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### 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	DO-201AD					
Diode variations	Single die					

#### **FEATURES**





· High forward surge capability

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

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



#### 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

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BY251P	BY252P	BY253P	BY254P	BY255P	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1300	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	910	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1300	V
Maximum average forward rectified current 10 mm lead length	I <sub>F(AV)</sub>	3.0					А
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150				Α	
Maximum full load reverse current, full cycle average 10 mm lead length	I <sub>R(AV)</sub>	100				μA	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150					°C

<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		$V_{F}$	1.1					V
Maximum reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0				μA	
Maximum reverse recovery time	I <sub>F</sub> = 0.5 I <sub>rr</sub> = 0.5	5 A, I <sub>R</sub> = 1.0 V, 25 A	t <sub>rr</sub>	3.0			μs		
Typical junction capacitance	4.0 V,	1 MHz	CJ	40				pF	

## BY251P, BY252P, BY253P, BY254P, BY255P

# Vishay General Semiconductor

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					°C/W
Typical thermal resistance	R <sub>0JL</sub> (1)	10					5

#### 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)

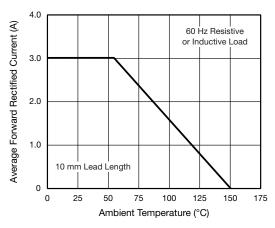


Fig. 1 - Forward Current Derating Curve

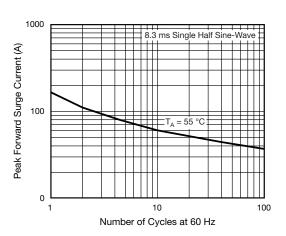


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

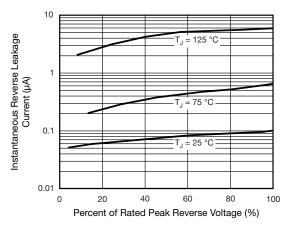


Fig. 3 - Maximum Non-repetitive Peak Forward Surge Current

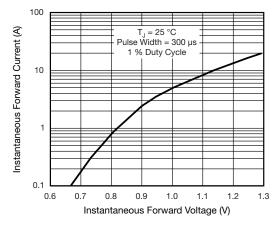


Fig. 4 - Typical Instantaneous Forward Characteristics

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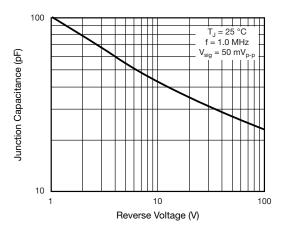
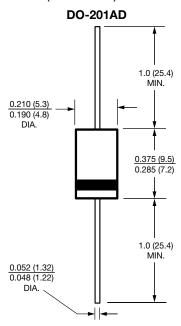


Fig. 5 - Typical Junction Capacitance

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





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