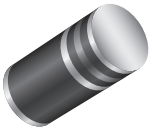
Surface Mount Glass Passivated Junction Rectifier

SUPERECTIFIER®



DO-213AA (GL34)

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- Meets 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.

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 µA
T_J max.	175 °C
Package	DO-213AA (GL34)
Diode variations	Single die

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

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

PARAMETER STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Polarity color bands (2nd 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 °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 °C	$I_{R(AV)}$	30					µA
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175					°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °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 °C unless otherwise noted)								
PARAMETER	**SYMBOL**	**GL34A**	**GL34B**	**GL34D**	**GL34G**	**GL34J**	**UNIT**
Maximum thermal resistance	$R_{\theta JA}$ (1)	150					°C/W
	$R_{\theta JT}$ (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 °C unless otherwise noted)

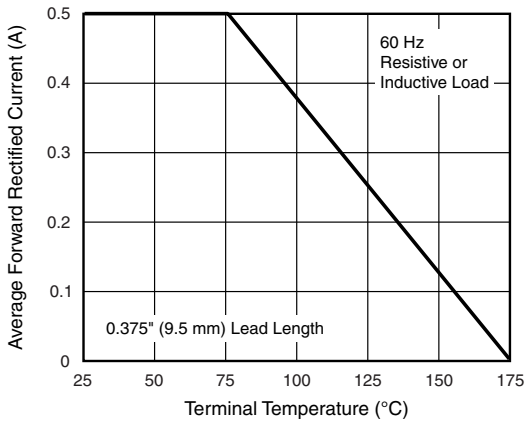


Fig. 1 - Forward Current Derating Curve

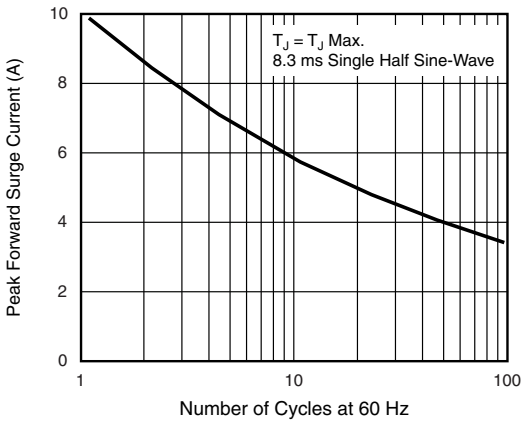


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

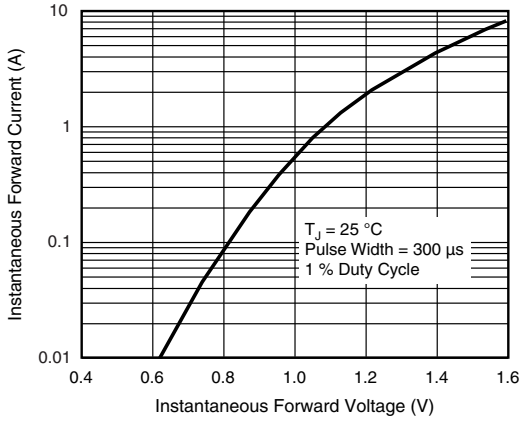


Fig. 3 - Typical Instantaneous Forward Characteristics

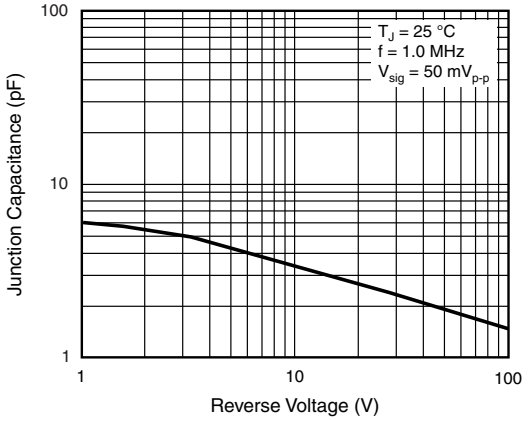


Fig. 5 - Typical Junction Capacitance

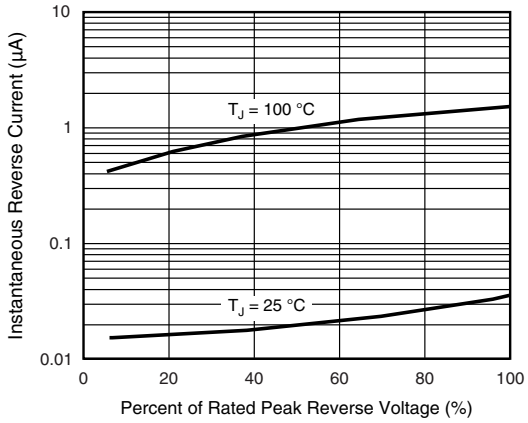
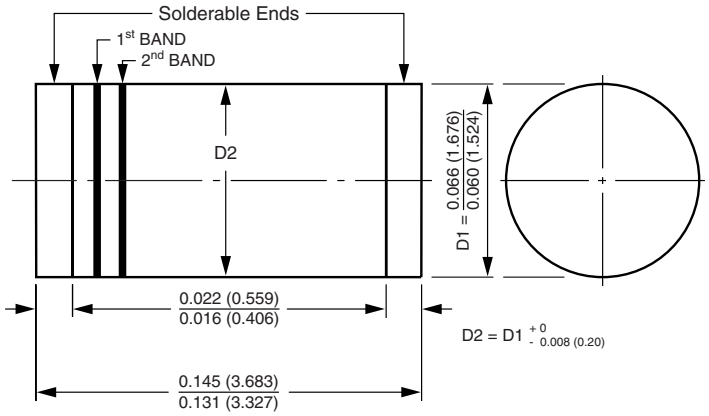


Fig. 4 - Typical Reverse Characteristics

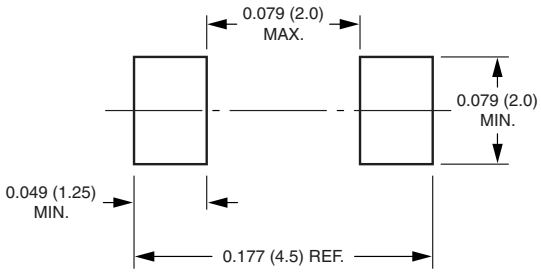
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



1st band denotes type and polarity
2nd band denotes voltage type

Mounting Pad Layout



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