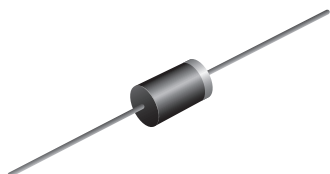




Fast Switching Plastic Rectifier



DO-201AD

FEATURES

- Fast switching for high efficiency
- Low forward voltage drop
- Low leakage current
- 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



RoHS
COMPLIANT

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 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
I_{FSM}	100 A
t_{rr}	200 ns
I_R	10 μ A
V_F	1.25 V
T_J max.	150 °C
Package	DO-201AD
Diode variation	Single die

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 CONDITIONS		SYMBOL	GI850	GI851	GI852	GI854	GI856	GI858	UNIT
Maximum instantaneous forward voltage	3.0 A	T _A = 25 °C	V _F	1.25						V
	9.4 A	T _J = 175 °C		1.10						
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C		I _R	10						μA
	T _A = 100 °C			150	150	200	250	300	500	
Maximum reverse recovery time	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 current	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	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	R _{θJA} ⁽¹⁾	22						°C/W	
	R _{θJL} ⁽¹⁾	8.0							

Note

⁽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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GI856-E3/54	1.1	54	1400	13" diameter paper tape and reel
GI856-E3/73	1.1	73	1000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

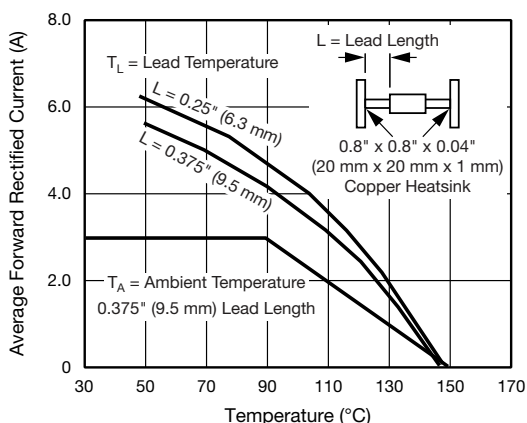


Fig. 1 - Forward Current Derating Curves

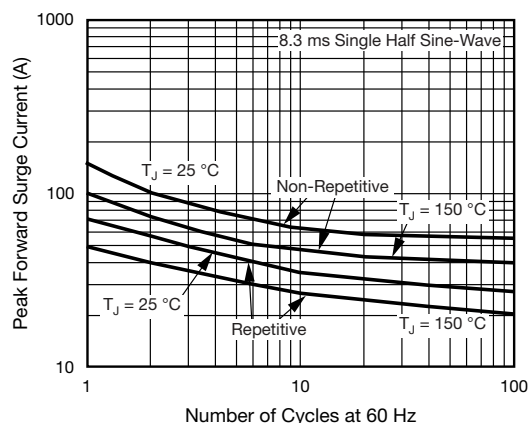


Fig. 2 - Maximum Peak Forward Surge Current

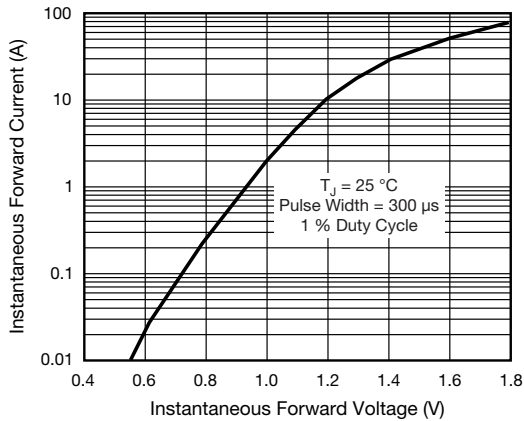


Fig. 3 - Typical Instantaneous Forward Characteristics

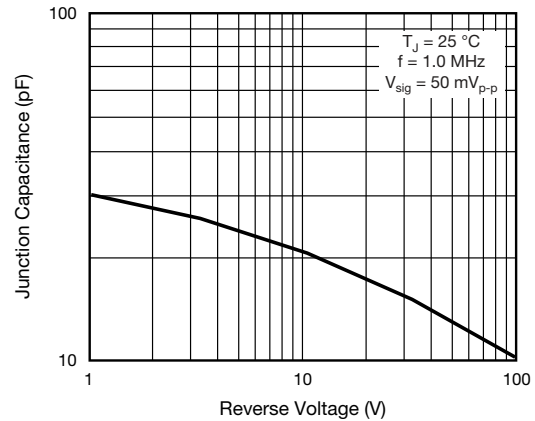


Fig. 5 - Typical Junction Capacitance

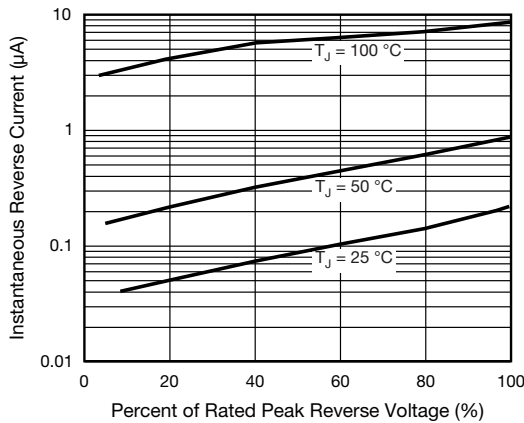
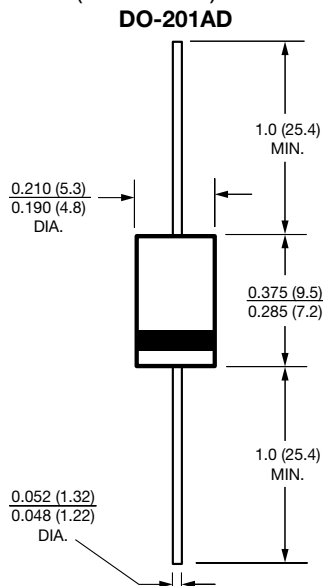


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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