Surface Mount Glass Passivated Junction Fast Switching Rectifier

SUPERECTIFIER®

DO-213AA (GL34)

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Fast switching for high efficiency
- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS COMPLIANT

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, 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 - 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 800 V
I_{FSM}	10 A
t_{rr}	150 ns, 250 ns
V_F	1.3 V
T_J max.	175 °C

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER 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
Maximum 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
Maximum 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

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)										
PARAMETER	**TEST CONDITIONS**		**SYMBOL**	**RGL34A**	**RGL34B**	**RGL34D**	**RGL34G**	**RGL34J**	**RGL34K**	**UNIT**
Maximum instantaneous forward voltage	0.5 A		V_F	1.3						V
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	5.0						µA
		T_A = 125 °C		50						
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	150				250		ns
Typical junction capacitance	4.0 V, 1 MHz		C_J	4						pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)								
PARAMETER	**SYMBOL**	**RGL34A**	**RGL34B**	**RGL34D**	**RGL34G**	**RGL34J**	**RGL34K**	**UNIT**
Maximum thermal resistance	$R_{\theta JA}$ (1)	150						°C/W
	$R_{\theta JT}$ (2)	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**
RGL34J-E3/98	0.036	98	2500	7" diameter plastic tape and reel
RGL34J-E3/83	0.036	83	9000	13" diameter plastic tape and reel
RGL34JHE3/98 (1)	0.036	98	2500	7" diameter plastic tape and reel
RGL34JHE3/83 (1)	0.036	83	9000	13" diameter plastic tape and reel

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

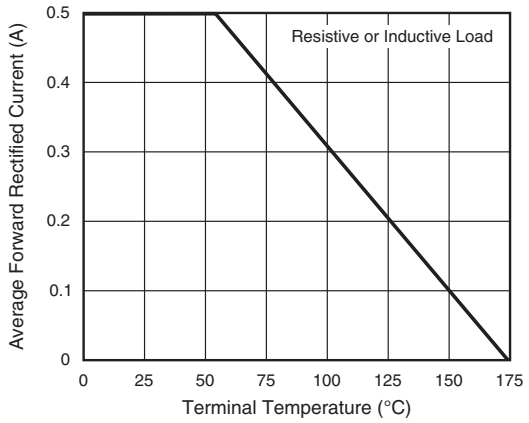

Fig. 1 - Forward Current Derating Curve

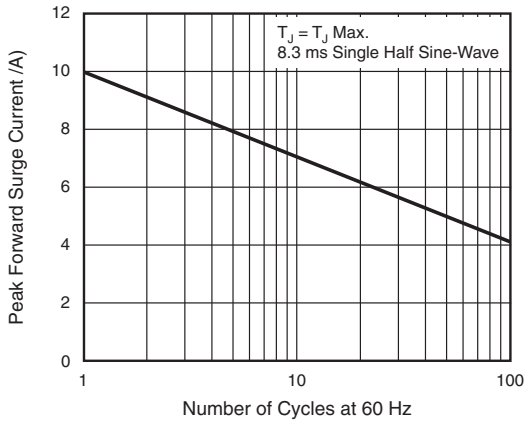

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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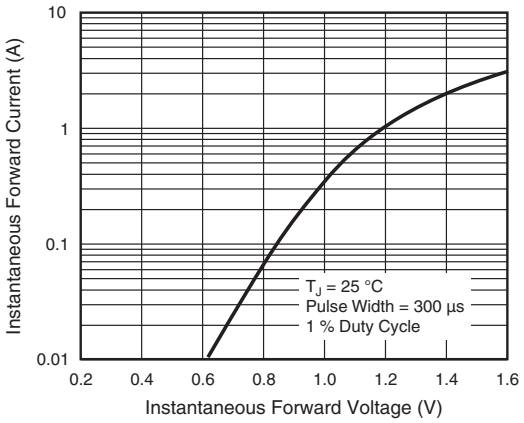


Fig. 3 - Typical Instantaneous Forward Characteristics

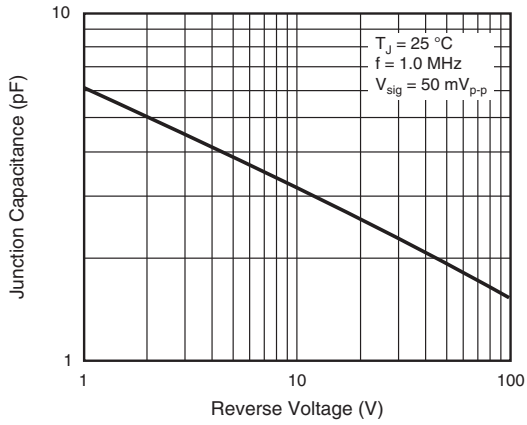


Fig. 5 - Typical Junction Capacitance

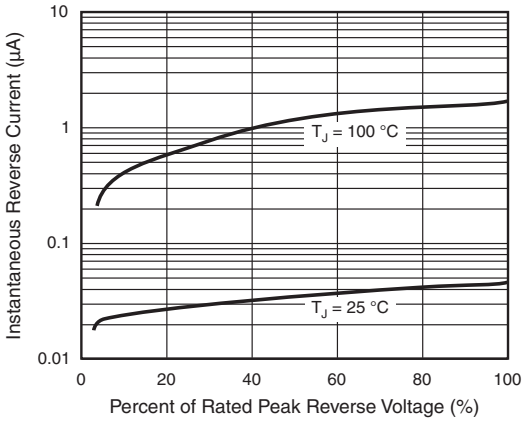
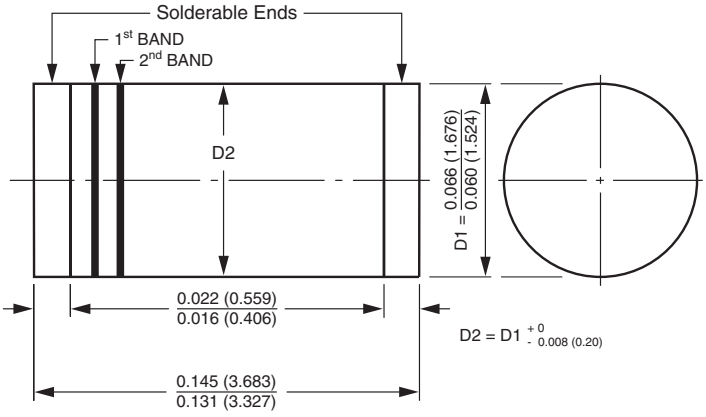


Fig. 4 - Typical Reverse Characteristics

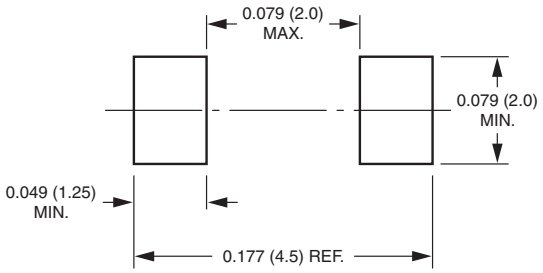
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



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

Mounting Pad Layout



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