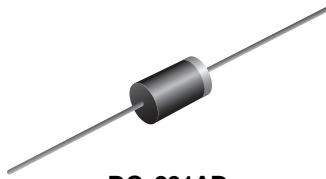


## General Purpose Plastic Rectifier


**DO-201AD**

### FEATURES

- Low forward voltage drop
- Low leakage current,  $I_R$  less than 0.1  $\mu\text{A}$
- 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
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
$I_{FSM}$	100 A
$I_R$	5.0 $\mu\text{A}$
$V_F$	1.1 V
$T_J$ max.	150 °C
Package	DO-201AD
Diode variations	Single die

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 95\text{ °C}$	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	100							A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 50 to + 150							°C

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ °C}$ unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Maximum instantaneous forward voltage	9.4 A	$T_J = 25\text{ °C}$	$V_F$	1.1						V	
		$T_J = 175\text{ °C}$		1.0							
Maximum DC reverse current at rated DC blocking voltage			$I_R$	5.0						$\mu\text{A}$	
				50							
Typical reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$		$t_{rr}$	2.0						$\mu\text{s}$	
Typical junction capacitance	4.0 V, 1 MHz		$C_J$	28						pF	



THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GI500	GI501	GI502	GI504	GI506	GI508	GI510	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	20							°C/W
	R <sub>θJL</sub> <sup>(1)</sup>	5.0							

**Note**

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted with 0.8" x 0.8" (20 mm x 20 mm) copper heatsinks

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GI506-E3/54	1.1	54	1400	13" diameter paper tape and reel
GI506-E3/73	1.1	73	1000	Ammo pack packaging

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

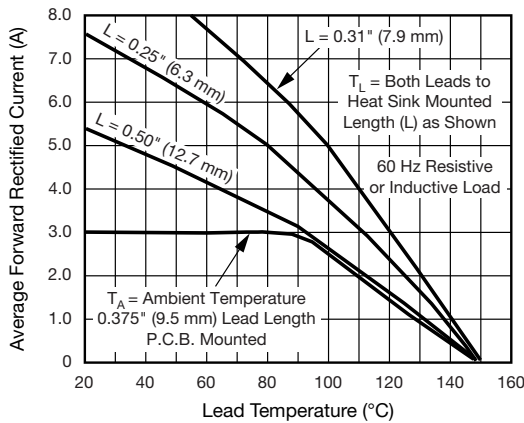


Fig. 1 - Forward Current Derating Curve

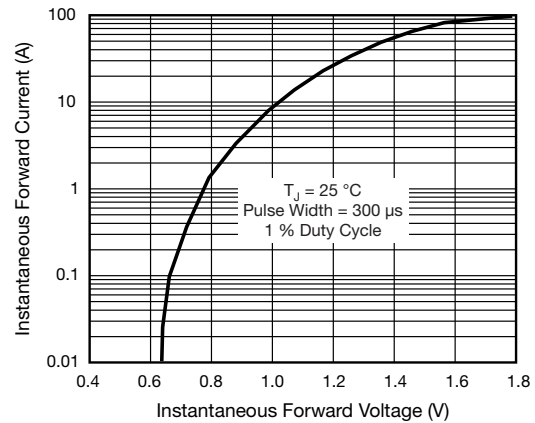


Fig. 3 - Typical Instantaneous Forward Characteristics

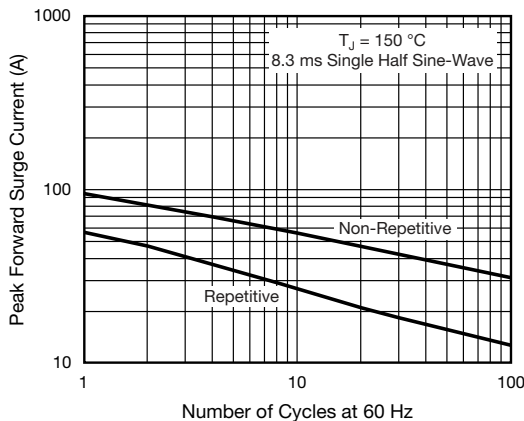


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

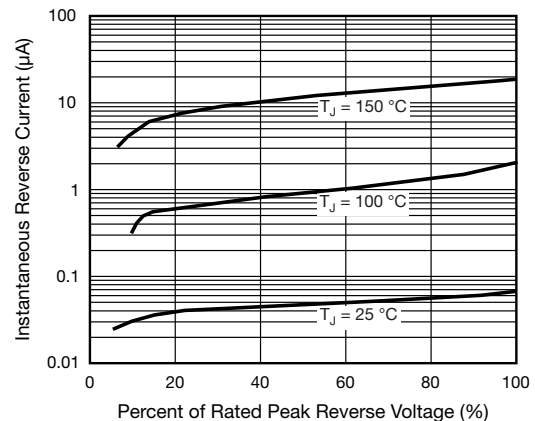


Fig. 4 - Typical Reverse Characteristics

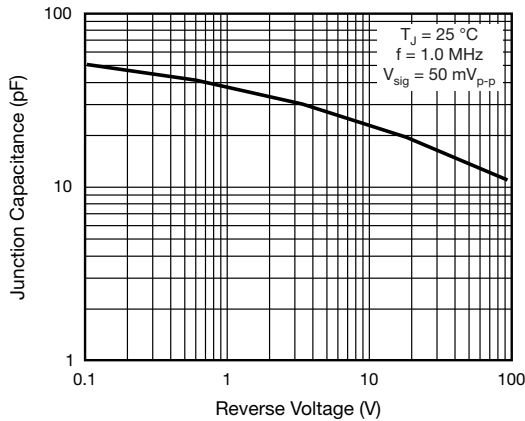


Fig. 5 - Typical Junction Capacitance

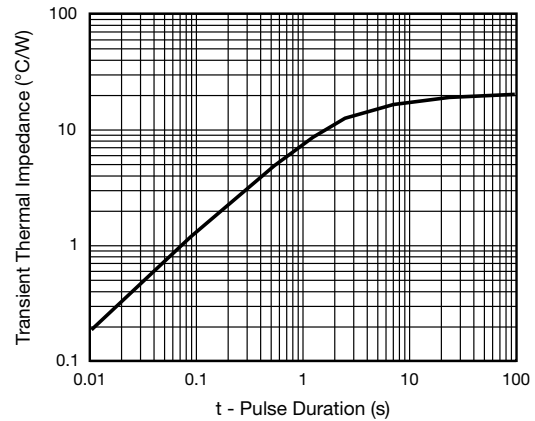
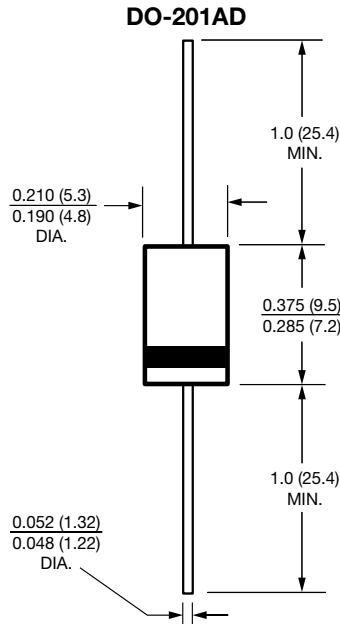


Fig. 6 - Typical Transient Thermal Impedance

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





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