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## GL34A, GL34B, GL34D, GL34G, GL34J

Vishay General Semiconductor

### 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](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:** 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 - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> 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 $\mu$ A
$T_J$ max.	175 °C
Package	DO-213AA (GL34)
Diode variations	Single die

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



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ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Max. instantaneous forward voltage	0.5 A		V <sub>F</sub>	1.2				1.3	V
Max. DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0					μA
		T <sub>A</sub> = 125 °C		50					
Typical reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>	1.5					μs
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>	4.0					pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Maximum thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	150					°C/W
	R <sub>θJT</sub> <sup>(2)</sup>	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 <sup>(1)</sup>	0.036	98	2500	7" diameter plastic tape and reel
GL34GHE3/83 <sup>(1)</sup>	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)

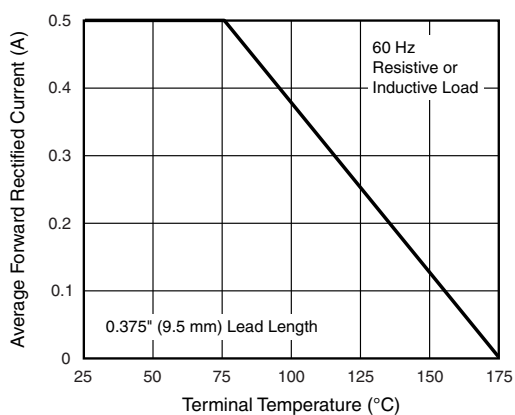


Fig. 1 - Forward Current Derating Curve

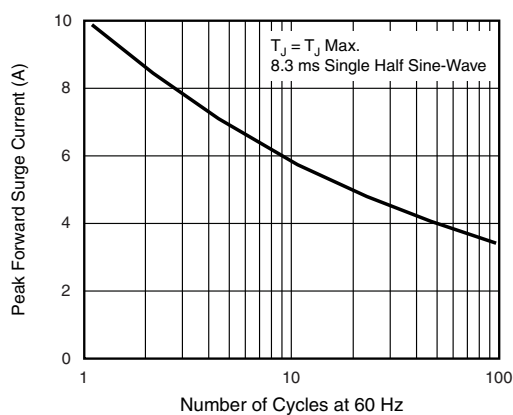


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current



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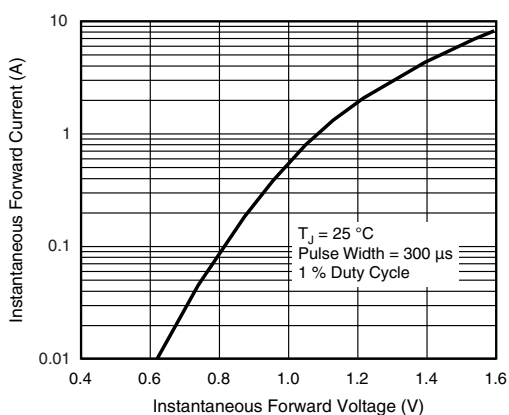


Fig. 3 - Typical Instantaneous Forward Characteristics

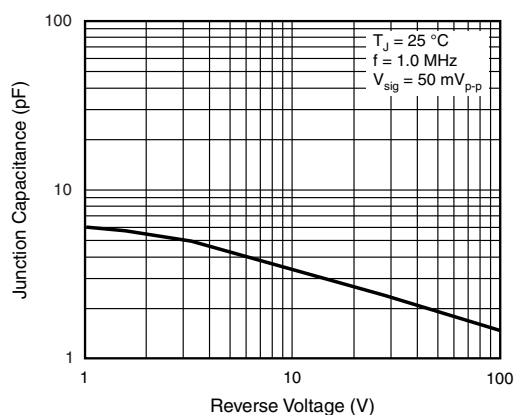


Fig. 5 - Typical Junction Capacitance

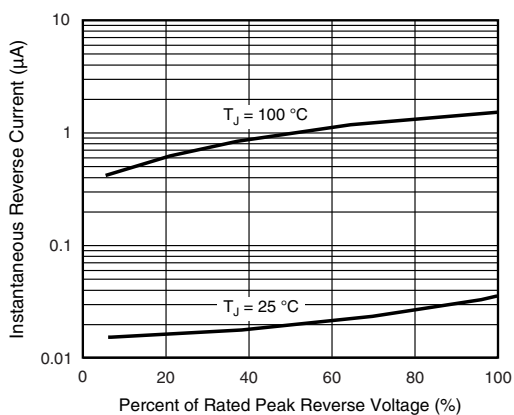
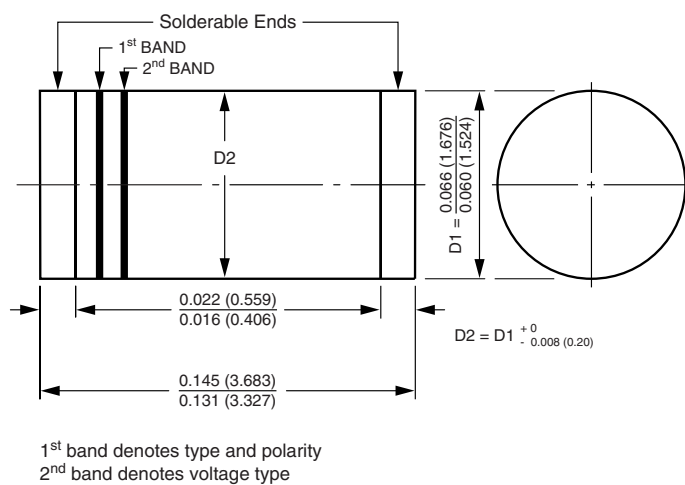


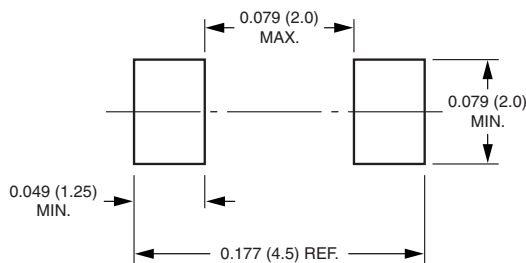
Fig. 4 - Typical Reverse Characteristics

### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

#### DO-213AA (GL34)



#### Mounting Pad Layout





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