

Surface Mount Glass Passivated Junction Rectifier

Major Ratings and 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

SUPERECTIFIER®



DO-213AA (GL34)

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

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
- Solder Dip 260 °C, 40 seconds



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

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and Telecommunication

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Standard recovery device: first 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					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 condition	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	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R	5.0 50					μA
Typical reverse recovery time	at $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{rr} = 0.25\text{ A}$	t_{rr}	1.5					μs
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	4.0					pF

Thermal Characteristics

($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	GL34A	GL34B	GL34D	GL34G	GL34J	Unit
Maximum thermal resistance	$R_{\theta JA}$ $R_{\theta JT}$	150 ⁽¹⁾ 70 ⁽²⁾					$^{\circ}\text{C/W}$

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

Ratings and Characteristics Curves

($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

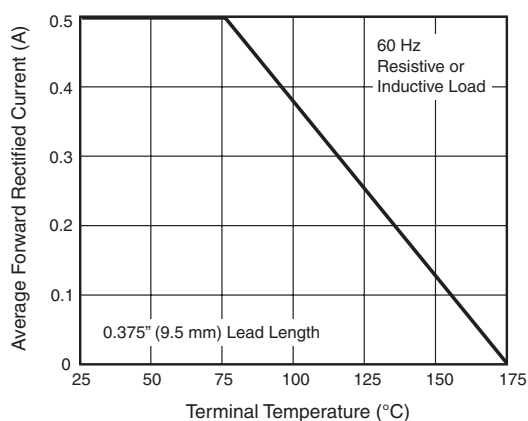


Figure 1. Forward Current Derating Curve

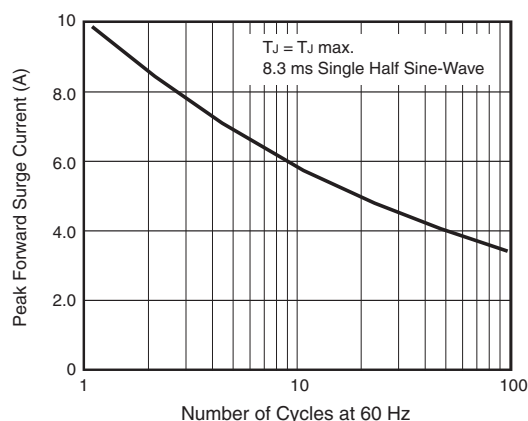


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

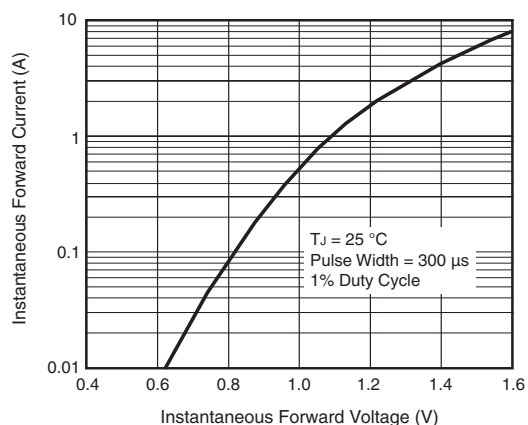


Figure 3. Typical Instantaneous Forward Characteristics

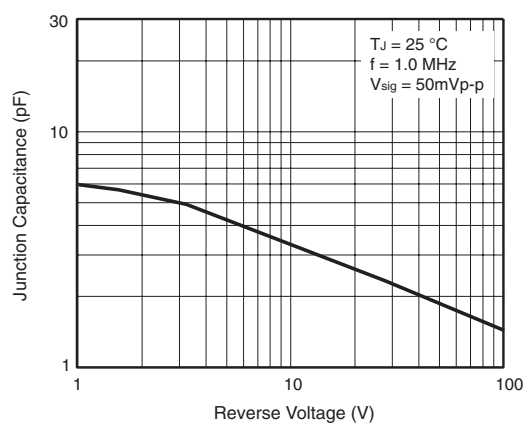


Figure 5. Typical Junction Capacitance

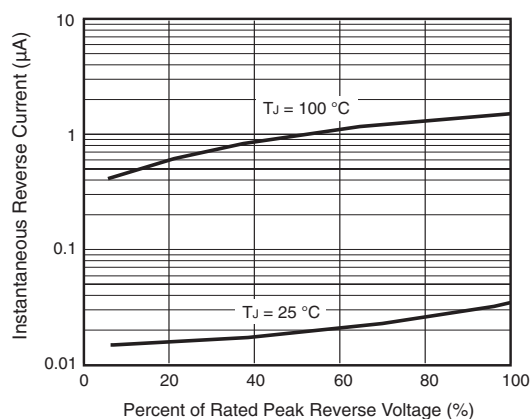
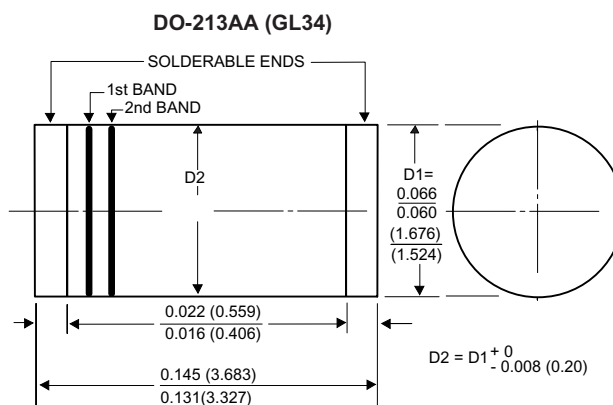


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)





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