

## BY251P, BY252P, BY253P, BY254P, BY255P

Vishay General Semiconductor

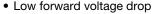
# **General Purpose Plastic Rectifier**



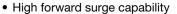
PRIMARY CHARACTERISTICS					
I <sub>F(AV)</sub>	3.0 A				
$V_{RRM}$	200 V, 400 V, 600 V, 800 V,1300 V				
I <sub>FSM</sub>	150 A				
I <sub>R</sub>	5.0 μA				
$V_{F}$	1.1 V				
T <sub>J</sub> max.	150 °C				
Package	kage DO-201AD				
Diode variations	Single die				

Operating junction and storage temperature range

#### **FEATURES**







Solder dip 275 °C max. 10 s, per JESD 22-B106

COMPLIANT Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



°C

#### TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application.

#### 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

- 55 to + 150

**MAXIMUM RATINGS** (T<sub>A</sub> = 25 °C unless otherwise noted) **PARAMETER** SYMBOL BY251P **BY252P BY253P** BY254P BY255P UNIT 800 ٧ Maximum repetitive peak reverse voltage  $V_{\mathsf{RRM}}$ 200 400 600 1300 Maximum RMS voltage 140 280 420 560 910 ٧  $V_{\text{RMS}}$ Maximum DC blocking voltage 200 400 600 800 1300 V  $V_{DC}$ Maximum average forward rectified current 3.0 Α  $I_{F(AV)}$ 10 mm lead length Peak forward surge current 10 ms single half 150 Α  $I_{FSM}$ sine-wave superimposed on rated load Maximum full load reverse current, full cycle average 100 μΑ  $I_{R(AV)}$ 10 mm lead length

 $T_J$ ,  $T_{STG}$ 

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Maximum instantaneous forward voltage	3.0 A		V <sub>F</sub>	1.1				V	
Maximum reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0				μΑ	
Maximum reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 V, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	3.0				μs	
Typical junction capacitance	4.0 V,	1 MHz	CJ	40			pF		

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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Typical thermal resistance	R <sub>0</sub> JA (1)	20					
Typical thermal resistance	R <sub>0JL</sub> (1)	10					°C/W

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
BY253P-E3/54	1.1	54	1400	13" diameter paper tape and reel				
BY253P-E3/73	1.1	73	1000	Ammo pack packaging				

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

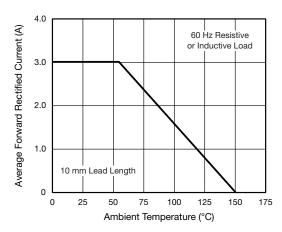


Fig. 1 - Forward Current Derating Curve

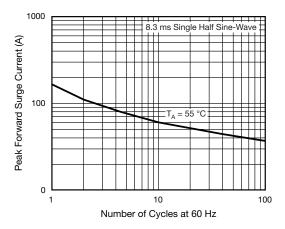


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

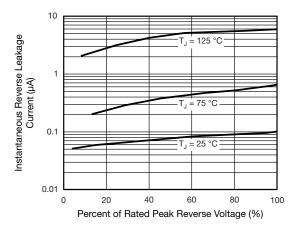


Fig. 3 - Maximum Non-repetitive Peak Forward Surge Current

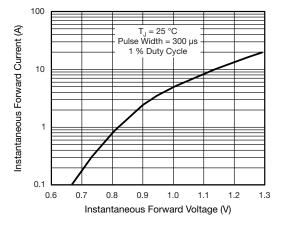


Fig. 4 - Typical Instantaneous Forward Characteristics

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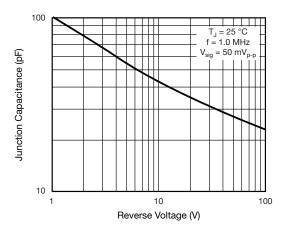
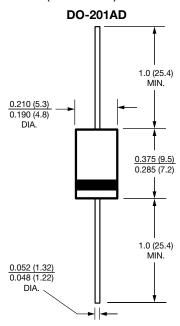


Fig. 5 - Typical Junction Capacitance

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)





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