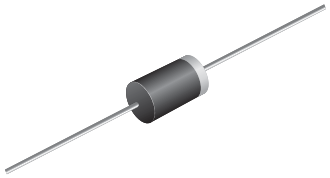
Fast Switching Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
V_{RRM}	50 V to 800 V
I_{FSM}	100 A
t_{rr}	200 ns
I_R	10 µA
V_F	1.25 V
T_j max.	150 °C



DO-201AD

Features

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder Dip 260 °C, 40 seconds

Mechanical Data

Case: DO-201AD, molded epoxy body

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: Color band denotes cathode end

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 Q101 qualified. Therefore, the devices specified in this datasheet have not been designed for use in automotive or Hi-Rel applications.)

Maximum Ratings

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	GI850	GI851	GI852	GI854	GI856	GI858	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	V
Maximum non-repetitive peak reverse voltage	V_{RSM}	75	150	250	450	650	880	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A= 90 °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 °C unless otherwise noted)

Parameter	Test condition	Symbol	GI850	GI851	GI852	GI854	GI856	GI858	Unit
Maximum instantaneous forward voltage	at 3.0 A at 9.4 A, T_J = 175 °C	V_F	1.25 1.10						V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25 °C T_A = 100 °C	I_R	10 150	150	200	250	300	500	µA
Maximum reverse recovery time	at I_F = 1.0 A, V_R = 30 V, di/dt = 50 A/µs, I_{rr} = 10 % I_{RM}	t_{rr}	200						ns
Maximum reverse recovery time	at I_F = 1.0 A, V_R = 30 V, di/dt = 50 A/µs, I_{rr} = 10 % I_{RM}	$I_{RM(REC)}$	2.0						A
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	28						pF

Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	GI850	GI851	GI852	GI854	GI856	GI858	Unit
Typical thermal resistance (1)	$R_{\theta JA}$ $R_{\theta JL}$	22 8.0						°C/W

Notes:

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

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

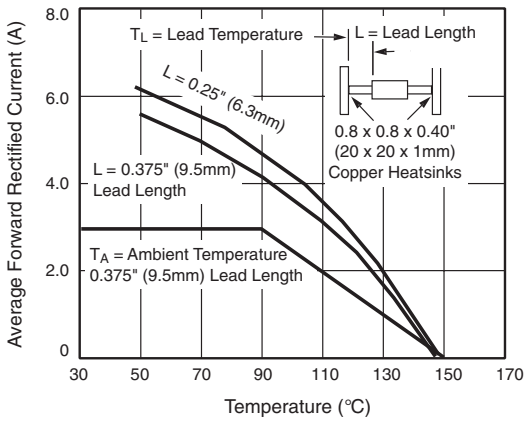


Figure 1. Forward Current Derating Curves

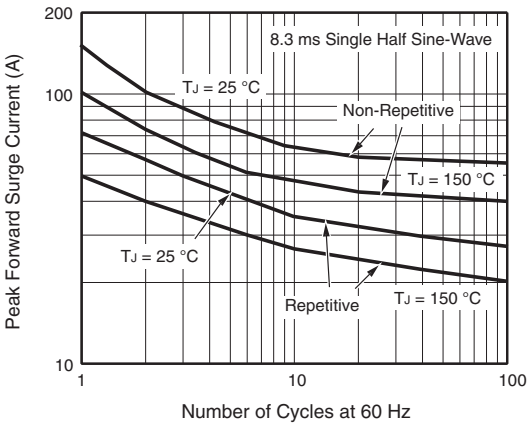


Figure 2. Maximum Peak Forward Surge Current

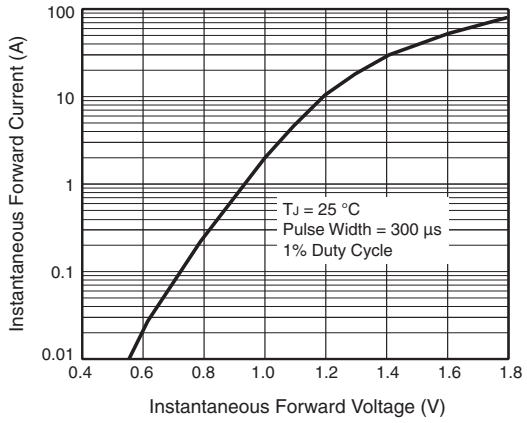


Figure 3. Typical Instantaneous Forward Characteristics

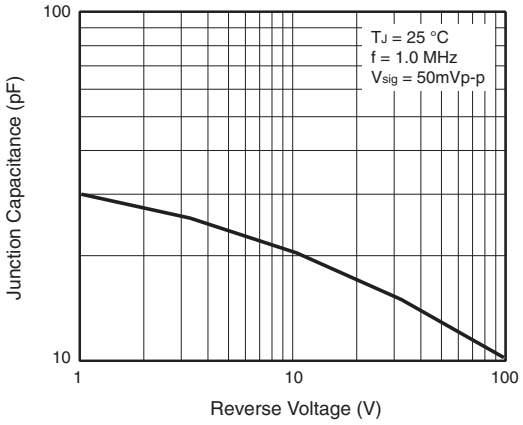


Figure 5. Typical Junction Capacitance

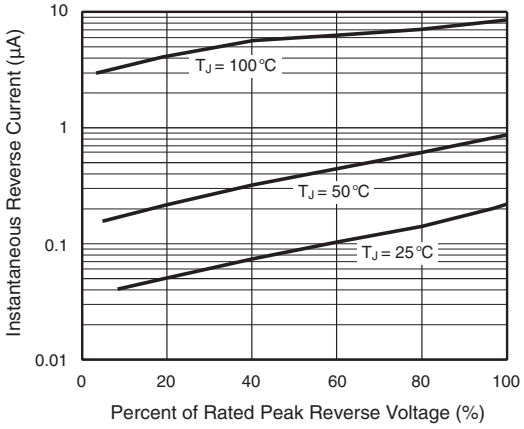
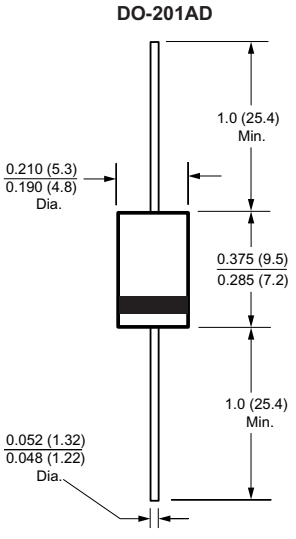


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.