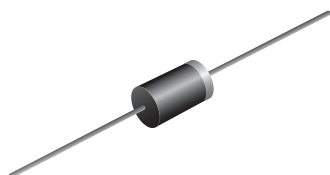


## General Purpose Plastic Rectifier


**DO-201AD**

### FEATURES

- Low forward voltage drop
- Low leakage current,  $I_R$  less than 0.1  $\mu$ A
- 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### 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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	3.0 A
$V_{RRM}$	200 V, 400 V, 600 V, 800 V, 1300 V
$I_{FSM}$	150 A
$I_R$	5.0 $\mu$ A
$V_F$	1.1 V
$T_J$ max.	150 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS ( $T_A = 25$ °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	$V_{RMS}$	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	$I_{F(AV)}$	3.0					A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	$I_{FSM}$	150					A
Maximum full load reverse current, full cycle average 10 mm lead length	$I_{R(AV)}$	100					$\mu$ A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150					°C

ELECTRICAL CHARACTERISTICS (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					μA
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		C <sub>J</sub>	40					pF



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

**Note**

(1) 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 ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

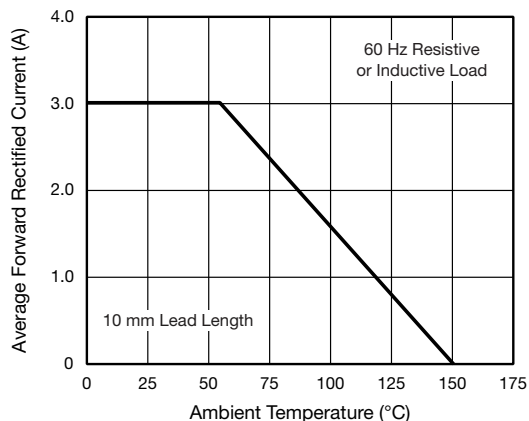


Fig. 1 - Forward Current Derating Curve

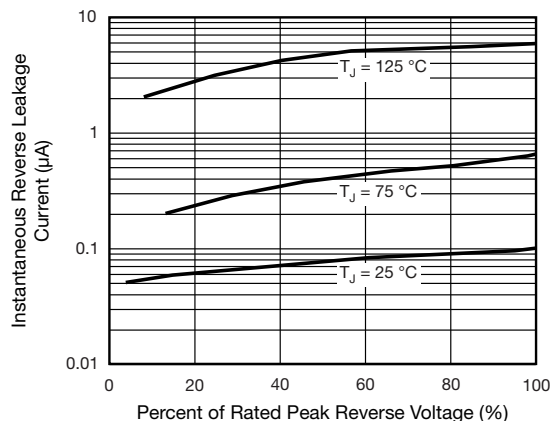


Fig. 3 - Maximum Non-repetitive Peak Forward Surge Current

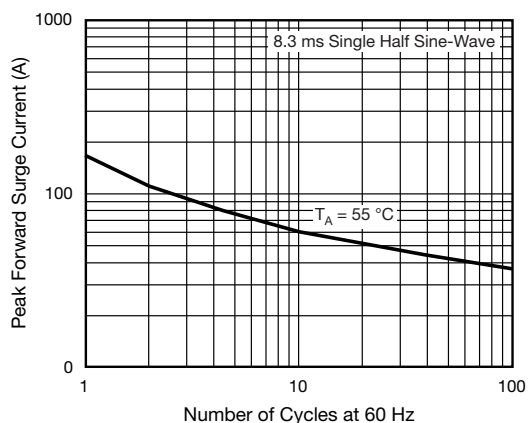


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

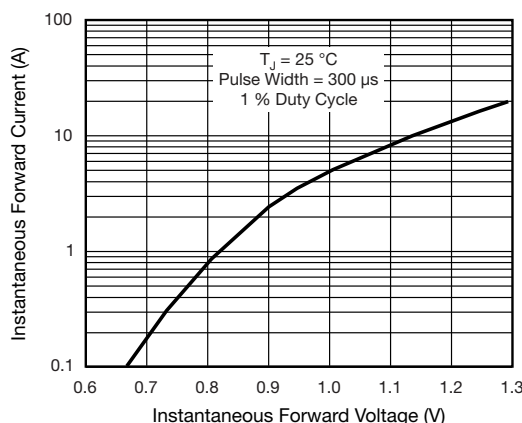


Fig. 4 - Typical Instantaneous Forward Characteristics

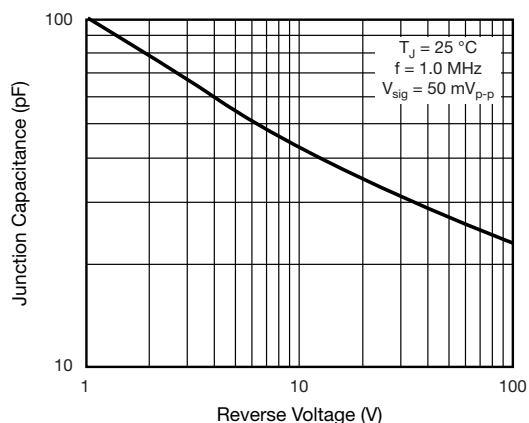
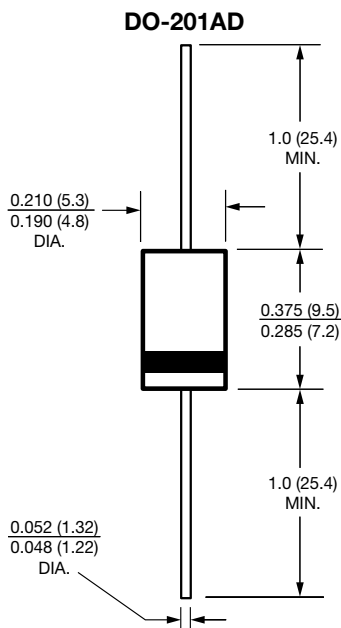


Fig. 5 - Typical Junction Capacitance

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




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