

## Surface Mount Glass Passivated Junction Fast Switching Rectifier


**DO-213AA (GL34)**

Patented\*

\*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
- 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
- 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 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  
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 - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> 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 ( $T_A = 25\text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	RGL34A	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	UNIT
<b>FAST SWITCHING DEVICE: 1<sup>st</sup> BAND IS RED</b>								
Polarity color bands (2 <sup>nd</sup> 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 $T_T = 55\text{ °C}$	$I_{F(AV)}$	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 $T_A = 55\text{ °C}$	$I_{R(AV)}$	30						$\mu$ A
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175						°C



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	RGL34	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	UNIT
Maximum instantaneous forward voltage	0.5 A		V <sub>F</sub>				1.3			V
Maximum DC reverse current at rated DC blocking voltage		T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>				5.0 50			μA
Maximum reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A		t <sub>rr</sub>			150		250		ns
Typical junction capacitance	4.0 V, 1 MHz		C <sub>J</sub>				4			pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
FAST SWITCHING DEVICE: 1 <sup>st</sup> BAND IS RED			SYMBOL	RGL34	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	UNIT
Maximum thermal resistance			R <sub>θJA</sub> R <sub>θJT</sub>				150 <sup>(1)</sup> 70 <sup>(2)</sup>			°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
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 <sup>(1)</sup>	0.036	98	2500	7" diameter plastic tape and reel
RGL34JHE3/83 <sup>(1)</sup>	0.036	83	9000	13" diameter plastic tape and reel

**Note:**

- (1) Automotive grade AEC-Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub> = 25 °C unless otherwise noted)

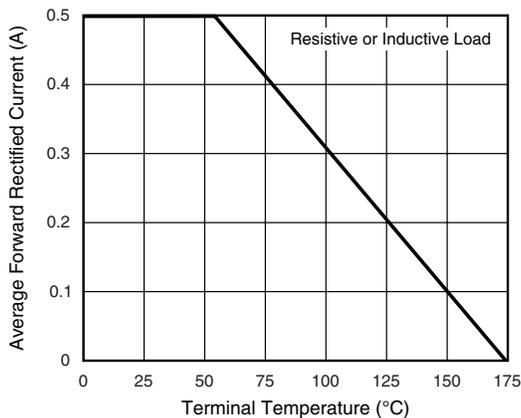


Figure 1. Forward Current Derating Curve

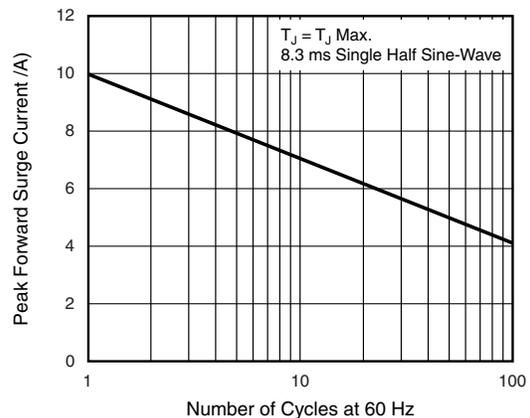


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

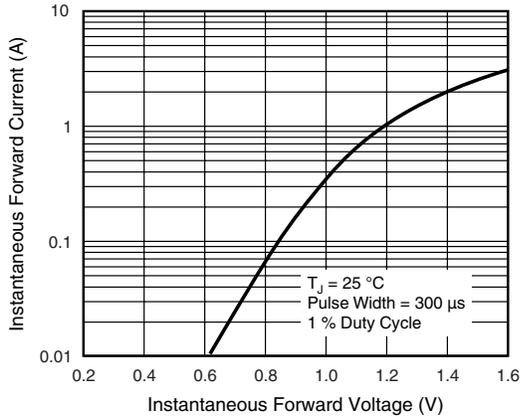


Figure 3. Typical Instantaneous Forward Characteristics

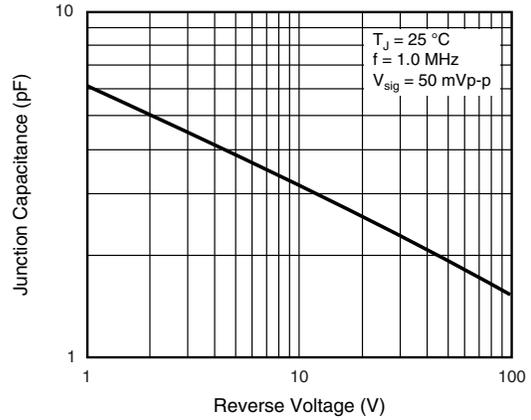


Figure 5. Typical Junction Capacitance

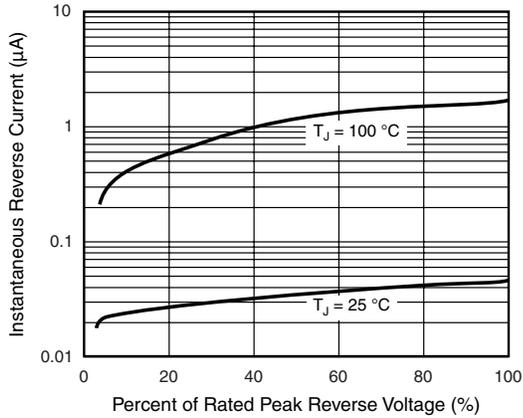
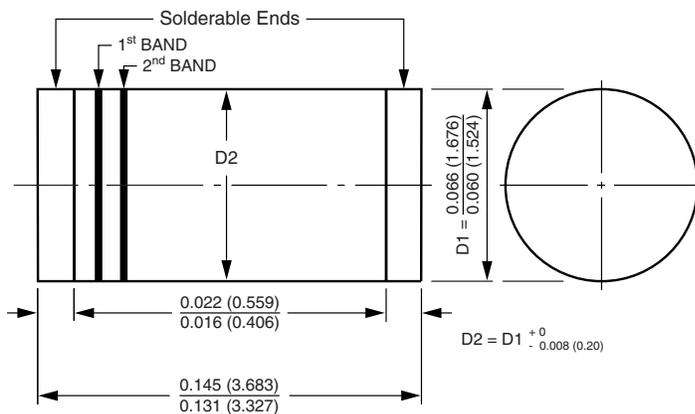


Figure 4. Typical Reverse Characteristics

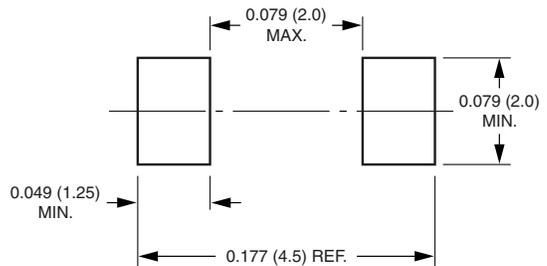
## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-213AA (GL34)



1<sup>st</sup> band denotes type and polarity  
2<sup>nd</sup> band denotes voltage type

### Mounting Pad Layout





## Disclaimer

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