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

- Superectifier 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-020C, LF max peak of 260 °C
- Solder dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and free-wheeling diodes for consumer, automotive and telecommunication.

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 µA
T_j max.	175 °C

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-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

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	
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 °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 °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**
Maximum instantaneous forward voltage	at 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	at I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A	t_{rr}	1.5					µs
Typical junction capacitance	at 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	$R_{\theta JA}$ $R_{\theta JT}$	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 & Reel
GL34G-E3/83	0.036	83	9000	13" Diameter Plastic Tape & Reel
GL34GHE3/98 (1)	0.036	98	2500	7" Diameter Plastic Tape & Reel
GL34GHE3/83 (1)	0.036	83	9000	13" Diameter Plastic Tape & Reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

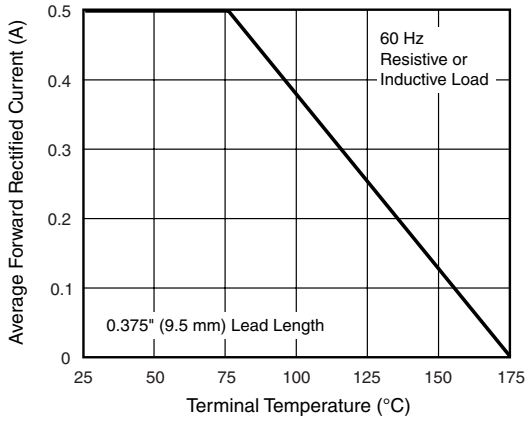


Figure 1. Forward Current Derating Curve

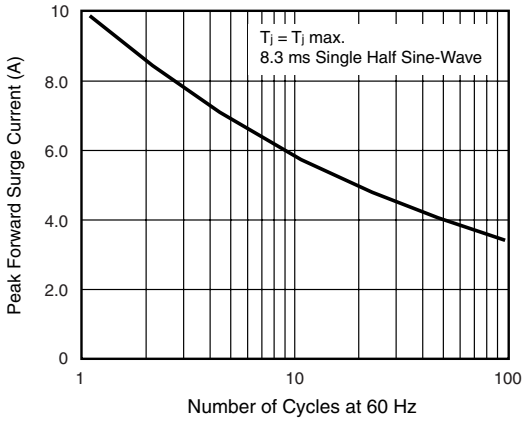


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

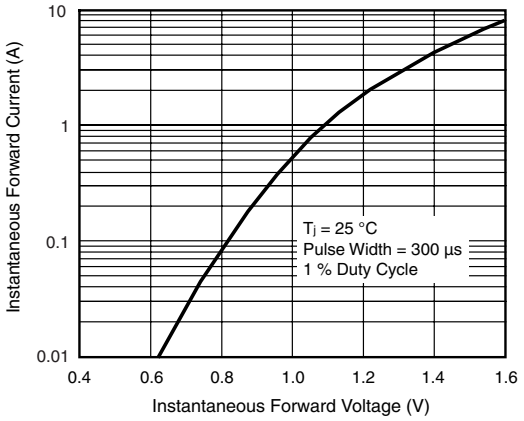


Figure 3. Typical Instantaneous Forward Characteristics

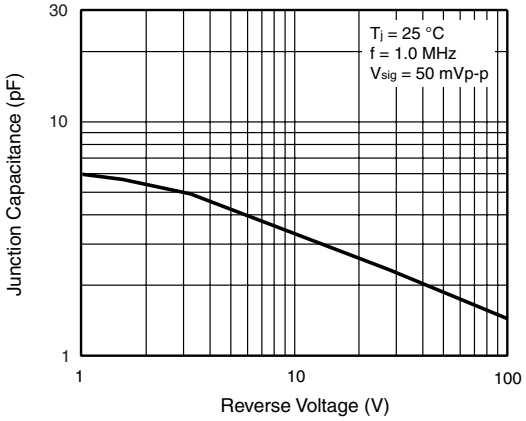


Figure 5. Typical Junction Capacitance

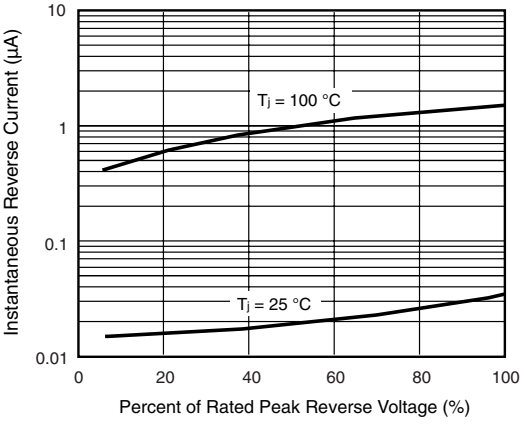
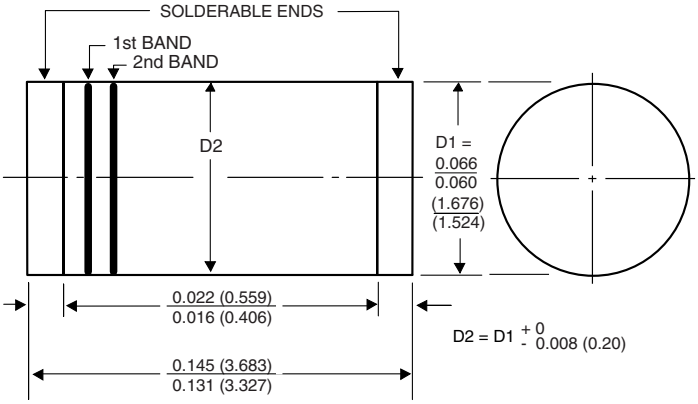


Figure 4. Typical Reverse Characteristics

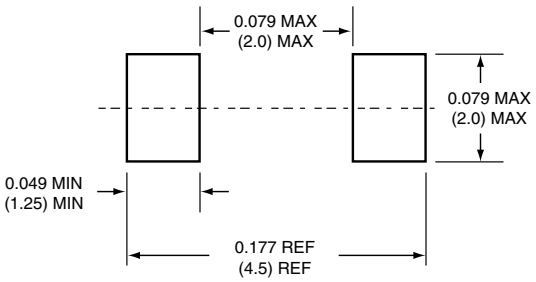
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



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

Mounting Pad Layout



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