) Pulse test:  $t_p = 300\mu\text{s}$ , duty cycle  $\leq 2\%$

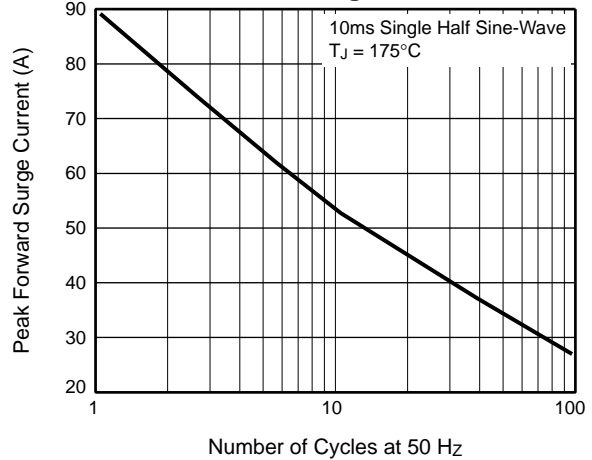
Vishay Semiconductors  
formerly General Semiconductor

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

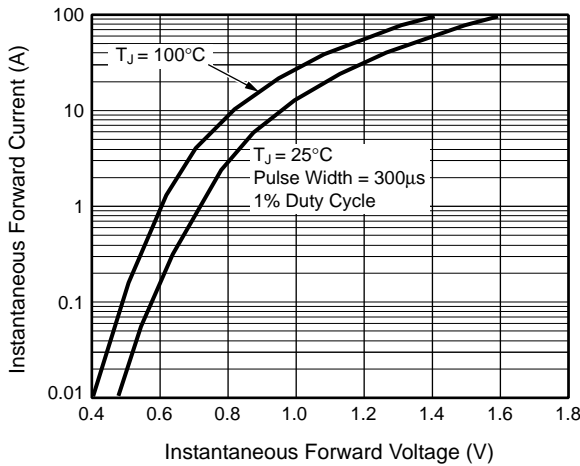
**Fig. 1 – Forward Current Derating Curves**



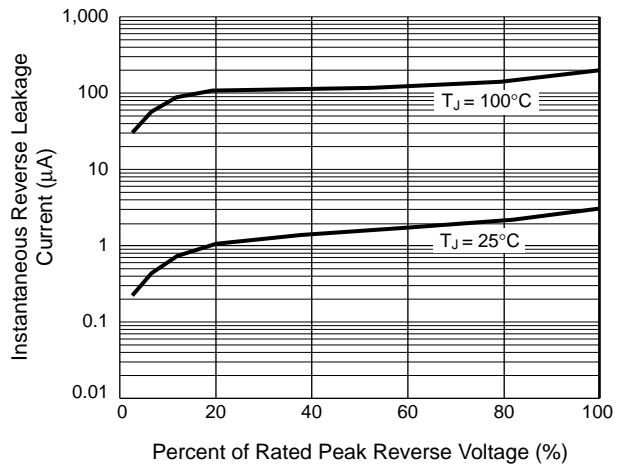
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



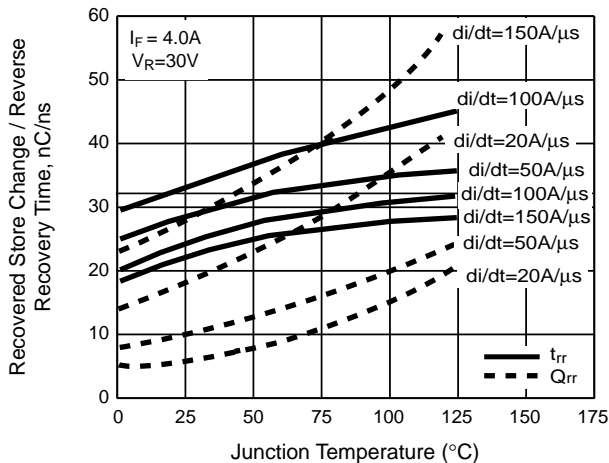
**Fig. 3 – Typical Instantaneous Forward Characteristics**



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



**Fig. 5 – Reverse Switching Characteristics**



**Fig. 6 – Typical Junction Capacitance**

