

High Voltage Glass Passivated Plastic Rectifier



FEATURES

- Superrectifier structure for high reliability application
- Cavity-free glass-passivated junction
- 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 rectification of high voltage power supplies, inverters, converters, and freewheeling diodes application.

MECHANICAL DATA

Case: DO-41 (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

PRIMARY CHARACTERISTICS	
I _{F(AV)}	0.25 A
V _{RRM}	1000 V, 2000 V, 3000 V, 4000 V
I _{FSM}	15 A
I _R	5.0 µA
V _F	3.5 V
T _J max.	175 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

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}	1000	2000	3000	4000	V
Maximum RMS voltage	V _{RMS}	700	1400	2100	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 °C	I _{F(AV)}	0.25				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	15				A
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175				°C

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ 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 at rated DC blocking voltage	$T_A = 25^\circ\text{C}$	I_R		5.0			μA
				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	C_J		3.0			pF

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

PARAMETER	SYMBOL	GI250-1	GI250-2	GI250-3	GI250-4	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$		130			$^\circ\text{C/W}$

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

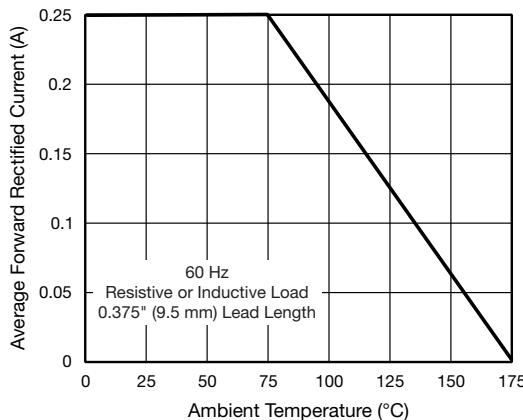
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

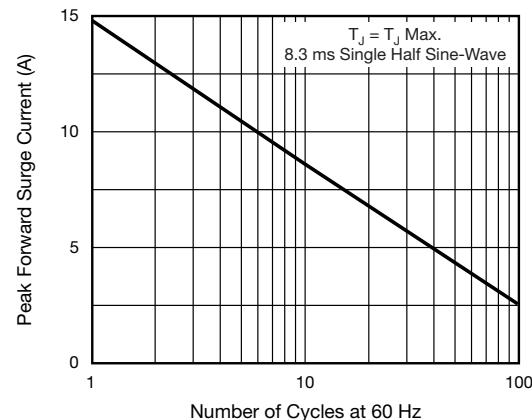


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

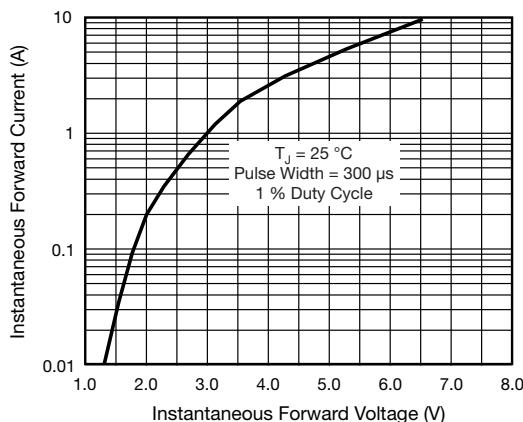


Fig. 3 - Typical Instantaneous Forward Characteristics

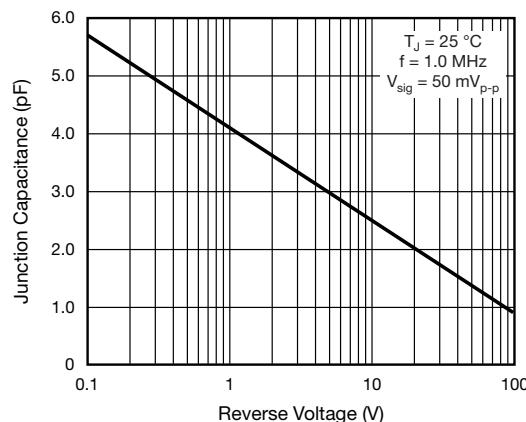


Fig. 5 - Typical Junction Capacitance

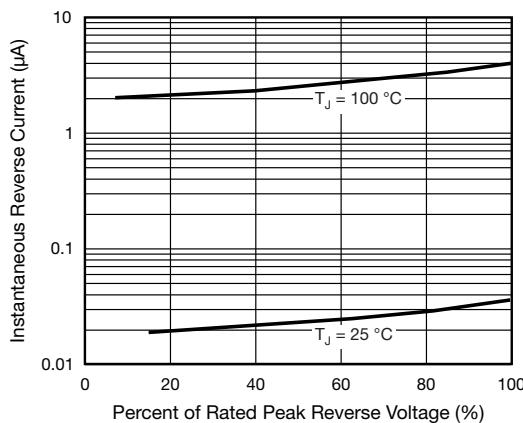
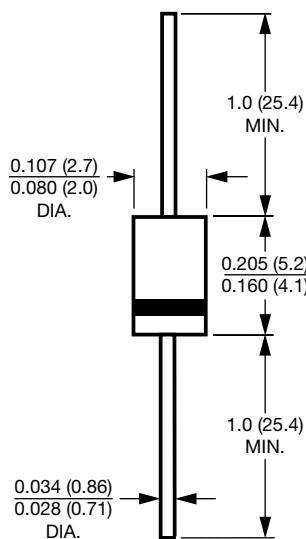


Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



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