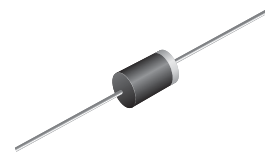




Soft Recovery Ultrafast Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	3.5 A
V_{RRM}	50 V to 200 V
I_{FSM}	90 A
t_{rr}	20 ns
V_F	0.89 V
$T_j \text{ max.}$	150 °C



DO-201AD

Features

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DO-201AD

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

Polarity: Color band denotes cathode end

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and Telecommunication

Maximum Ratings

$T_A = 25\text{ °C}$ 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 μ A	$V_{(BR)}$	55	110	165	220	V
Maximum average forward rectified current 0.375" (9.5 mm) lead lengths at $T_L = 85\text{ °C}$	$I_{F(AV)}$	3.5				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	90				A
Operating and storage temperature range	T_J, T_{STG}	- 55 to + 150				°C

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Test condition	Symbols	SBYV28-50	SBYV28-100	SBYV28-150	SBYV28-200	Units
Maximum instantaneous forward voltage	at 3.5 A ⁽¹⁾ $T_J = 25\text{ }^\circ\text{C}$ $T_J = 150\text{ }^\circ\text{C}$	V_F	1.1 0.89				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 100\text{ }^\circ\text{C}$	I_R	5.0 300				μA
Maximum reverse recovery time	at $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ $I_{rr} = 0.25\text{ A}$	t_{rr}	20				ns
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	20				pF

Notes:

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

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbols	SBYV28-50	SBYV28-100	SBYV28-150	SBYV28-200	Units
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	25				$^\circ\text{C/W}$

Notes:

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

Ratings and Characteristics Curves

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

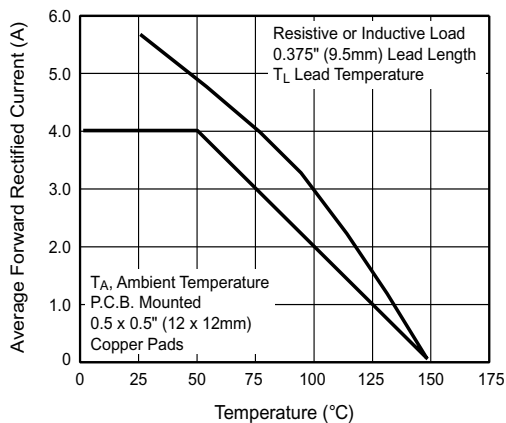


Figure 1. Forward Current Derating Curves

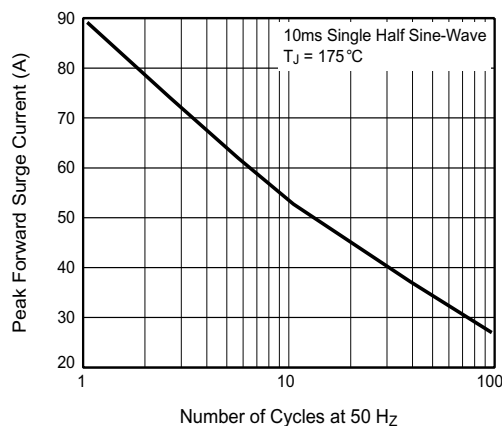


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

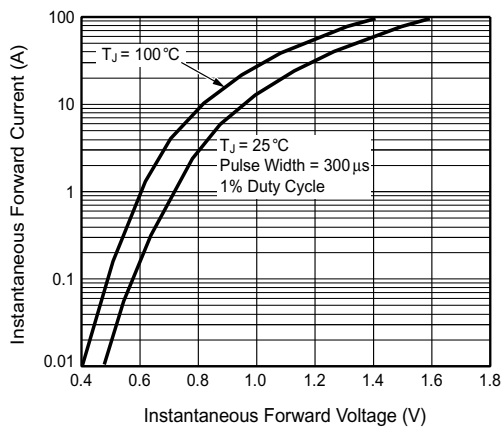


Figure 3. Typical Instantaneous Forward Characteristics

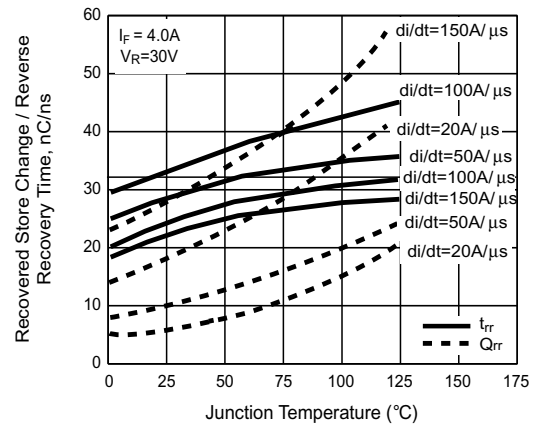


Figure 5. Reverse Switching Characteristics

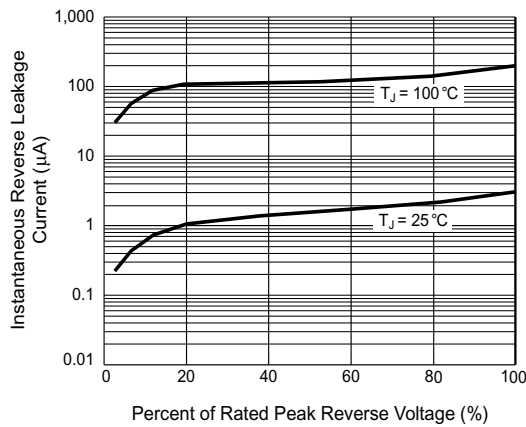


Figure 4. Typical Reverse Leakage Characteristics

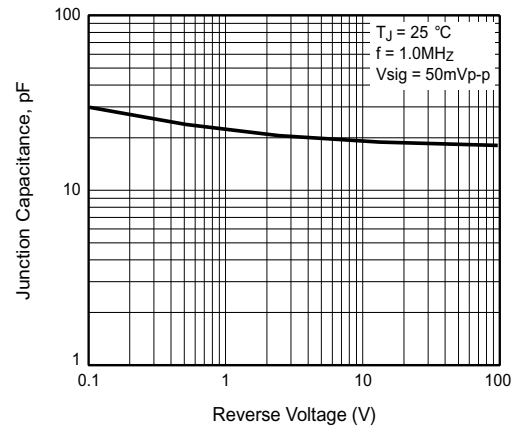
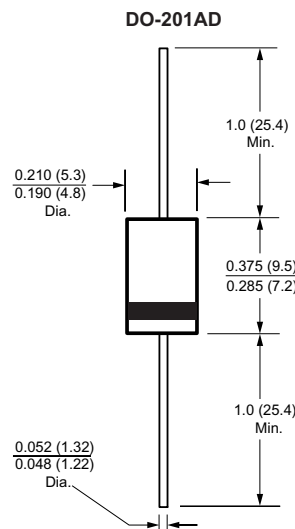


Figure 6. Typical Junction Capacitance

Package outline dimensions in inches (millimeters)





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