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Vishay General Semiconductor

High Voltage Glass Passivated Plastic Rectifier



DO-204AL (DO-41)

PRIMARY CHARACTERISTICS						
I _{F(AV)}	0.25 A					
V _{RRM} 1000 V, 2000 V, 3000 V, 40						
I _{FSM} 15 A						
I _R	5.0 μA					
V _F	3.5 V					
T _J max.	175 °C					
Package	DO-204AL (DO-41)					
Diode variations	Single die					

FEATURES

Superectifier structure for high reliability application



· Cavity-free glass-passivated junction

Low leakage current

RoHS

High forward surge capability

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

 Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in rectification of high voltage power supplies, inverters, converters, and freewheeling diodes application.

MECHANICAL DATA

Case: DO-204AL, molded epoxy over glass 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 _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GI250-1	GI250-2	GI250-3	GI250-4	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	M 1000 2000 3000 4000		4000	V	
Maximum RMS voltage	V _{RMS}	V _{RMS} 700 1400 2100 2800		2800	V	
Maximum DC blocking voltage	V _{DC}	1000	2000	3000	4000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75 ^{\circ}\text{C}$	I _{F(AV)}	0.25			А	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	15			А	
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175			°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	GI250-1	GI250-2	GI250-3	GI250-4	UNIT
Maximum instantaneous forward voltage	0.25 A		V_{F}	3.5				V
Maximum DC reverse current		T _A = 25 °C	ln .	5.0			μА	
at rated DC blocking voltage		T _A = 100 °C	IR	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				μs
Typical junction capacitance	4.0 V, 1 MHz		CJ	3.0			•	pF

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	GI250-1	GI250-2	GI250-3	GI250-4	UNIT
Typical thermal resistance	R _{0JA} (1)	1) 130			°C/W	

Note

⁽¹⁾ Thermal resistance from junction to ambient 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			
GI250-4-E3/54	0.339	54	5500	13" diameter paper tape and reel			
GI250-4-E3/73	0.339	73	3000	Ammo pack packaging			

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

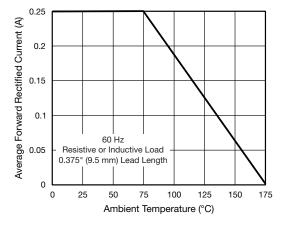


Fig. 1 - Forward Current Derating Curve

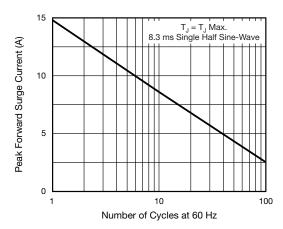


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

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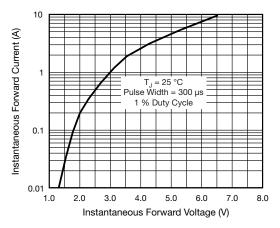


Fig. 3 - Typical Instantaneous Forward Characteristics

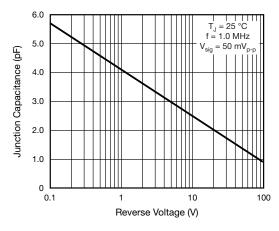


Fig. 5 - Typical Junction Capacitance

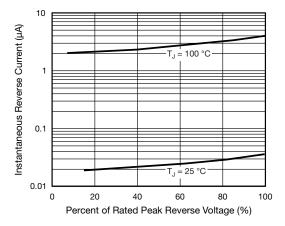
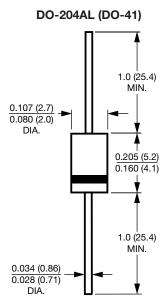


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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