

Vishay General Semiconductor

Surface Mount Glass Passivated Ultrafast Rectifier

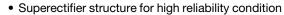
Superectifier®



GL34 (DO-213AA)

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 max.	175 °C					
Package	GL34 (DO-213AA)					
Diode variation	Single					

FEATURES





· Cavity-free glass-passivated junction

RoHS

· Ideal for automated placement

- · Ultrafast reverse recovery time
- Low switching losses, high efficiency
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
 - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see <u>www.vishav.com/doc?99912</u>

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: GL34 (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_X - RoHS-compliant and AEC-Q101 qualified ("X" denotes revision code e.g. A, B, ...)

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 - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

MAXIMUM RATINGS RATINGS (T _A = 25 °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 (2 nd band)		Gray	Red	Pink	Orange	Brown	Yellow	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	٧
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 °C	I _{F(AV)}	0.5					Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	10						Α
Maximum full load reverse current, full cycle average at T _A = 55 °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 CONDITION	TEST	SYMBOL	BYM07-50	BYM07-100	BYM07-150	BYM07-200	BYM07-300	BYM07-400	UNIT
	CONDITIONS	STWIDOL	EGL34A	EGL34B	EGL34C	EGL34D	EGL34F	EGL34G	ONIT
Maximum DC reverse current at rated DC	T _A = 25 °C	I _R ⁽¹⁾	5.0					μА	
blocking voltage	T _A = 125 °C	'R\'	50						
Maximum instantaneous forward voltage	0.5 A	V _F ⁽¹⁾	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	CJ	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	R _{0JA} (1)	150					°C/W	
Maximum thermal resistance	R ₀ JT (2)		70					

Notes

⁽²⁾ Thermal resistance from junction to terminal, 0.24" x 0.24" (6.0 mm 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_A/I (1)	0.036	I	9000	13" diameter plastic tape and reel				

Note

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25$ °C unless otherwise noted)

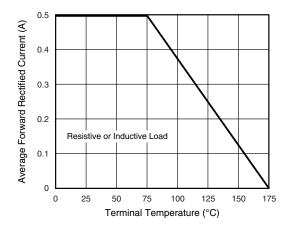


Fig. 1 - Forward Current Derating Curve

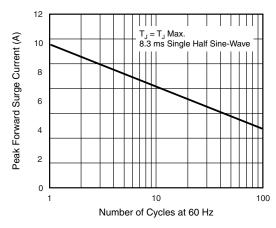


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

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

⁽¹⁾ AEC-Q101 qualified



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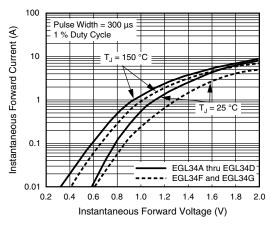


Fig. 3 - Typical Instantaneous Forward Characteristics

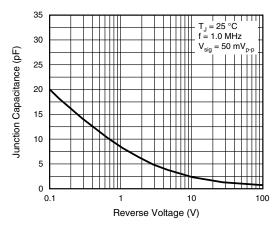


Fig. 5 - Typical Junction Capacitance

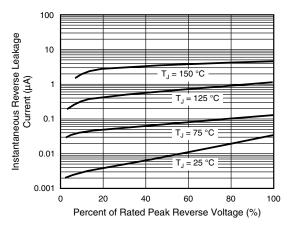


Fig. 4 - Typical Reverse Characteristics

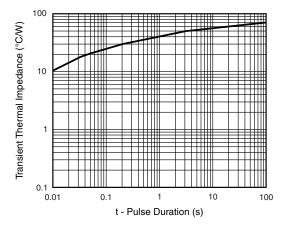
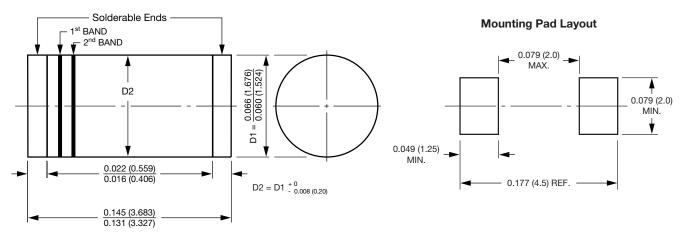


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL34 (DO-213AA)



¹st band denotes type and polarity

^{2&}lt;sup>nd</sup> band denotes voltage type



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