

Surface-Mount Glass Passivated Junction Rectifier

Superectifier®


GL34 (DO-213AA)

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.

MECHANICAL DATA

Case: GL34 (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	GL34 (DO-213AA)
Circuit configurations	Single

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT	
STANDARD RECOVERY DEVICE: 1ST 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	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0					μA
	$T_A = 125\text{ }^\circ\text{C}$		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}	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	$R_{\theta JA}^{(1)}$	150					$^\circ\text{C/W}$
	$R_{\theta JT}^{(2)}$	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 ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

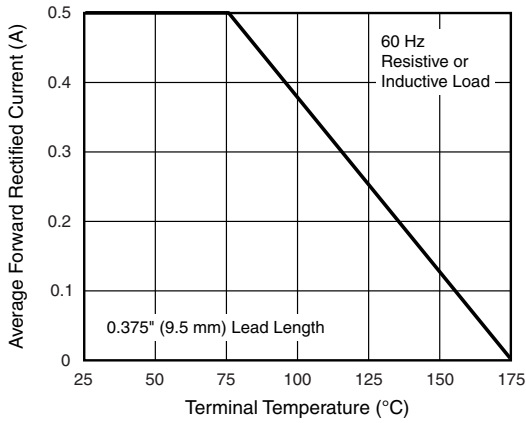


Fig. 1 - Forward Current Derating Curve

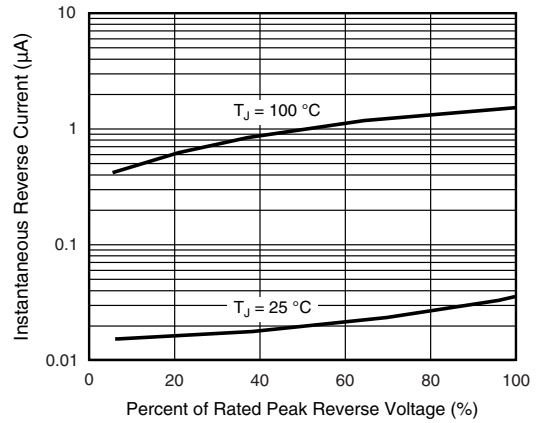


Fig. 4 - Typical Reverse Characteristics

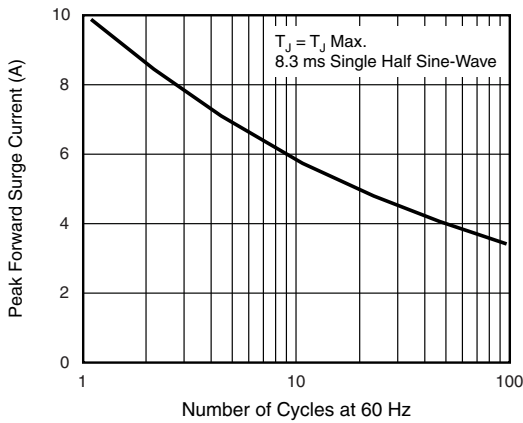


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

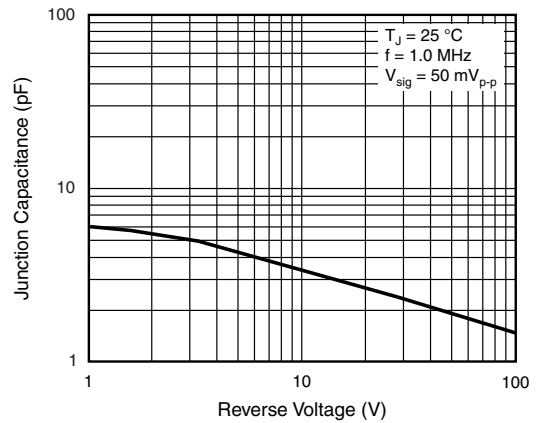


Fig. 5 - Typical Junction Capacitance

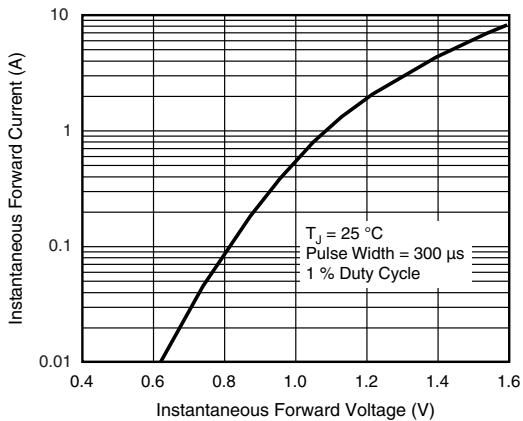
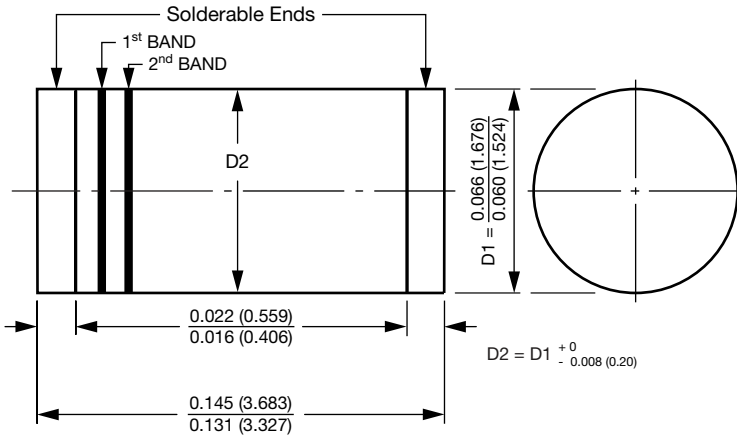


Fig. 3 - Typical Instantaneous Forward Characteristics



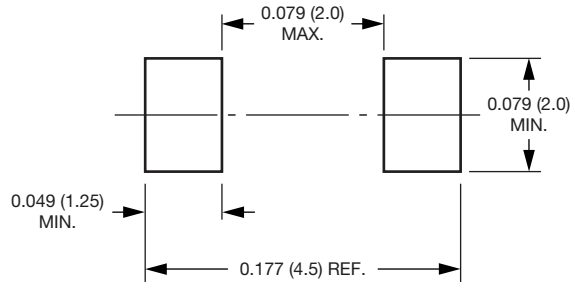
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL34 (DO-213AA)



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

Mounting Pad Layout





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