



## Surface Mount Glass Passivated Ultrafast 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

- Cavity-free glass-passivated junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



### TYPICAL APPLICATIONS

For use in high frequency rectification and free-wheeling application in switching mode converters and inverters for consumer, computer, 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-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

MAJOR RATINGS AND CHARACTERISTICS	
$I_{F(AV)}$	0.5 A
$V_{RRM}$	50 V to 400 V
$I_{FSM}$	10 A
$t_r$	50 ns
$V_F$	1.25 V, 1.35 V
$T_j \text{ max.}$	175 °C

MAXIMUM RATINGS ( $T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	SYMBOL	BYM07-50	BYM07-100	BYM07-150	BYM07-200	BYM07-300	BYM07-400	UNIT
Fast efficient device: 1st band is Green		EGL34A	EGL34B	EGL34C	EGL34D	EGL34F	EGL34G	
Polarity color bands (2nd Band)		Gray	Red	Pink	Orange	Brown	Yellow	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	V
Maximum average forward rectified current at $T_T = 75 \text{ °C}$	$I_{F(AV)}$	0.5						A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	10						A
Maximum full load reverse current, full cycle average at $T_A = 55 \text{ °C}$	$I_{R(AV)}$	50						$\mu\text{A}$
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	BYM07-50	BYM07-100	BYM07-150	BYM07-200	BYM07-300	BYM07-400	UNIT
			EGL34A	EGL34B	EGL34C	EGL34D	EGL34F	EGL34G	
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>				5.0 50			μA
Maximum instantaneous forward voltage <sup>(1)</sup>	at 0.5 A	V <sub>F</sub>		1.25				1.35	V
Max. reverse recovery time	at 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>				50			ns
Typical junction capacitance	at 4.0 V, 1 MHz	C <sub>J</sub>				7.0			pF

**Note:**

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	BYM07-50	BYM07-100	BYM07-150	BYM07-200	BYM07-300	BYM07-400	UNIT
		EGL34A	EGL34B	EGL34C	EGL34D	EGL34F	EGL34G	
Maximum thermal resistance <sup>(1, 2)</sup>	R <sub>θJA</sub>				150			°C/W
	R <sub>θJT</sub>				70			

**Note:**

(1) Thermal resistance from junction to ambient, 0.24 x 0.24" (6.0 x 6.0 mm) copper pads to each terminal

(2) Thermal resistance from junction to terminal, 0.24 x 0.24" (6.0 x 6.0 mm) copper pads to each terminal

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
EGL34D-E3/98	0.036	98	2500	7" Diameter Plastic Tape & Reel
EGL34D-E3/83	0.036	83	9000	13" Diameter Plastic Tape & Reel



**RATINGS AND CHARACTERISTICS CURVES**

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

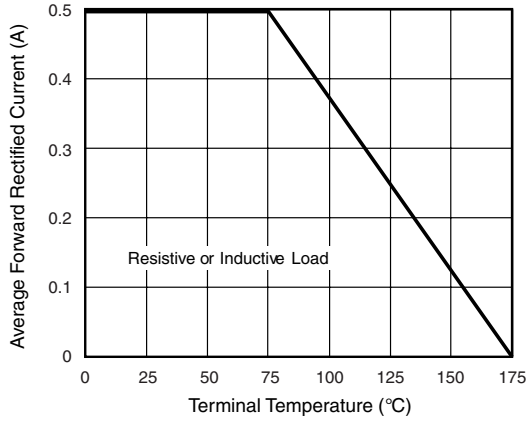


Figure 1. Forward Current Derating Curve

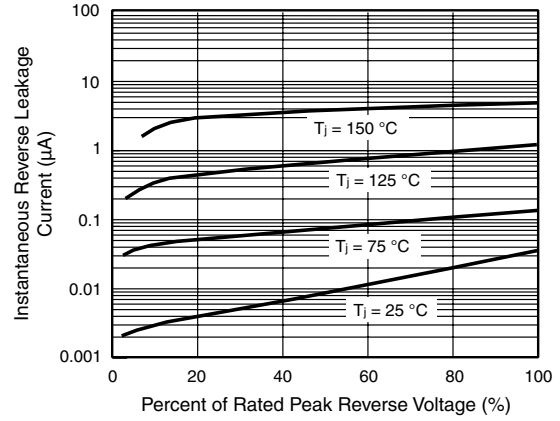


Figure 4. Typical Reverse Characteristics

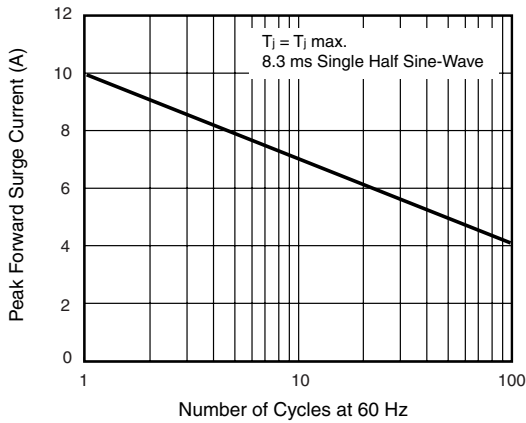


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

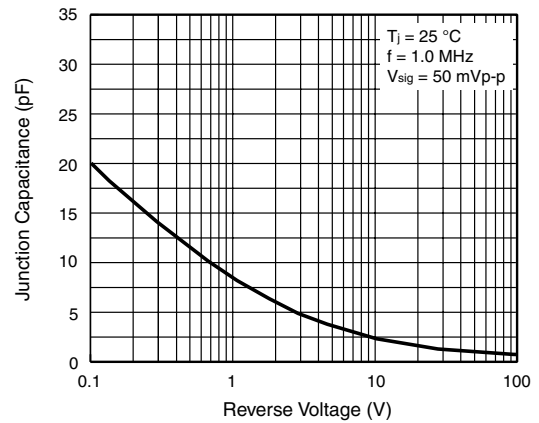


Figure 5. Typical Junction Capacitance

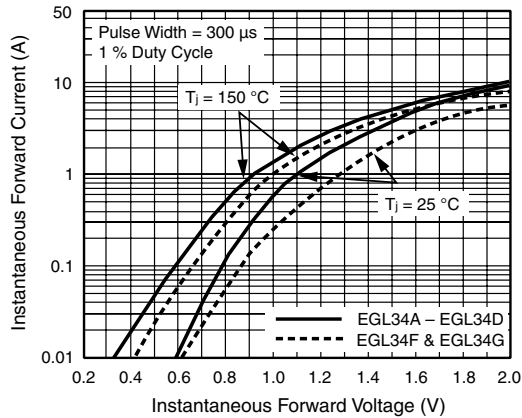


Figure 3. Typical Instantaneous Forward Characteristics

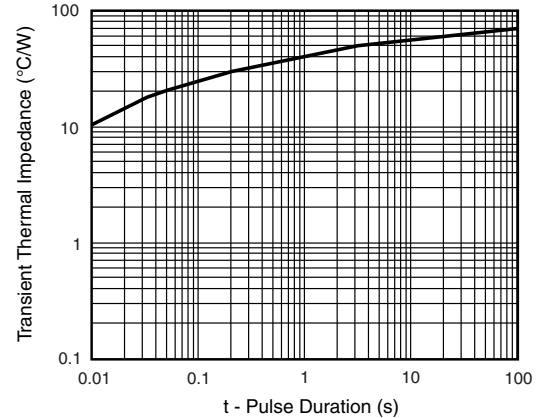
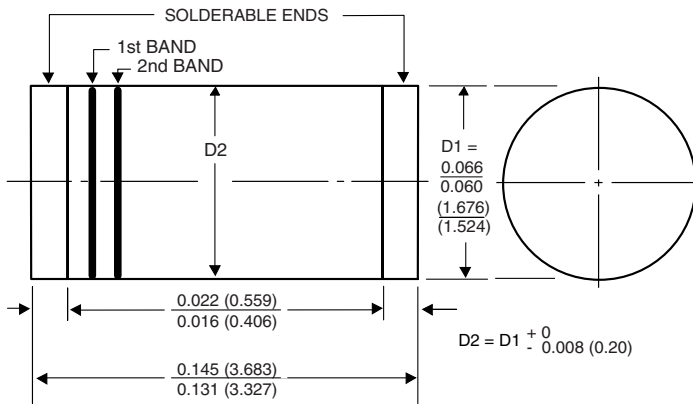


Figure 6. Typical Transient Thermal Impedance

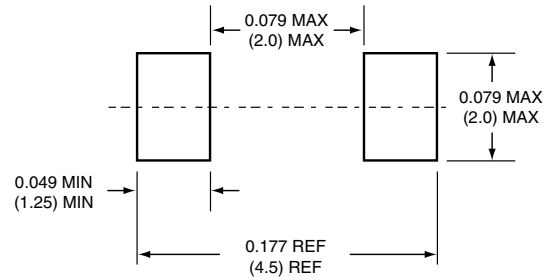
## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-213AA (GL34)



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

### Mounting Pad Layout





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