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Vishay General Semiconductor

Surface-Mount Glass Passivated Ultrafast Rectifier

Superectifier®



GL41 (DO-213AB)

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					
Package	GL41 (DO-213AB)					
Circuit configuration	Single					

FEATURES

· Superectifier structure for high reliability condition



• Cavity-free glass-passivated junction

RoHS

• Ideal for automated placement

· Ultrafast reverse recovery time

· Low switching losses, high efficiency

• High forward surge capability

 Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C

 Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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: GL41 (DO-213AB), molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A 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	UNIT
FAST EFFICIENT DEVICE: 1 ST BAND IS GREEN		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	
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 $T_T = 75$ °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						Α
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	BYM12-50	BYM12-100	BYM12-150	BYM12-200	BYM12-300	BYM12-400	O UNIT	
	CONDITIONS		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	UNIT	
Max. instantaneous forward voltage	1.0 A	V _F ⁽¹⁾		1.0 1.25				V		
Max. DC reverse	T _A = 25 °C	. (1)		5.0						
current at rated DC blocking voltage	T _A = 125 °C	I _R ⁽¹⁾		50					μA	
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			

Note

 $^{^{(1)}\,}$ 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 mermanesistance	R _{0JT} (2)		30					

Notes

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

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

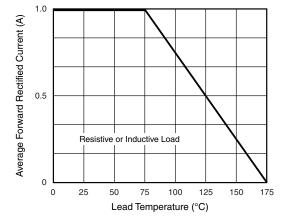


Fig. 1 - Maximum Forward Current Derating Curve

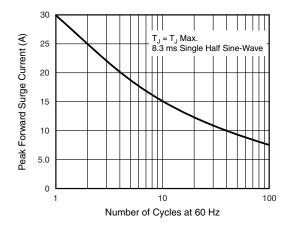


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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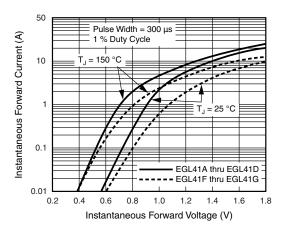


Fig. 3 - Typical Instantaneous Forward Characteristics

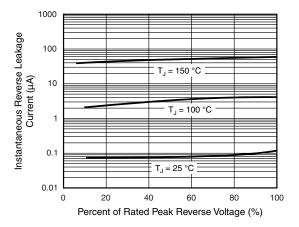


Fig. 4 - Typical Reverse Leakage Characteristics

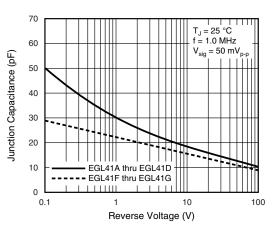


Fig. 5 - Typical Junction Capacitance

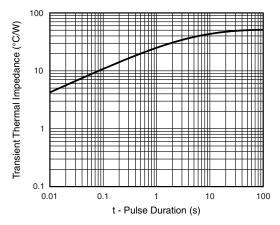
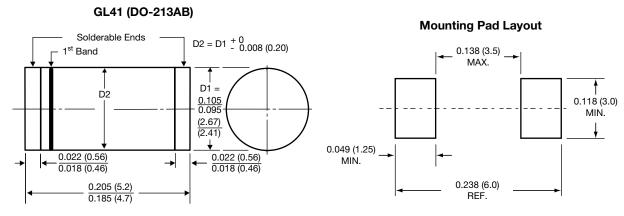


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



1st band denotes type and positive end (cathode)

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