

Surface Mount Glass Passivated Junction Rectifier

SUPERECTIFIER®



DO-213AA (GL34)

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-213AA, 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: Two bands indicate cathode end - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V
I_{FSM}	10 A
V_F	1.2 V, 1.3 V
I_R	5.0 μ A
T_J max.	175 °C
Package	DO-213AA (GL34)
Diode variations	Single die

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
STANDARD RECOVERY DEVICE: 1 ST BAND IS WHITE							
Polarity color bands (2 nd band)		Gray	Red	Orange	Yellow	Green	
Max. repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V
Max. RMS voltage	V_{RMS}	35	70	140	280	420	V
Max. DC blocking voltage	V_{DC}	50	100	200	400	600	V
Max. average forward rectified current at $T_L = 75\text{ °C}$	$I_{F(AV)}$	0.5					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	10					A
Max. full load reverse current, full cycle average at $T_A = 55\text{ °C}$	$I_{R(AV)}$	30					μ A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					°C

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

PARAMETER	TEST CONDITIONS		SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Max. instantaneous forward voltage	0.5 A		V _F	1.2				1.3	V
Max. DC reverse current at rated DC blocking voltage		T _A = 25 °C	I _R	5.0					μA
		T _A = 125 °C		50					
Typical reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		t _{rr}	1.5					μs
Typical junction capacitance	4.0 V, 1 MHz		C _J	4.0					pF

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

PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Maximum thermal resistance	R _{θJA} ⁽¹⁾	150					°C/W
	R _{θJT} ⁽²⁾	70					

Notes

- (1) Thermal resistance from junction to ambient, 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal
(2) Thermal resistance from junction to terminal, 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
GL34G-E3/98	0.036	98	2500	7" diameter plastic tape and reel
GL34G-E3/83	0.036	83	9000	13" diameter plastic tape and reel
GL34GHE3/98 ⁽¹⁾	0.036	98	2500	7" diameter plastic tape and reel
GL34GHE3/83 ⁽¹⁾	0.036	83	9000	13" diameter plastic tape and reel

Note

- (1) AEC-Q101 qualified

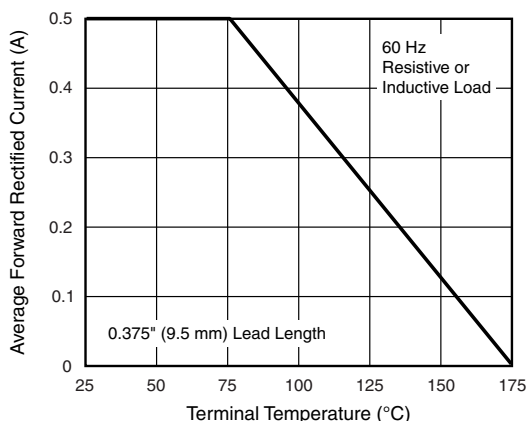
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

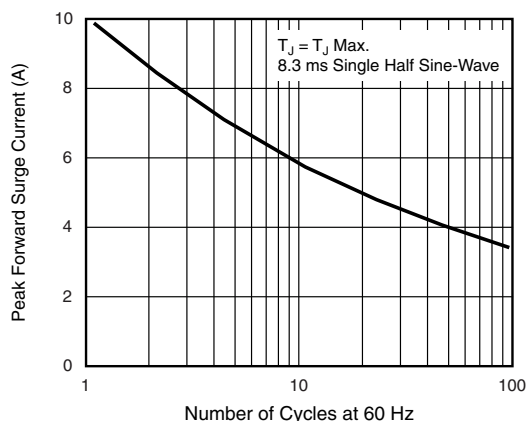


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

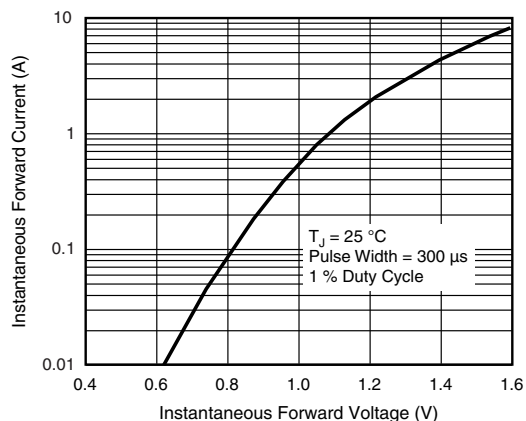


Fig. 3 - Typical Instantaneous Forward Characteristics

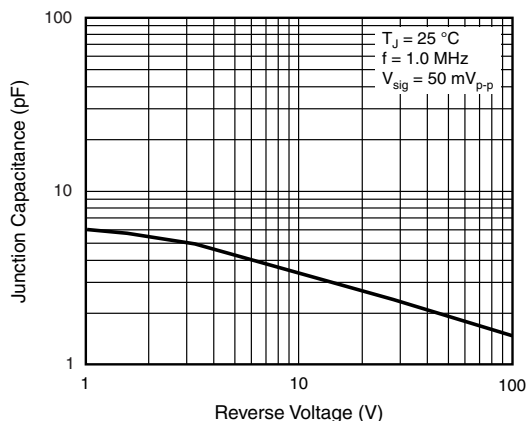


Fig. 5 - Typical Junction Capacitance

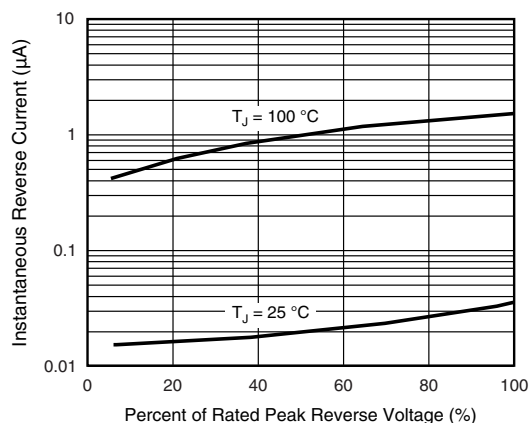
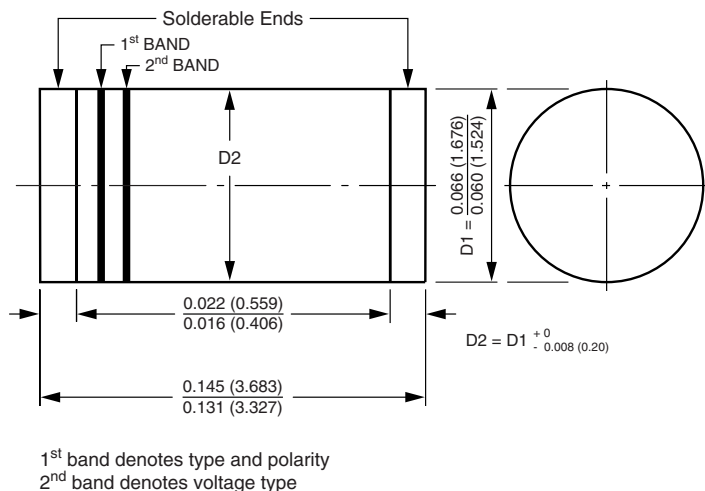


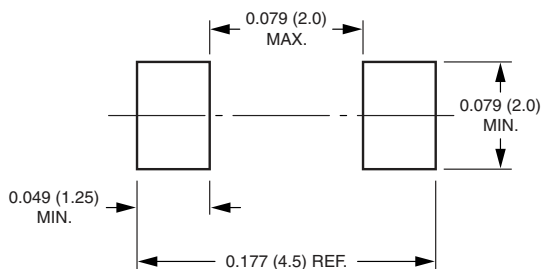
Fig. 4 - Typical Reverse Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



Mounting Pad Layout





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