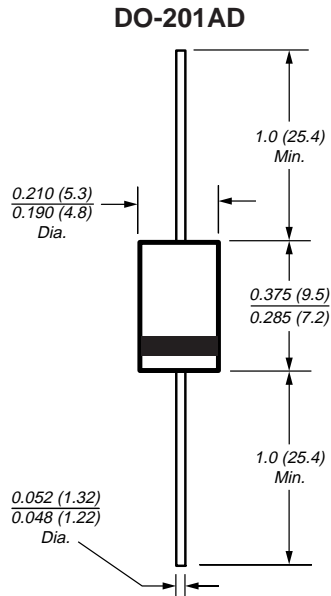


Soft Recovery Ultrafast Plastic Rectifier

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 ⁽¹⁾	$R_{\theta JA}$	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 ⁽²⁾	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 $\leq 2\%$

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

Fig. 1 – Forward Current Derating Curves

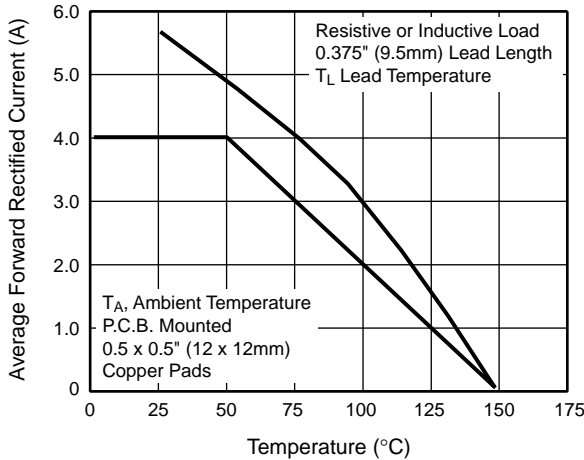


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

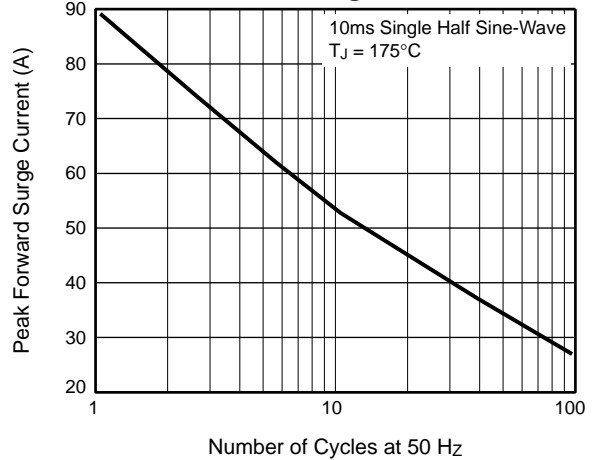


Fig. 3 – Typical Instantaneous Forward Characteristics

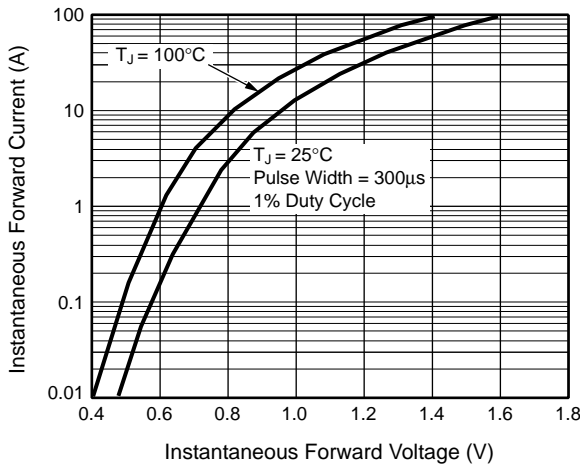


Fig. 4 – Typical Reverse Leakage Characteristics

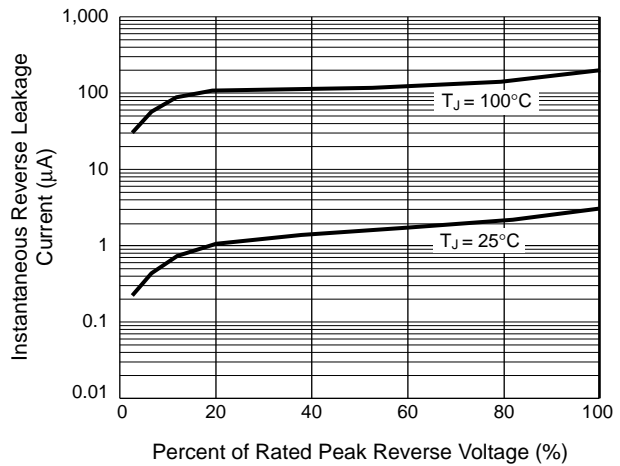


Fig. 5 – Reverse Switching Characteristics

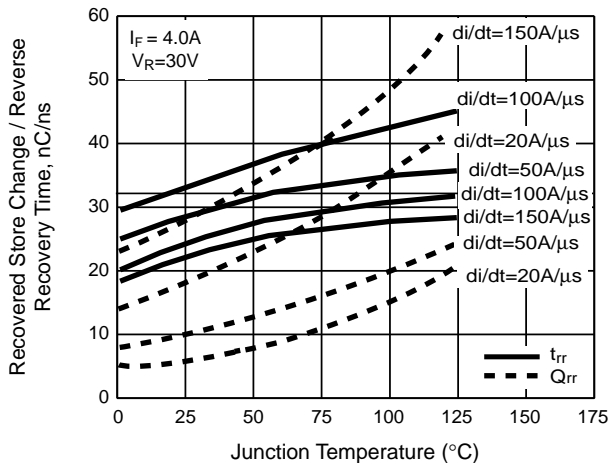
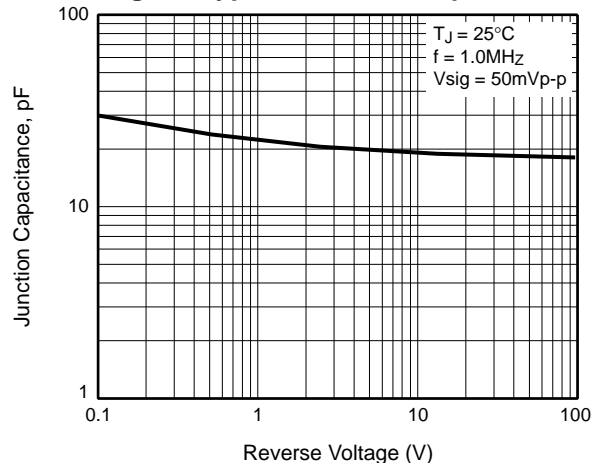


Fig. 6 – Typical Junction Capacitance



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