

Surface Mount Glass Passivated Junction Rectifier



Patented*

*Glass-plastic encapsulation is covered by Patent No. 3,996,602, brazed-lead assembly to Patent No. 3,930,306



DO-213AA (GL34)

FEATURES

- Superrectifier structure for high reliability condition
- Patented glass-plastic encapsulation technique
- 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
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



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
Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC-Q101 qualified), 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 to 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

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ 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		
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V	
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V	
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V	
Maximum average forward rectified current at $T_T = 75\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 $T_A = 55\text{ }^\circ\text{C}$	$I_{R(AV)}$	30						μ A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175						$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT	
Maximum instantaneous forward voltage	0.5 A	V _F	1.2				1.3		V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C T _A = 125 °C	I _R	5.0 50						μA
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 _{θJA} R _{θJT}	150 ⁽¹⁾ 70 ⁽²⁾						°C/W

Notes:

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	REFERRED 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) Automotive grade AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

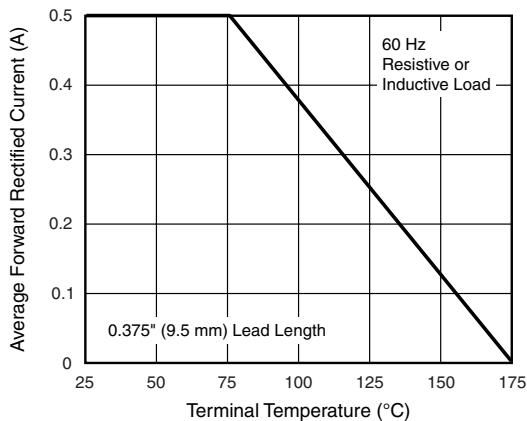


Figure 1. Forward Current Derating Curve

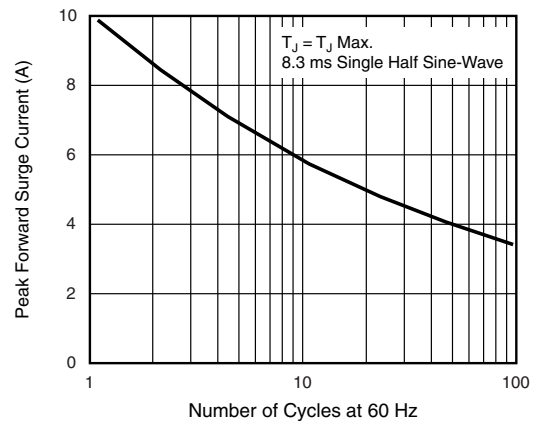


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

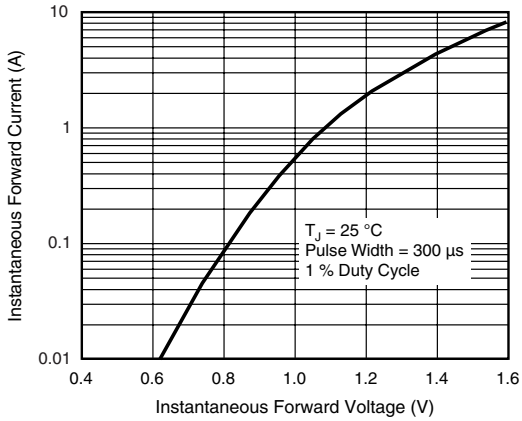


Figure 3. Typical Instantaneous Forward Characteristics

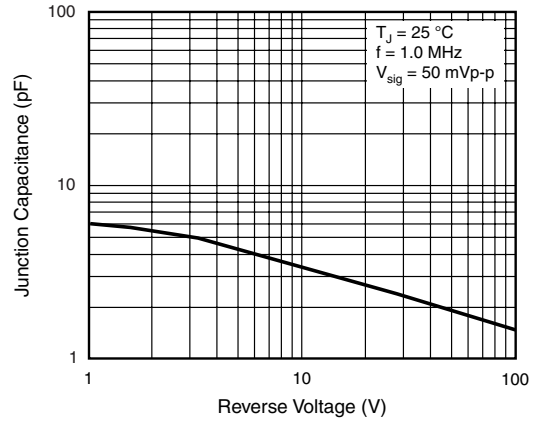


Figure 5. Typical Junction Capacitance

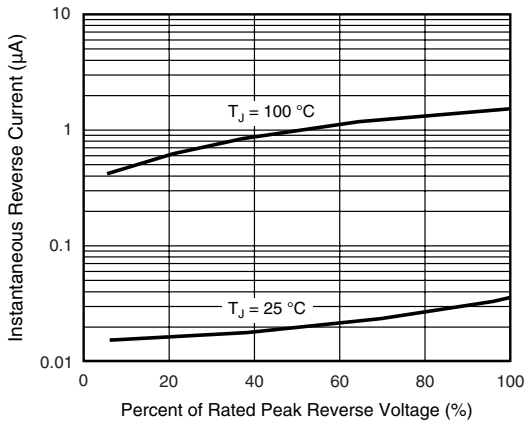
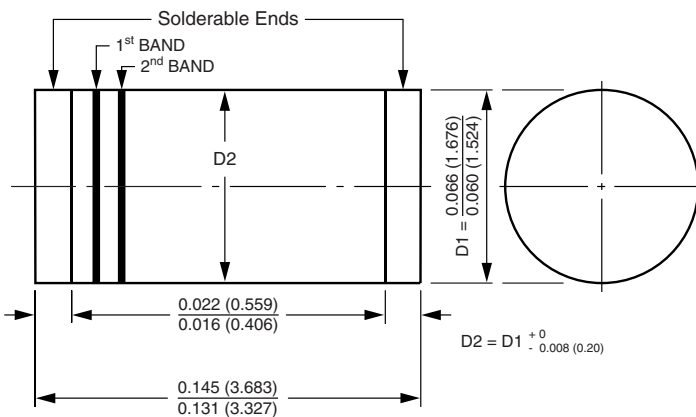


Figure 4. Typical Reverse Characteristics

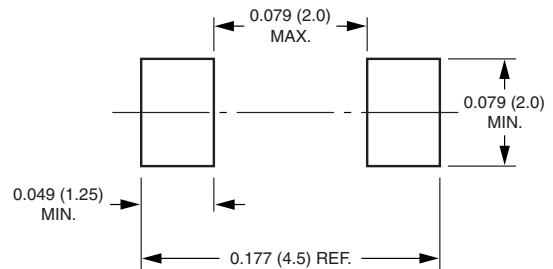
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



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

Mounting Pad Layout





Disclaimer

All product specifications and data are subject to change without notice.

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