

BYM07-50 thru BYM07-400, EGL34A thru EGL34G



Vishay General Semiconductor

Surface Mount Glass Passivated Ultrafast Rectifier



DO-213AA (GL34)

*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-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 high frequency rectification and freewheeling 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-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 - 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 400 V
I_{FSM}	10 A
t_{rr}	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: 1 st band is green		EGL34A	EGL34B	EGL34C	EGL34D	EGL34F	EGL34G	
Polarity color bands (2 nd 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						μA
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175						°C



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ELECTRICAL CHARACTERISTICS (T _A = 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 ⁽¹⁾	T _A = 25 °C T _A = 125 °C	I _R	5.0 50						μA
Maximum instantaneous forward voltage ⁽¹⁾	0.5 A	V _F	1.25			1.35			V
Max. reverse recovery time	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A	t _{rr}	50						ns
Typical junction capacitance	4.0 V, 1 MHz	C _J	7.0						pF

Note:

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

THERMAL CHARACTERISTICS (T _A = 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 ⁽¹⁾⁽²⁾	R _{θJA} R _{θJT}	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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
EGL34D-E3/98	0.036	98	2500	7" diameter plastic tape and reel
EGL34D-E3/83	0.036	83	9000	13" diameter plastic tape and reel
EGL34DHE3/98 ⁽¹⁾	0.036	98	2500	7" diameter plastic tape and reel
EGL34DHE3/83 ⁽¹⁾	0.036	83	9000	13" diameter plastic tape and reel

Note:

(1) Automotive grade AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

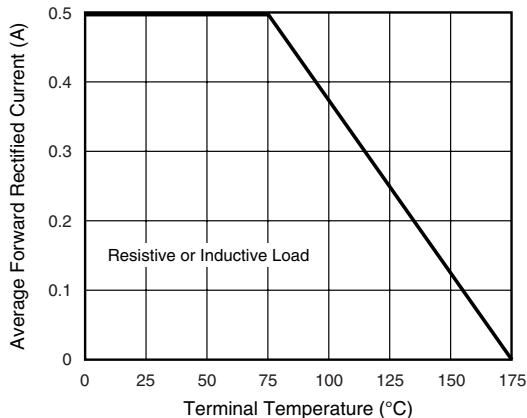


Figure 1. Forward Current Derating Curve

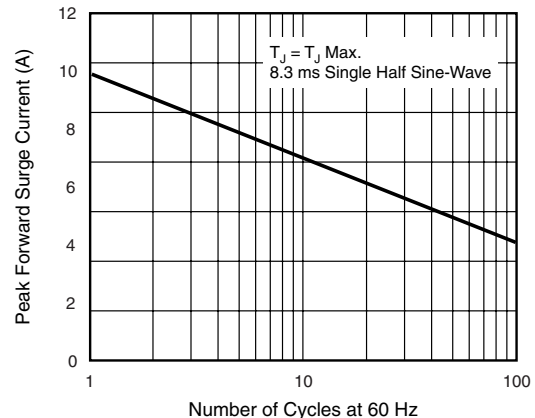


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

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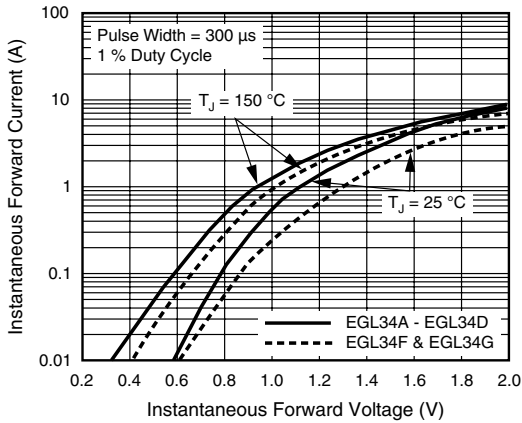


Figure 3. Typical Instantaneous Forward Characteristics

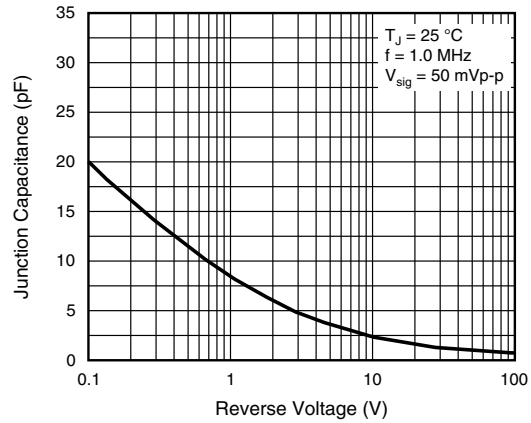


Figure 5. Typical Junction Capacitance

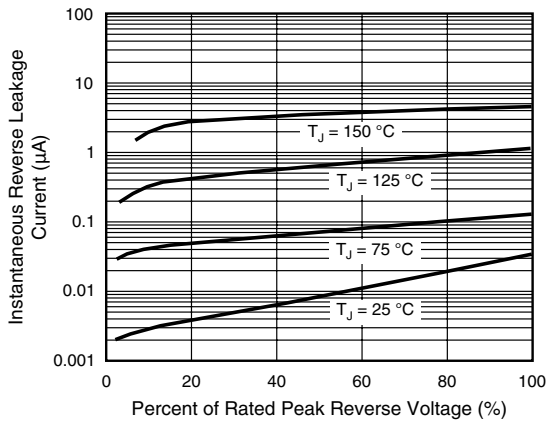


Figure 4. Typical Reverse Characteristics

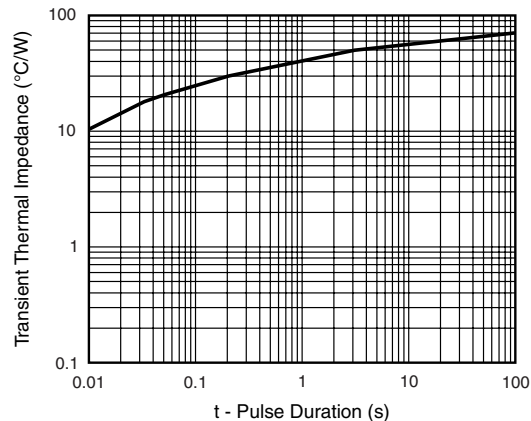
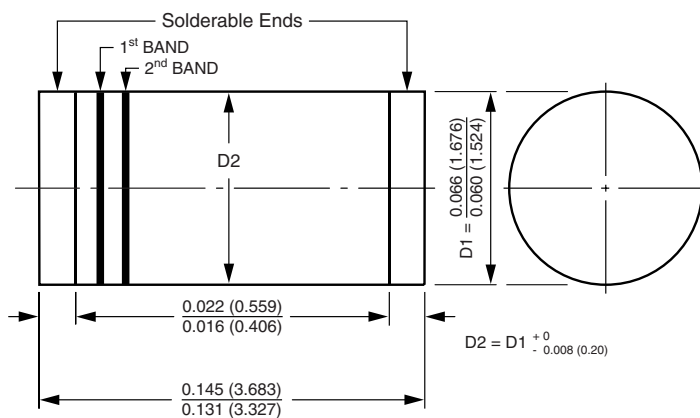


Figure 6. Typical Transient Thermal Impedance

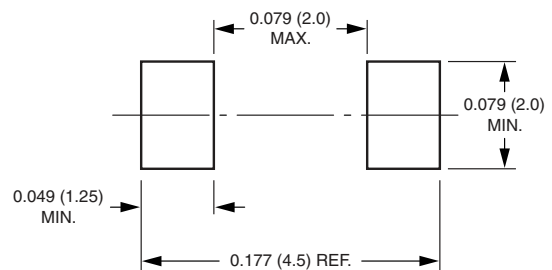
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AA (GL34)



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

Mounting Pad Layout





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All product specifications and data are subject to change without notice.

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