

Vishay General Semiconductor

Surface-Mount Glass Passivated Junction Fast Switching Rectifier

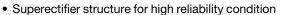
Superectifier®



GL41 (DO-213AB)

PRIMARY CHARACTERISTICS							
I _{F(AV)} 1.0 A							
V_{RRM}	50 V to 1000 V						
I _{FSM}	30 A						
t _{rr}	150 ns, 250 ns, 500 ns						
V _F	1.3 V						
T _J max.	175 °C						
Package	GL41 (DO-213AB)						
Circuit configuration	Single						

FEATURES





RoHS

• Fast switching for high efficiency

- Low leakage current
- · 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 <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, 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	BYM 11-50	BYM 11-100	BYM 11-200	BYM 11-400	BYM 11-600	BYM 11-800	BYM 11-1000	UNIT
FAST SWITCHING TIME DEVICE: 1 ST BAND IS RED	STIMBUL	RGL41A	RGL41B	RGL41D	RGL41G	RGL41J	RGL41K	RGL41M	
Polarity color bands (2 nd band)		Gray	Red	Orange	Yellow	Green	Blue	Violet	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T _T = 55 °C	I _{F(AV)}	1.0						Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	м 30						А	
Maximum full load reverse current, full cycle average at T _A = 55 °C	I _{R(AV)}	I _{R(AV)} 50						μΑ	
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	BYM 11-50	BYM 11-100	BYM 11-200	BYM 11-400	BYM 11-600	BYM 11-800	BYM 11-1000	UNIT
Maximum instantaneous forward voltage	1.0 A		V _F	1.3					V		
Maximum DC reverse		T _A = 25 °C		5.0							
current at rated DC blocking voltage		T _A = 125 °C	I _R 50						μA		
Maximum reverse recovery time	$I_F = 0.5$ $I_{rr} = 0.2$	A, I _R = 1.0 A, 5 A	t _{rr}	150 250 500					ns		
Typical junction capacitance	4.0 V, 1	MHz	CJ	15					pF		

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL BYM						UNIT		
Maximum thermal resistance	R _{θJA} ⁽¹⁾	75						°C/W	
iviaximum thermal resistance	R _{0JT} (2)	30							C/ VV

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					
RGL41J-E3/96	0.114	96	1500	7" diameter plastic tape and reel					
RGL41J-E3/97	0.114	97	5000	13" diameter plastic tape and reel					

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

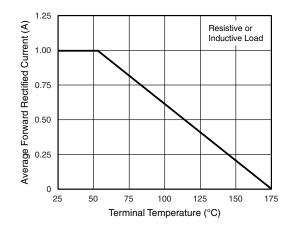


Fig. 1 - Forward Current Derating Curve

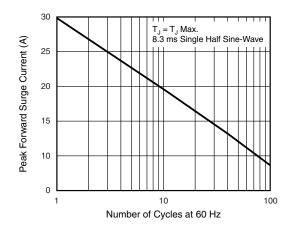


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



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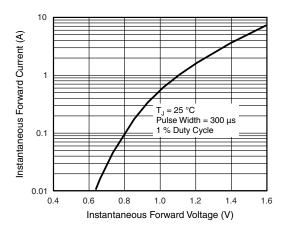


Fig. 3 - Typical Instantaneous Forward Characteristics

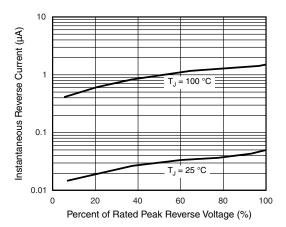


Fig. 4 - Typical Reverse Characteristics

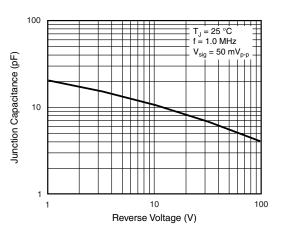


Fig. 5 - Typical Junction Capacitance

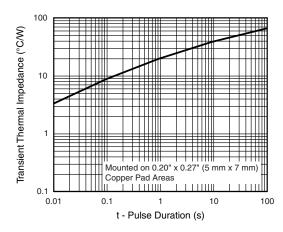
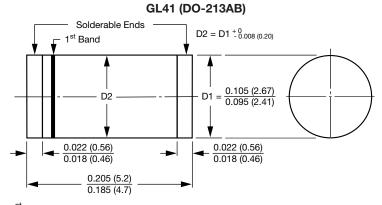


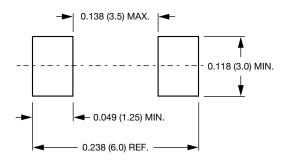
Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



1st band denotes type and positive end (cathode)

Mounting Pad Layout





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