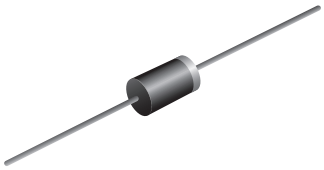
Miniature High Voltage Glass Passivated Plastic Rectifier

SUPERECTIFIER®



DO-15 (DO-204AC)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Typical I_R less than 0.1 µA
- 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 high voltage rectification of power supplies, inverters, converters, freewheeling diodes applications

MECHANICAL DATA

Case: DO-15 (DO-204AC), 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	
$I_{F(AV)}$	1.0 A
V_{RRM}	1200 V, 1400 V, 1600 V
I_{FSM}	30 A
I_R	10 µA
V_F	1.1 V
T_J max.	175 °C
Package	DO-15 (DO-204AC)
Circuit configuration	Single

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	GI1-1200GP	GI1-1400GP	GI1-1600GP	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	1200	1400	1600	V
Maximum RMS voltage	V_{RMS}	840	980	1120	V
Maximum DC blocking voltage	V_{DC}	1200	1400	1600	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 75 °C	$I_{F(AV)}$	1.0			A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30			A
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**	**GI1-1200GP**	**GI1-1400GP**	**GI1-1600GP**	**UNIT**
Maximum instantaneous forward voltage	I_F = 1.0 A		V_F (1)	1.1			V
	I_F = 3.14 A			1.3			
Maximum reverse current	Rated V_R	T_A = 25 °C	I_R (1)	10			µA
		T_A = 100 °C		100			
Maximum reverse recovery time	I_{FM} = 20 mA, I_{RM} = 2 mA		t_{rr}	25			µs
Reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	typical	t_{rr}	0.7			µs
		maximum		1.5			
Maximum forward recovery time	I_{FM} = 20 mA		t_{fr}	1.0			µs
Typical junction capacitance	4.0 V, 1 MHz		C_J	15			pF

Note

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)					
PARAMETER	**SYMBOL**	**GI1-1200GP**	**GI1-1400GP**	**GI1-1600GP**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	55			°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**
GI1-1200-E3/54	0.425	54	4000	13" diameter paper tape and reel
GI1-1200-E3/73	0.425	73	2000	Ammo pack packaging

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

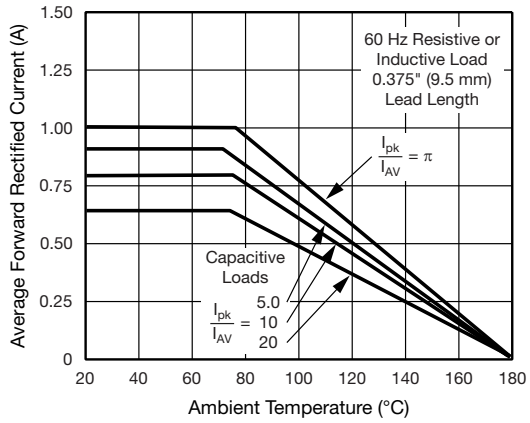


Fig. 1 - Forward Current Derating Curve

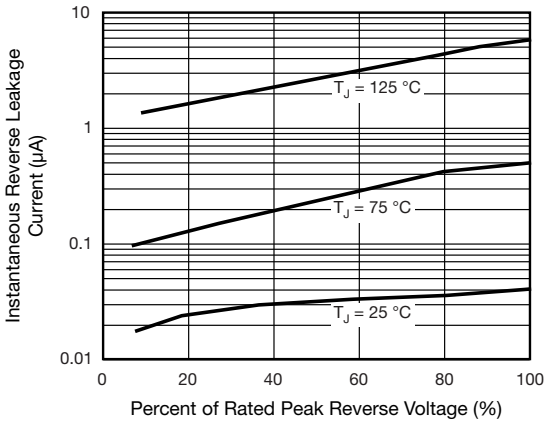


Fig. 4 - Typical Reverse Characteristics

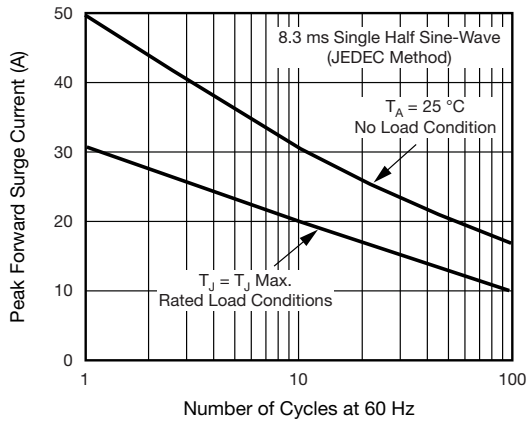


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

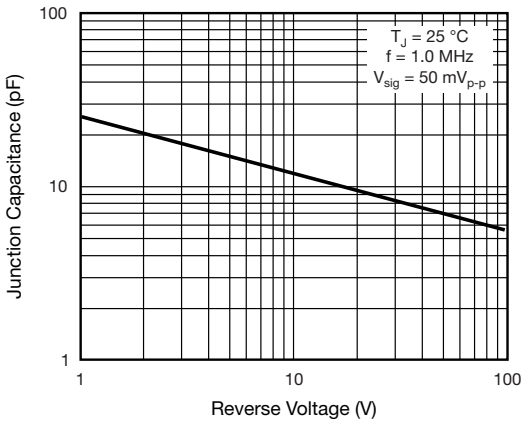


Fig. 5 - Typical Junction Capacitance

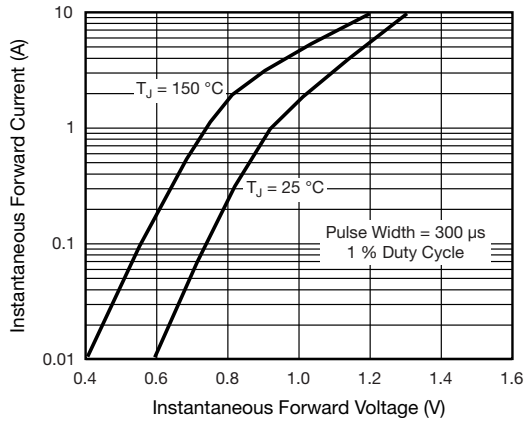
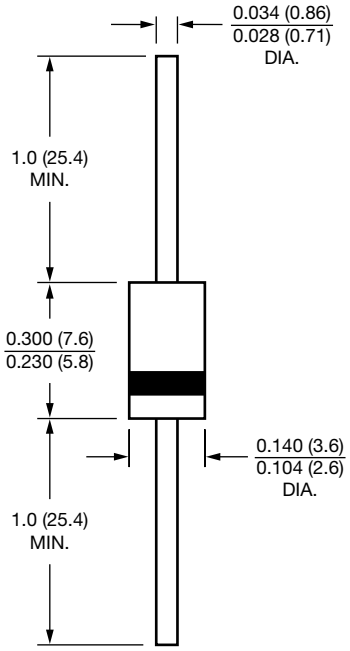


Fig. 3 - Typical Instantaneous Forward Characteristics

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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

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