

## Surface Mount Glass Passivated Junction Rectifier

**SUPERECTIFIER®**

**DO-213AA (GL34)**

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 $\mu$ A
$T_J$ max.	175 °C

**FEATURES**

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- 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 general purpose rectification of power supplies, 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 - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> band denotes repetitive peak reverse voltage rating

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)								
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT	
<b>STANDARD RECOVERY DEVICE: 1<sup>ST</sup> BAND IS WHITE</b>								
Polarity color bands (2 <sup>nd</sup> 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 $T_L = 75$ °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 at $T_A = 55$ °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	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT
Maximum instantaneous forward voltage	0.5 A	V <sub>F</sub>	1.2				1.3	V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> = 25 °C	I <sub>R</sub>	5.0					μA
	T <sub>A</sub> = 125 °C		50					
Typical 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>	1.5				μs	
Typical junction capacitance	4.0 V, 1 MHz	C <sub>J</sub>	4.0				pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	GL34A	GL34B	GL34D	GL34G	GL34J	UNIT	
Maximum thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	150					°C/W	
	R <sub>θJT</sub> <sup>(2)</sup>	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
GL34G-E3/98	0.036	98	2500	7" diameter plastic tape and reel
GL34G-E3/83	0.036	83	9000	13" diameter plastic tape and reel
GL34GHE3/98 <sup>(1)</sup>	0.036	98	2500	7" diameter plastic tape and reel
GL34GHE3/83 <sup>(1)</sup>	0.036	83	9000	13" diameter plastic tape and reel

**Note**

- (1) AEC-Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

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

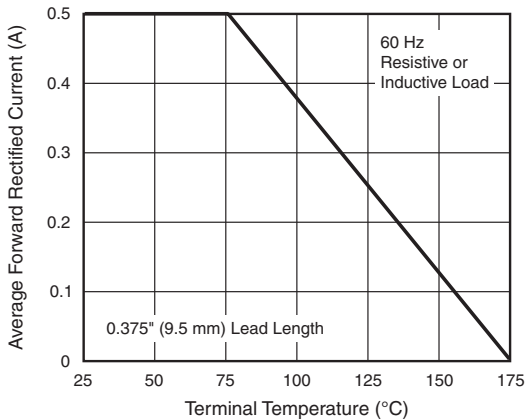


Fig. 1 - Forward Current Derating Curve

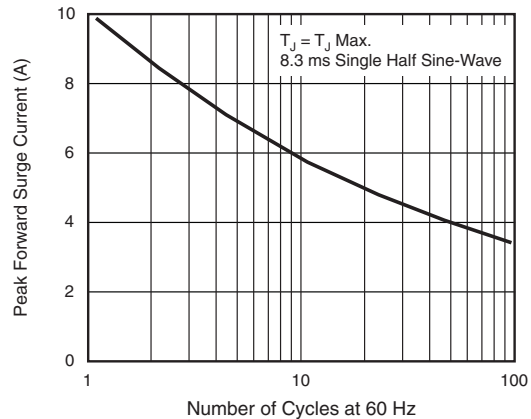


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

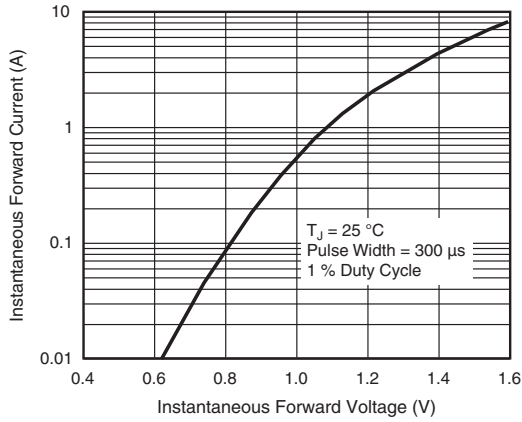


Fig. 3 - Typical Instantaneous Forward Characteristics

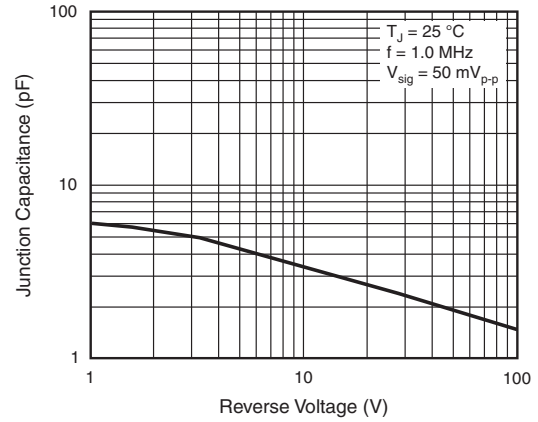


Fig. 5 - Typical Junction Capacitance

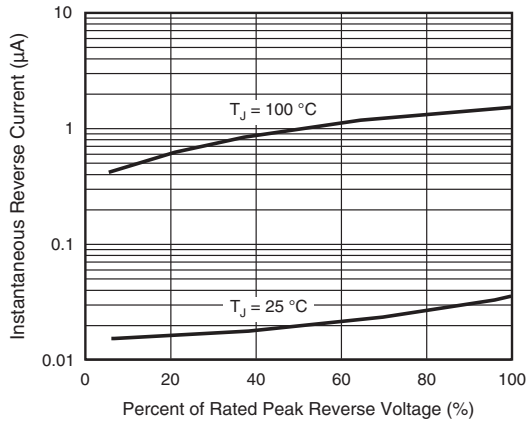
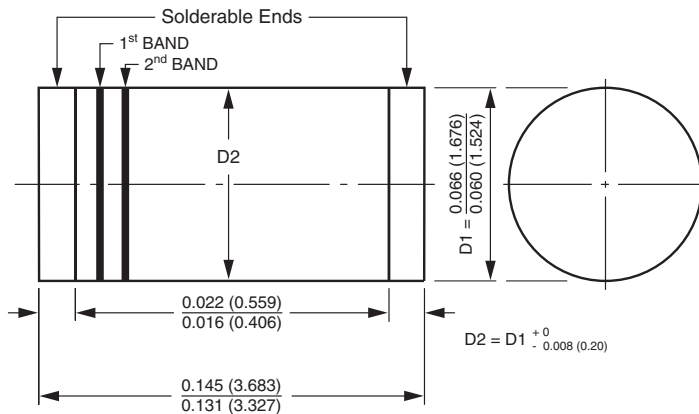


Fig. 4 - Typical Reverse Characteristics

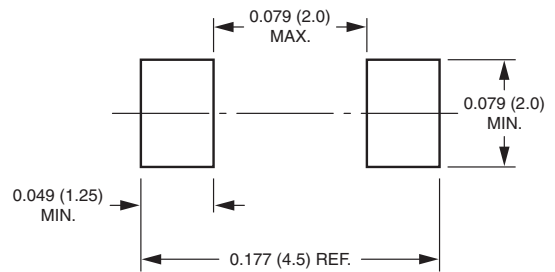
### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

#### DO-213AA (GL34)



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

#### Mounting Pad Layout





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