



Vishay General Semiconductor

Surface Mount Glass Passivated Ultrafast Rectifier





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

RoHS

- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and 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

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

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: 1st 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 $T_T = 75^{\circ}\text{C}$	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	

BYM12-50 thru BYM12-400, EGL41A thru EGL41G

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST	SYMBOL	BYM12-50	BYM12-100	BYM12-150	BYM12-200	BYM12-300	BYM12-400	UNIT
	CONDITIONS		EGL41A	EGL41B	EGL41C	EGL41D	EGL41F	EGL41G	UNIT
Max. instantaneous forward voltage (1)	1.0 A	V _F			1.:	1.25			
Max. DC reverse current at rated DC blocking voltage (1)	T _A = 25 °C T _A = 125 °C	I _R		5.0 50					μΑ
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 (1)(2)	$R_{ hetaJA} \ R_{ hetaJT}$	60 30					°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				
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:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

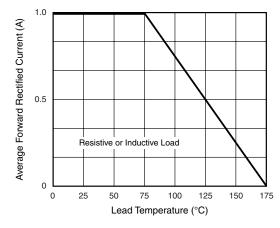


Figure 1. Maximum Forward Current Derating Curve

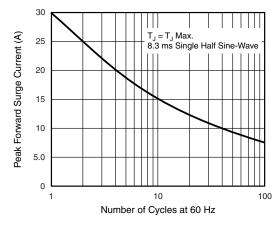


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current





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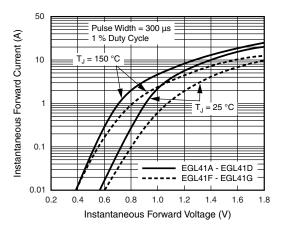


Figure 3. Typical Instantaneous Forward Characteristics

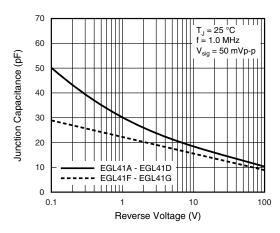


Figure 5. Typical Junction Capacitance

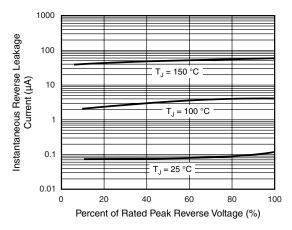


Figure 4. Typical Reverse Leakage Characteristics

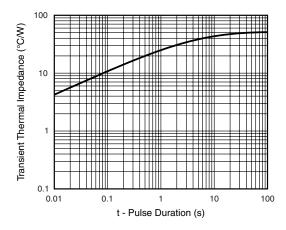
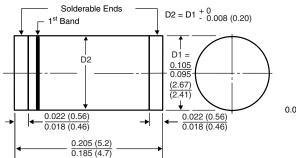


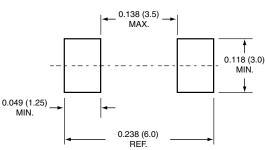
Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-213AB (GL41)



1^{st} Band Denotes Type and Positive End (Cathode)

Mounting Pad Layout





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Document Number: 91000 Revision: 18-Jul-08

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