



## Surface-Mount Glass Passivated Junction Rectifier

Superectifier®



GL34 (DO-213AA)

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 $\mu$ A
$T_J$ max.	175 °C
Package	GL34 (DO-213AA)
Circuit configurations	Single

## FEATURES

- Superrectifier 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
  - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://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-HE3\_X - RoHS-compliant and AEC-Q101 qualified  
("X" denotes revision code e.g. A, B, ....)

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** two bands indicate cathode end - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> band denotes repetitive peak reverse voltage rating

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)								
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT	
STANDARD RECOVERY DEVICE: 1 <sup>ST</sup> BAND IS WHITE								
Polarity color bands (2 <sup>nd</sup> 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						$\mu$ 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					$\mu\text{A}$
	$T_A = 125\text{ }^\circ\text{C}$		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				$\mu\text{s}$	
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
GL34GHE3_A/H <sup>(1)</sup>	0.036	H	2500	7" diameter plastic tape and reel
GL34GHE3_A/I <sup>(1)</sup>	0.036	I	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)

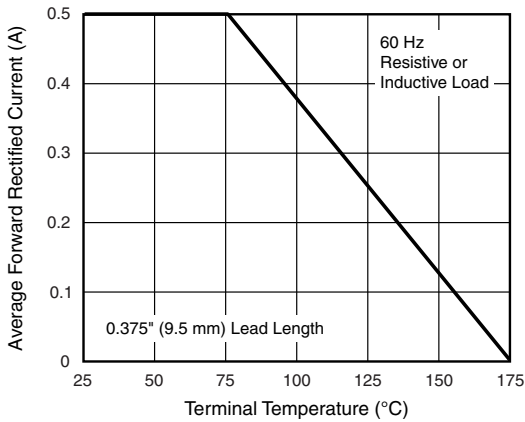


Fig. 1 - Forward Current Derating Curve

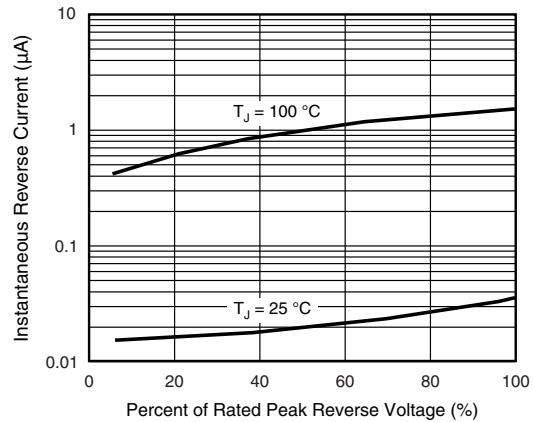


Fig. 4 - Typical Reverse Characteristics

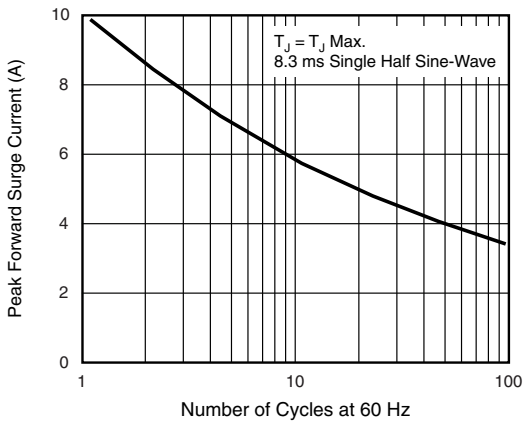


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

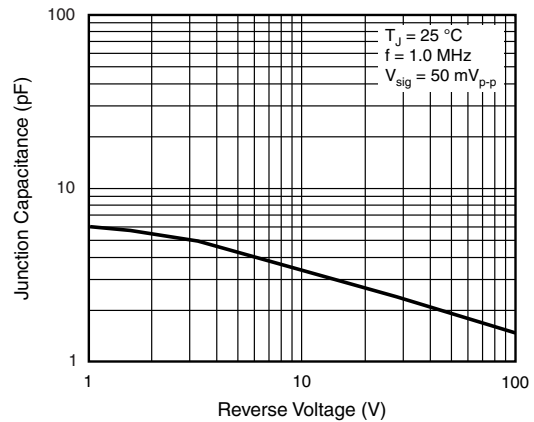


Fig. 5 - Typical Junction Capacitance

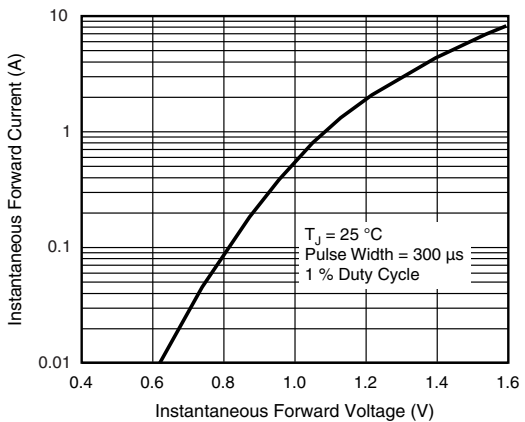
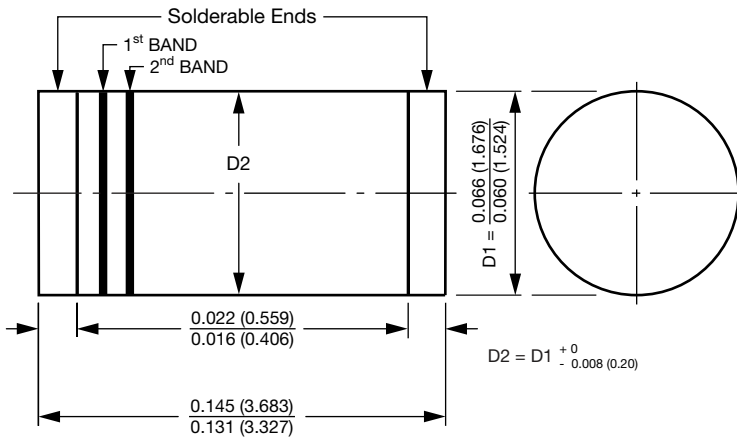


Fig. 3 - Typical Instantaneous Forward Characteristics



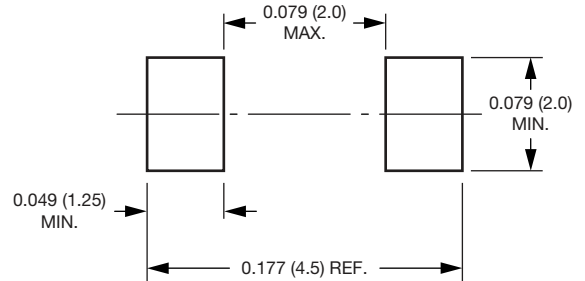
**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

GL34 (DO-213AA)



1<sup>st</sup> band denotes type and polarity  
 2<sup>nd</sup> band denotes voltage type

Mounting Pad Layout





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