



# Surface Mount Glass Passivated Ultrafast Rectifier

## Major Ratings and Characteristics

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



Patented\*

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

DO-213AA (GL34)

## 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
- 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 high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive and Telecommunication

## Maximum Ratings

$T_A = 25\text{ °C}$  unless otherwise specified

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 specified

Parameter	Test condition	Symbol	BYM07-50 EGL34A	BYM07-100 EGL34B	BYM07-150 EGL34C	BYM07-200 EGL34D	BYM07-300 EGL34F	BYM07-400 EGL34G	Unit
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

Notes:

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

**Thermal Characteristics**

T<sub>A</sub> = 25 °C unless otherwise specified

Parameter	Symbol	BYM07-50 EGL34A	BYM07-100 EGL34B	BYM07-150 EGL34C	BYM07-200 EGL34D	BYM07-300 EGL34F	BYM07-400 EGL34G	Unit
Maximum thermal resistance <sup>(1, 2)</sup>	R <sub>θJA</sub> R <sub>θJT</sub>	150 70						°C/W

Notes:

(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

**Ratings and Characteristics Curves**

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

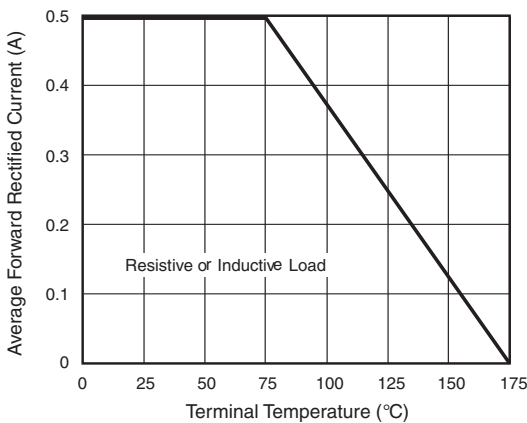


Figure 1. Forward Current Derating Curve

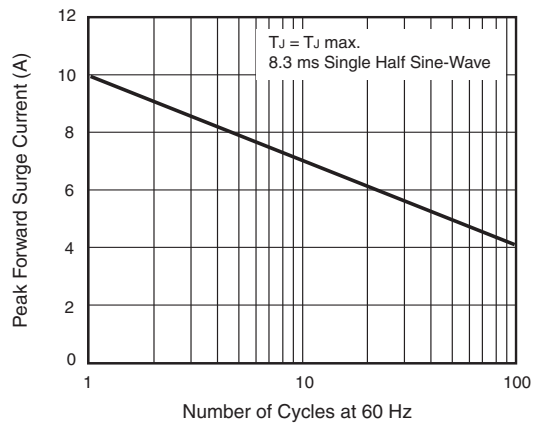


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

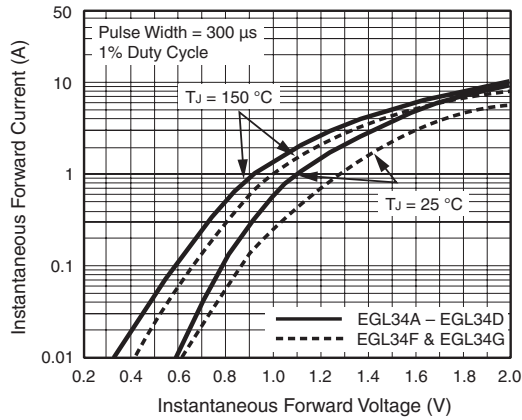


Figure 3. Typical Instantaneous Forward Characteristics

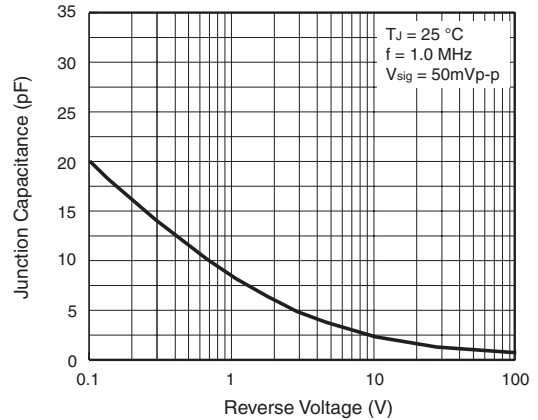


Figure 5. Typical Junction Capacitance

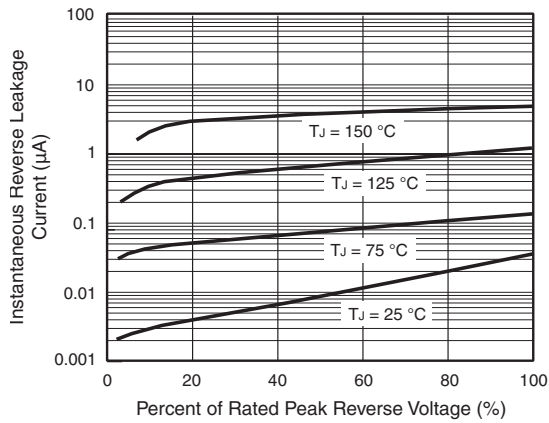


Figure 4. Typical Reverse Characteristics

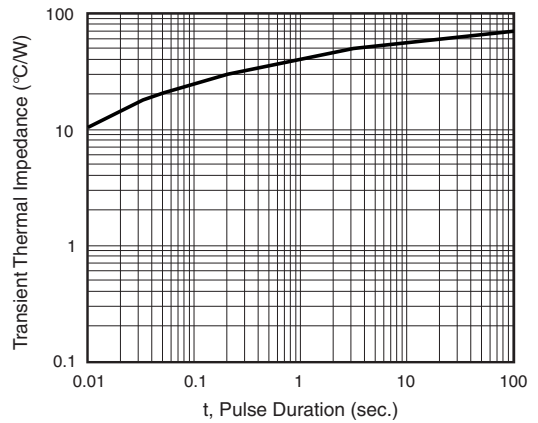
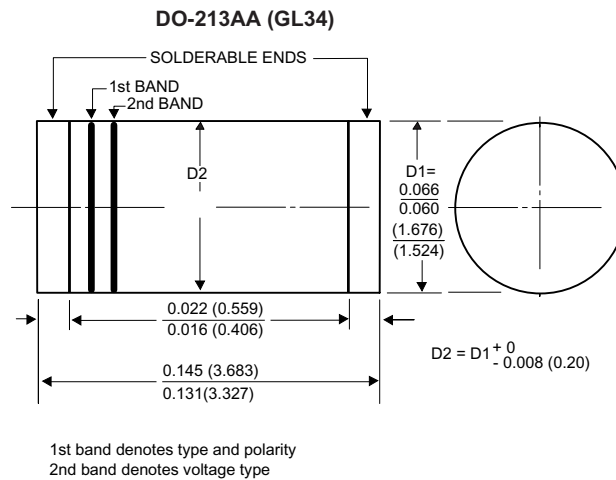


Figure 6. Typical Transient Thermal Impedance

**Package outline dimensions in inches (millimeters)**





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