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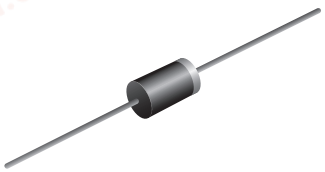
GP15A, GP15B, GP15D, GP15G, GP15J, GP15K, GP15M

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Vishay General Semiconductor

Glass Passivated Junction Plastic Rectifier

SUPERECTIFIER®



DO-204AC (DO-15)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current, I_R less than 0.1 µA
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for both consumer, and automotive applications.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.5 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	50 A
I_R	5.0 µA
V_F	1.1 V
T_J max.	175 °C
Package	DO-204AC (DO-15)
Diode variations	Single die

MECHANICAL DATA

Case: DO-204AC, molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

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

PARAMETER	SYMBOL	GP15A	GP15B	GP15D	GP15G	GP15J	GP15K	GP15M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at T_A = 55 °C	$I_{F(AV)}$	1.5							A
Peak forward surge current 8.3 ms single half-sine wave superimposed on rated load	I_{FSM}	50							A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at T_A = 55 °C	$I_{R(AV)}$	100							µA
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**	**GP15A**	**GP15B**	**GP15D**	**GP15G**	**GP15J**	**GP15K**	**GP15M**	**UNIT**
Maximum instantaneous forward voltage	1.5 A	V_F	1.1							V
Maximum reverse current at rated DC blocking voltage	T_A = 25 °C	I_R	5.0							µA
	T_A = 150 °C		200							
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 V, I_{rr} = 0.25 A	t_{rr}	3.5							µs
Typical junction capacitance	4.0 V, 1 MHz	C_J	15							pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	**SYMBOL**	**GP15A**	**GP15B**	**GP15D**	**GP15G**	**GP15J**	**GP15K**	**GP15M**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	45							°C/W
	$R_{\theta JL}$ (1)	20							

Note

(1) Thermal resistance from junction to ambient and from junction to lead 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**
GP15J-E3/54	0.425	54	4000	13" diameter paper tape and reel
GP15J-E3/73	0.425	73	2000	Ammo pack packaging
GP15JHE3/54 (1)	0.425	54	4000	13" diameter paper tape and reel
GP15JHE3/73 (1)	0.425	73	2000	Ammo pack packaging

Note

(1) AEC-Q101 qualified

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

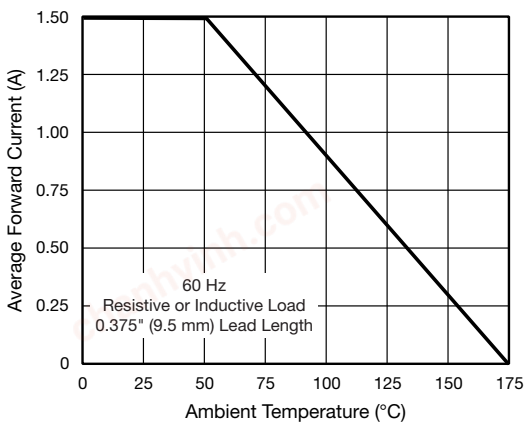


Fig. 1 - Forward Current Derating Curve

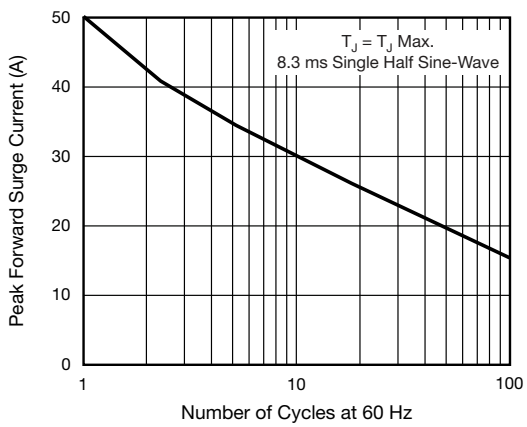


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

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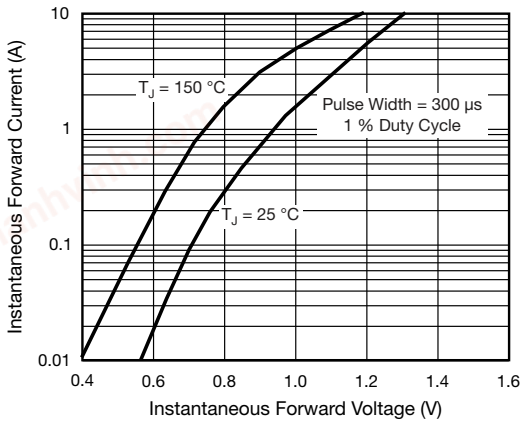


Fig. 3 - Typical Instantaneous Forward Characteristics

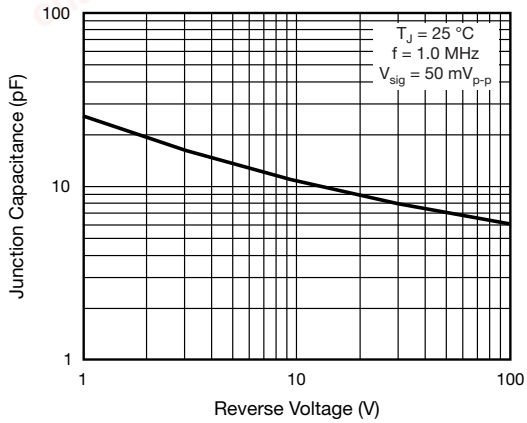


Fig. 5 - Typical Junction Capacitance

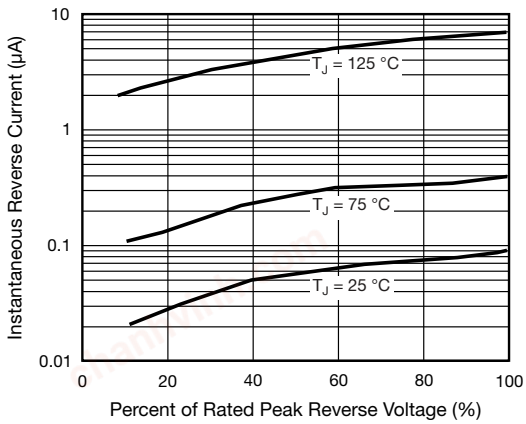


Fig. 4 - Typical Reverse Characteristics

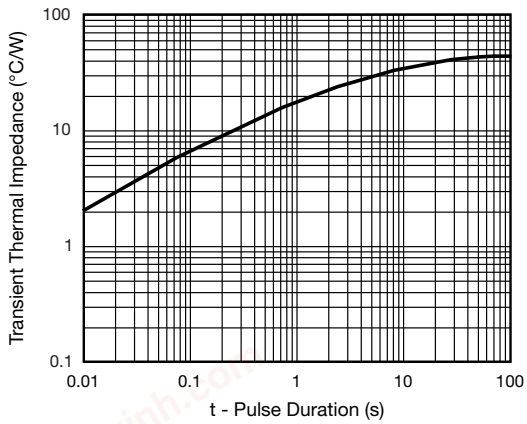
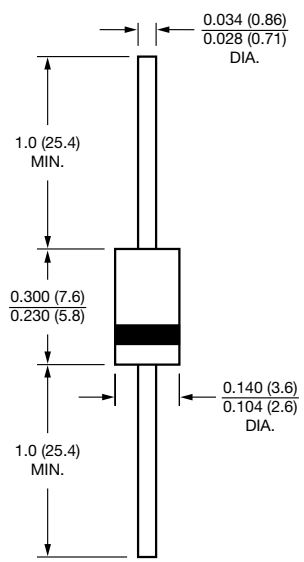


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)



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