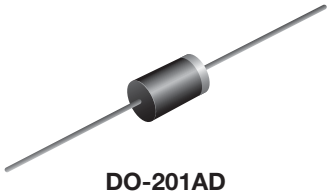
Ultrafast Plastic Rectifier



DO-201AD

FEATURES

- Glass passivated pellet chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

HALOGEN FREE Available

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

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 and M3 suffix meets JESD 201 class 1A whisker test

Polarity: color band denotes cathode end

PRIMARY 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 max.	175 °C
Package	DO-201AD
Circuit configuration	Single

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Working peak reverse voltage	V_{RWM}	200	
Maximum DC blocking voltage	V_{DC}	200	
Maximum average forward rectified current at T_A = 80 °C (fig. 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	
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	VALUE	UNIT
Maximum instantaneous forward voltage	3.0 A	T_J = 150 °C	V_F (1)	0.710	V
		T_J = 25 °C		0.875	
	4.0 A			0.890	
Maximum instantaneous reverse current at rated DC blocking voltage		T_J = 25 °C	I_R (1)	5.0	μA
		T_J = 150 °C		150	
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	25	ns
	I_F = 1.0 A, dI/dt = 50 A/μs, V_R = 30 V, I_{rr} = 10 % I_{RM}			35	
Maximum forward recovery time	I_F = 1.0 A, dI/dt = 100 A/μs, recovery to 1.0 V		t_{fr}	25	

Note

(1) Pulse test: t_p = 300 μs pulse, duty cycle ≤ 2 %

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THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Typical thermal resistance junction to ambient	$R_{\theta JA}$ (1)	28	°C/W

Note

(1) Lead length = 1/2" on PCB with 1.2" x 1.2" (30.5 mm x 30.5 mm) copper surface

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
MUR420-E3/54	1.138	54	1400	13" diameter paper tape and reel
MUR420-E3/73	1.138	73	1000	Ammo pack packaging
MUR420-M3/54	1.138	54	1400	13" diameter paper tape and reel
MUR420-M3/73	1.138	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

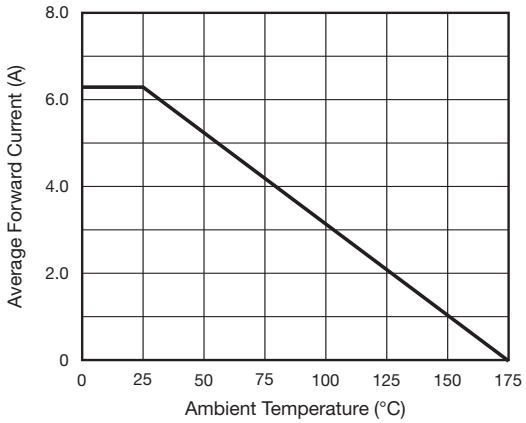

Fig. 1 - Forward Current Derating Curve

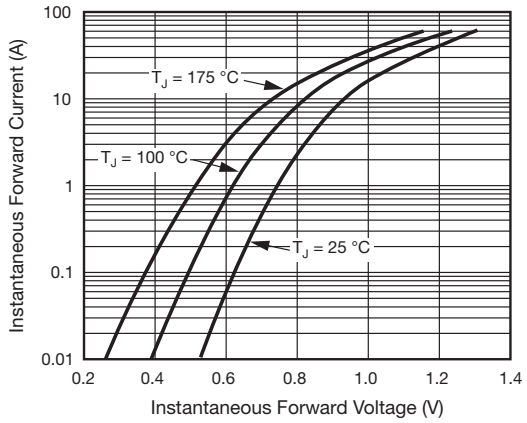

Fig. 3 - Typical Instantaneous Forward Characteristics

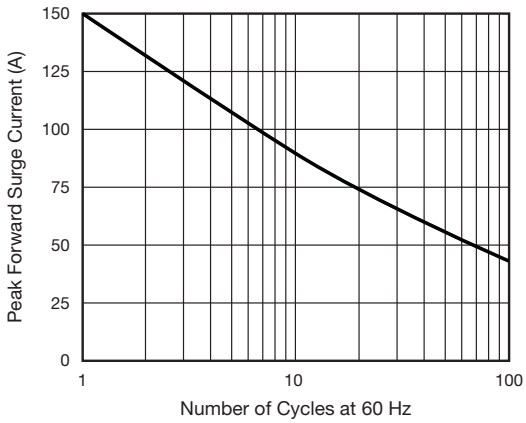

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

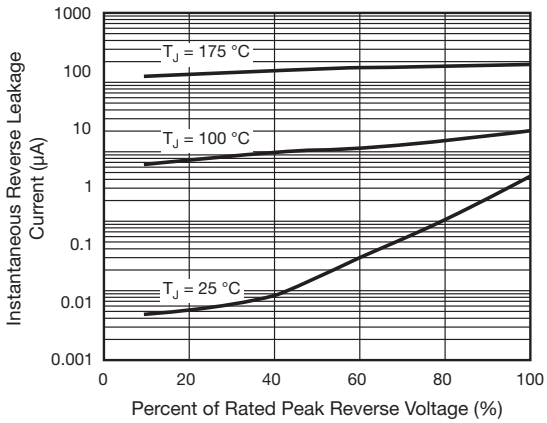

Fig. 4 - Typical Reverse Leakage Characteristics

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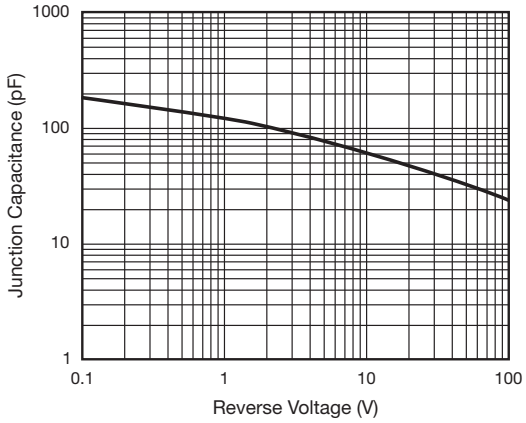
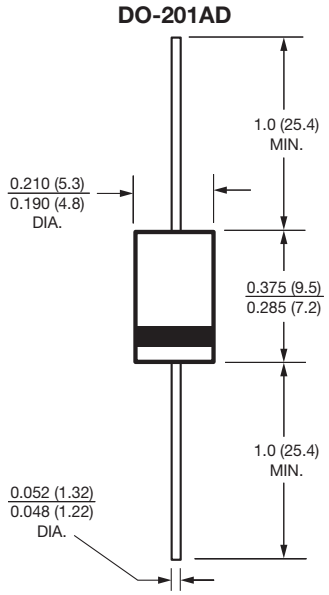


Fig. 5 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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