



Vishay General Semiconductor

Surface Mount Glass Passivated Ultrafast Rectifier

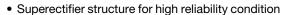
SUPERECTIFIER®



DO-213AB (GL41)

PRIMARY CHARACTERISTICS						
I _{F(AV)}	1.0 A					
V _{RRM}	50 V to 400 V					
I _{FSM}	30 A					
t _{rr}	50 ns					
V _F	1.0 V, 1.25 V					
T _J max.	175 °C					

FEATURES





- · Cavity-free glass-passivated junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets environmental standard MIL-S-19500
- \bullet Meets MSL level 1, per J-STD-020, LF maximum peak of 250 $^{\circ}\text{C}$
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

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-213AB, 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 - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	BYM12-50	BYM12-100	BYM12-150	BYM12-200	BYM12-300	BYM12-400	
FAST EFFICIENT DEVICE: 1 ST BAND IS GREEN		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	UNIT
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 °C	I _{F(AV)}	1.0					Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30					А	
Operating junction and storage temperature range	T _J , T _{STG}	- 65 to + 175						°C

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BYM12-50 thru BYM12-400, EGL41A thru EGL41G

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER CO	TEST	SYMBOL	BYM12-50	BYM12-100	BYM12-150	BYM12-200	BYM12-300	BYM12-400	UNIT
	CONDITIONS		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	UNII
Max. instantaneous forward voltage	1.0 A	V _F ⁽¹⁾		1.0				25	V
Max. DC reverse current at rated DC	T _A = 25 °C	I _R ⁽¹⁾	5.0						μA
blocking voltage	T _A = 125 °C	IR (")	IR (1) 50						
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	20 14			4	pF		

 $^{^{(1)}}$ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	BYM12-50	BYM12-100	BYM12-150	BYM12-200	BYM12-300	BYM12-400	UNIT
		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	
Maximum thermal resistance	R _{0JA} (1)		60					°C/W
Maximum thermal resistance	R ₀ JT (2)		30					

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			
EGL41D-E3/96	0.114	96	1500	7" diameter plastic tape and reel			
EGL41D-E3/97	0.114	97	5000	13" diameter plastic tape and reel			
EGL41DHE3/96 (1)	0.114	96	1500	7" diameter plastic tape and reel			
EGL41DHE3/97 (1)	0.114	97	5000	13" diameter plastic tape and reel			

Note

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

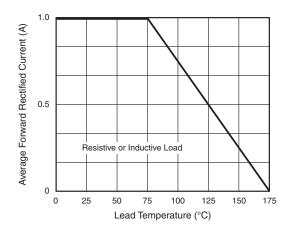


Fig. 1 - Maximum Forward Current Derating Curve

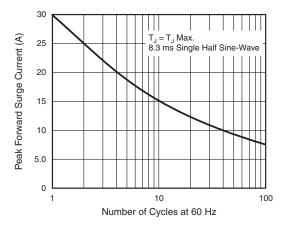


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

⁽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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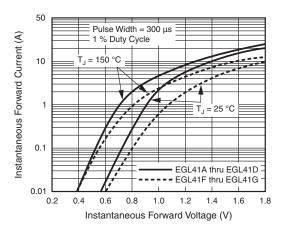


Fig. 3 - Typical Instantaneous Forward Characteristics

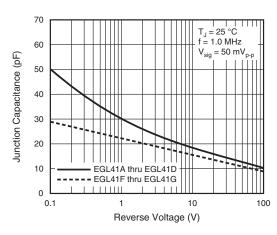


Fig. 5 - Typical Junction Capacitance

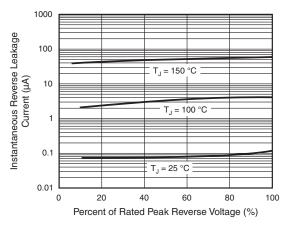


Fig. 4 - Typical Reverse Leakage Characteristics

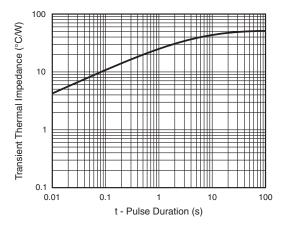
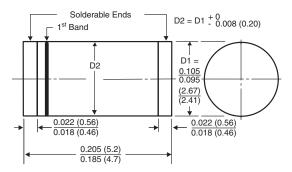


Fig. 6 - Typical Transient Thermal Impedance

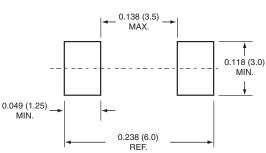
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AB (GL41)



1st Band Denotes Type and Positive End (Cathode)

Mounting Pad Layout





Legal Disclaimer Notice

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