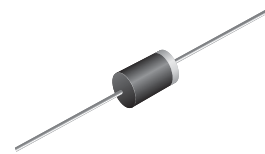


Ultrafast Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	4.0 A
V_{RRM}	200 V
I_{FSM}	150 A
t_{rr}	25 ns
V_F	0.710 V
$T_j \text{ max.}$	175 °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



Typical Applications

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

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

Maximum Ratings

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Working peak reverse voltage	V_{RWM}	200	V
Maximum DC blocking voltage	V_{DC}	200	V
Maximum average forward rectified current at $T_A = 80\text{ °C}$ (See figure 1)	$I_{F(AV)}$	4.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150	A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175	°C

Electrical Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Maximum instantaneous forward voltage ⁽¹⁾	at 3.0 A, $T_J = 150\text{ }^\circ\text{C}$	V_F	0.710	V
	at 3.0 A, $T_J = 25\text{ }^\circ\text{C}$		0.875	
	at 4.0 A, $T_J = 25\text{ }^\circ\text{C}$		0.890	
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾	$T_J = 25\text{ }^\circ\text{C}$	I_R	5.0	μA
	$T_J = 150\text{ }^\circ\text{C}$		150	
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}	25	ns
Maximum reverse recovery time	at $I_F = 1.0\text{ A}$, $di/dt = 50\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$, $I_{rr} = 10\% I_{RM}$	t_{rr}	35	ns
Maximum forward recovery time	$I_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V	t_{fr}	25	ns

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	Symbol	Value	Unit
Typical thermal resistance junction to ambient ⁽¹⁾	$R_{\theta JA}$	28	$^\circ\text{C}/\text{W}$

Notes:

(1) Lead length = 1/2" on P.C. board with 1/2" x 1/2" copper surface

Ratings and Characteristics Curves

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

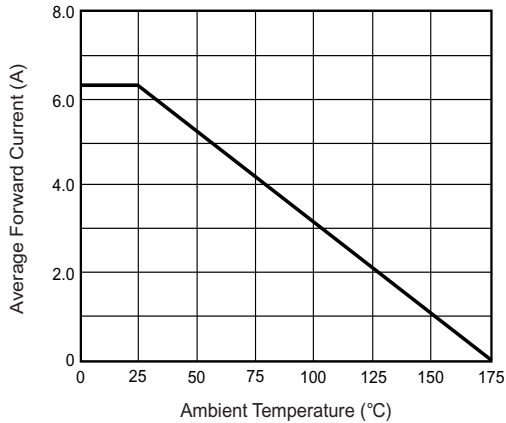


Figure 1. Forward Current Derating Curve

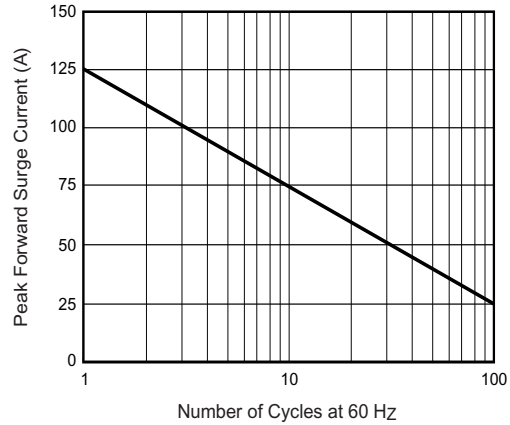


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

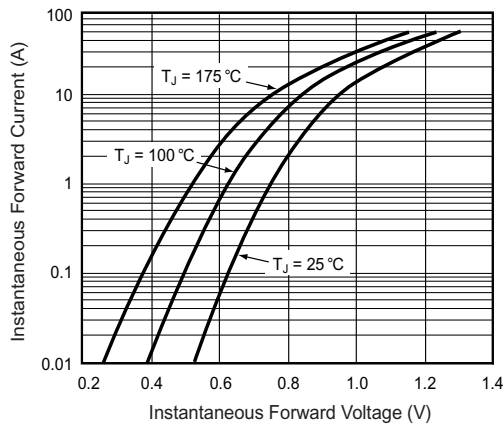


Figure 3. Typical Instantaneous Forward Characteristics

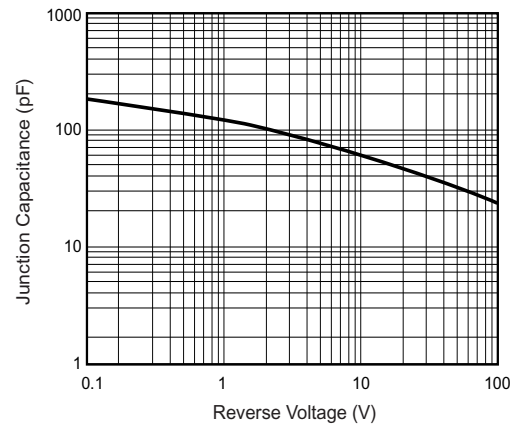


Figure 5. Typical Junction Capacitance

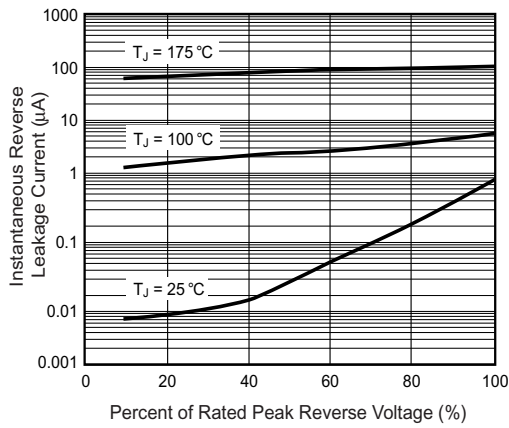
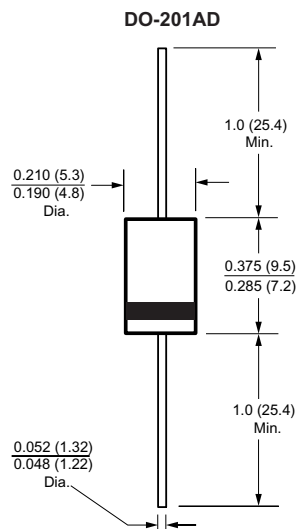


Figure 4. Typical Reverse Leakage Characteristics

Package outline dimensions in inches (millimeters)





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