COMPLIANT



Vishay General Semiconductor

Ultrafast Plastic Rectifier



DIMARY CHARACT	EDICTICS
RIMARY CHARACT	ERISTICS
I _{F(AV)}	4.0 A
V_{RRM}	200 V

150 A

25 ns

0.710 V

175 °C

 V_{RRM}

 I_{FSM}

 t_{rr}

 V_{F}

T_J max.

FEATURES





Low forward voltage drop

· Low leakage current

· Low switching losses, high efficiency

High forward surge capability

• Solder dip 260 °C, 40 s

 Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-201AD

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: Color band denotes cathode end

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	V	
Maximum DC blocking voltage	V_{DC}	200	V	
Maximum average forward rectified current at T _A = 80 °C (Fig. 1)	I _{F(AV)}	4.0	Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	150	А	
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 175	°C	

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS		SYMBOL	VALUE	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	3.0 A 3.0 A 4.0 A	$T_J = 150 ^{\circ}\text{C}$ $T_J = 25 ^{\circ}\text{C}$ $T_J = 25 ^{\circ}\text{C}$	V_{F}	0.710 0.875 0.890	V
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾		T _J = 25 °C T _J = 150 °C	I _R	5.0 150	μΑ
Maximum reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1.0 \text{ A}, I_{rr} = 0.25 \text{ A}$		t _{rr}	25	ns
Maximum reverse recovery time	$I_F = 1.0 \text{ A}, \text{ dI/dt} = 50 \text{ A/}\mu\text{s},$ $V_R = 30 \text{ V}, I_{rr} = 10 \% I_{RM}$		t _{rr}	35	ns
Maximum forward recovery time	I _F = 1.0 A, di/dt = 100 A/μs, recovery to 1.0 V		t _{fr}	25	ns

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)			
PARAMETER SYMBOL VALUE			
Typical thermal resistance junction to ambient (1)	$R_{ hetaJA}$	28	°C/W

Note:

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

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

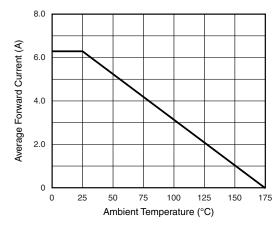


Figure 1. Forward Current Derating Curve

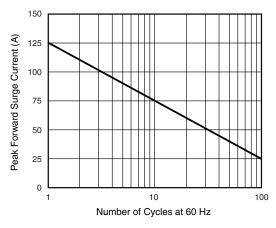


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current





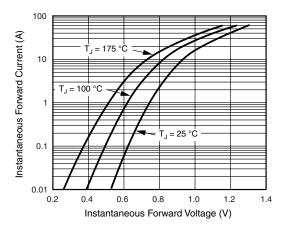
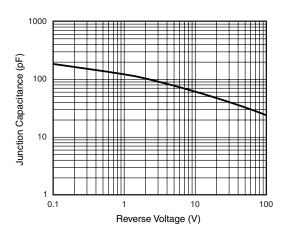


Figure 3. Typical Instantaneous Forward Characteristics



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Figure 5. Typical Junction Capacitance

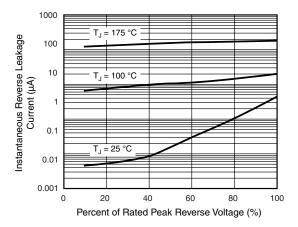
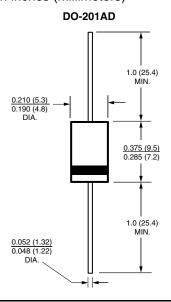


Figure 4. Typical Reverse Leakage Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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