

Surface Mount Glass Passivated Junction Fast Switching Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	0.5 V
V_{RRM}	50 V to 800 V
I_{FSM}	10 A
t_{rr}	150 ns, 250 ns
V_F	1.3 V
T_j max.	175 °C


DO-213AA (GL34)

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

Features

- Superecifier structure for high reliability condition
- Patented glass-plastic encapsulation technique
- Ideal for automated placement
- Fast switching for high efficiency
- 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 fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, automotive and Telecommunication

Maximum Ratings

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

Fast switching device: 1st band is Red	Symbol	RGL34A	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	Unit
Polarity color bands (2nd Band)		Gray	Red	Orange	Yellow	Green	Blue	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	V
Max. average forward rectified current at $T_T = 55$ °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

RGL34A thru RGL34K



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Electrical Characteristics

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

Parameter	Test condition	Symbol	RGL34	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	Unit
Maximum instantaneous forward voltage	at 0.5 A	V_F			1.3				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	I_R			5.0	50			μA
Maximum reverse recovery time	at $I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{rr} = 0.25 \text{ A}$	t_{rr}			150		250		ns
Typical junction capacitance	at 4.0 V, 1 MHz	C_J			4				pF

Thermal Characteristics

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

Fast switching device: 1st band is Red	Symbol	RGL34	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	Unit
Maximum thermal resistance	$R_{\theta JA}$ $R_{\theta JT}$			150 ⁽¹⁾				$^\circ\text{C}/\text{W}$

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

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

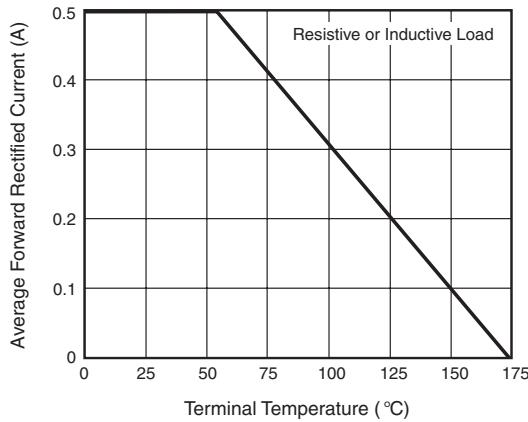


Figure 1. Forward Current Derating Curve

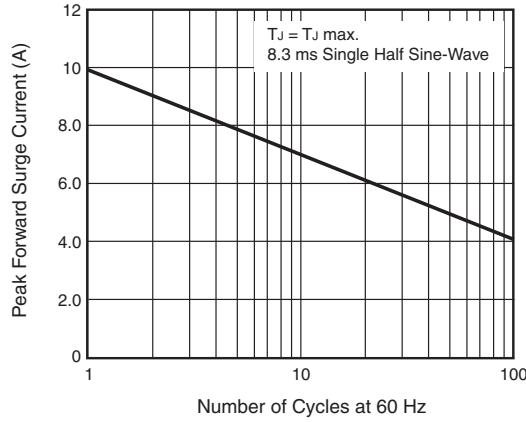


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

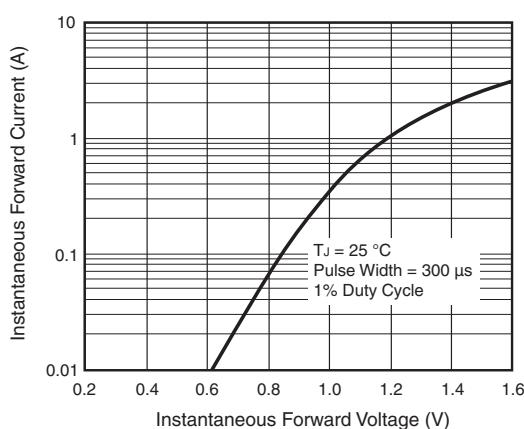


Figure 3. Typical Instantaneous Forward Characteristics

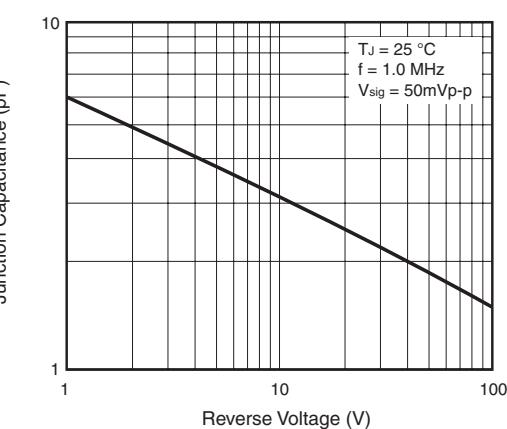


Figure 5. Typical Junction Capacitance

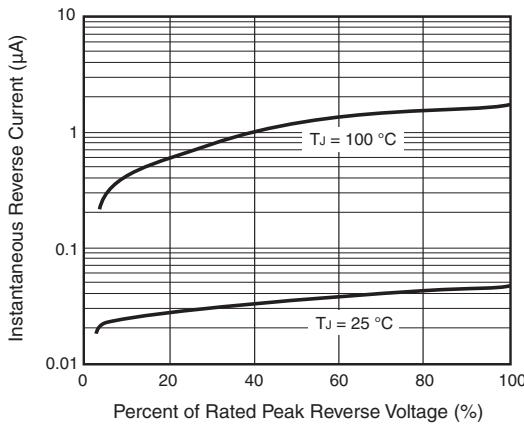
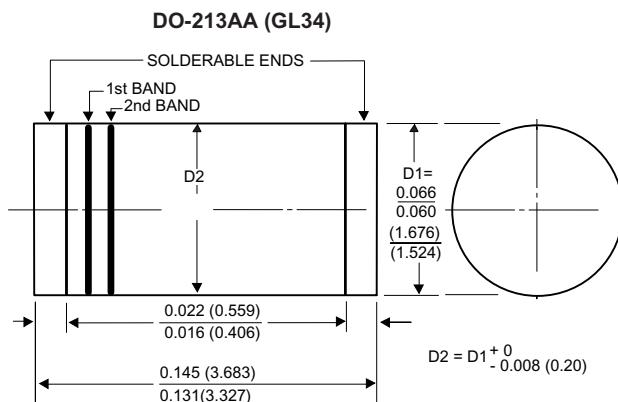


Figure 4. Typical Reverse Characteristics

Package outline dimensions in inches (millimeters)





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