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Vishay Semiconductor/Diodes Division
BY299P-E3/73

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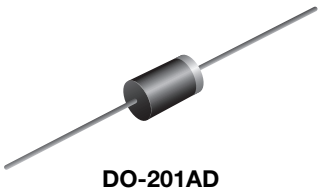
BY296P thru BY299P

Vishay General Semiconductor

Soft Recovery Plastic Rectifier



DO-201AD

FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb e3 RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes for consumer and telecommunication.

Note

- These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-201AD, molded epoxy body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
V_{RRM}	100 V to 800 V
I_{FSM}	70 A
t_{rr}	500 ns
I_R	10 µA
V_F	1.3 V
T_J max.	125 °C

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100	200	600	800	V
Maximum RMS voltage	V_{RMS}	70	140	420	560	V
Maximum DC blocking voltage	V_{DC}	100	200	600	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 55 °C	$I_{F(AV)}$	2.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	70				A
Operating junction temperature range	T_J	- 50 to + 125				°C
Storage temperature range	T_{STG}	- 50 to + 150				°C

BY296P thru BY299P

Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT
Maximum instantaneous forward voltage	3.0 A		V_F	1.3				V
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	10				μA
		T_A = 100 °C		500				
Maximum reverse recovery time	I_F = 10 mA, I_R = 10 mA, I_{rr} = 1.0 mA		t_{rr}	500				ns
Maximum forward recovery time	I_F = 100 mA		t_{rr}	1.0				μs
Typical junction capacitance	4.0 V, 1 MHz		C_J	28				pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BY296P	BY297P	BY298P	BY299P	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	15				°C/W

Note

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length with both leads equally heat sink

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
BY298P-E3/54	1.1	54	1400	13" diameter paper tape and reel
BY298P-E3/73	1.1	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

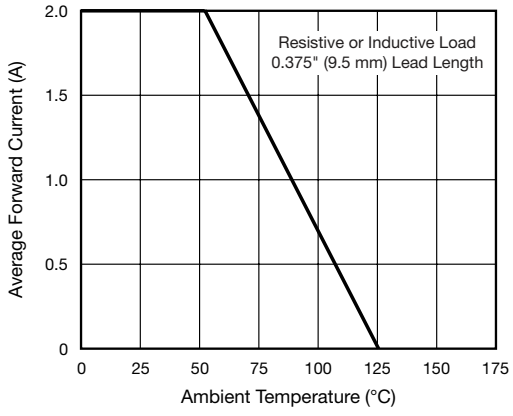


Fig. 1 - Forward Current Derating Curve

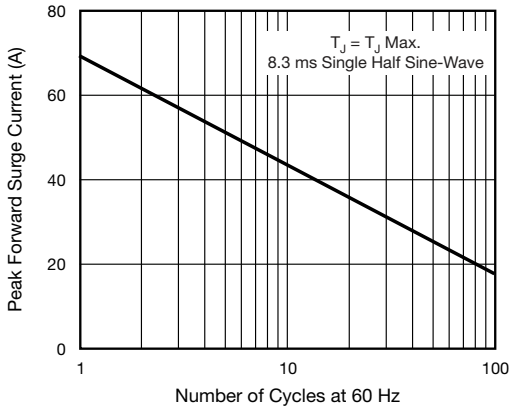


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

For technical questions within your region, please contact one of the following:
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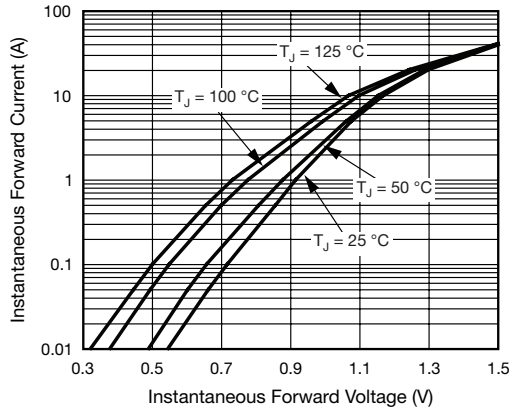


Fig. 3 - Typical Instantaneous Forward Characteristics

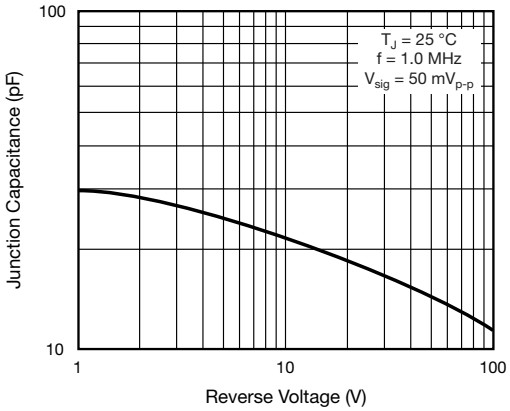


Fig. 5 - Typical Junction Capacitance

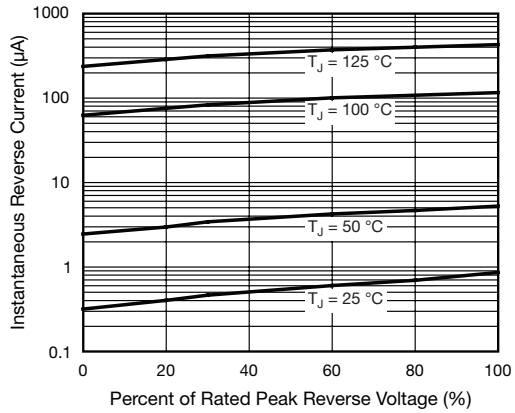
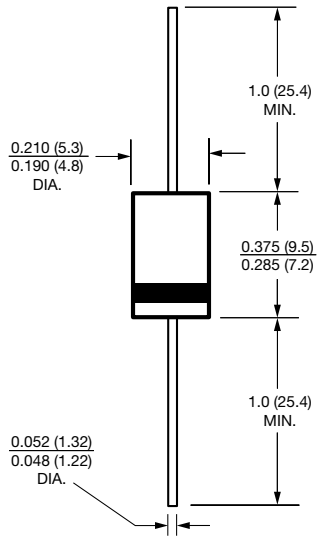


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-201AD



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