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Vishay General Semiconductor

Surface Mount Schottky Barrier Rectifier



GL41 (DO-213AB)

FEATURES

- · MELF Schottky rectifier
- · Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- · High surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications

MECHANICAL DATA Case: GL41 (DO-213AB)

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 2nd band denotes voltage type

LINKS TO ADDITIONAL RESOURCES

DDIMADY CHADACTEDISTICS



Philliant Chanacteristics						
1.0 A						
20 V,30 V, 40 V, 50 V, 60 V						
30 A						
0.50 V, 0.70 V						
125 °C, 150 °C						
GL41 (DO-213AB)						
Single						

PARAMETER	SYMBOL	BYM13-20	BYM13-30	BYM13-40	BYM13-50	BYM13-60	UNIT
DENOTES SCHOTTKY DEVICES: 1st BAND IS ORANGE		SGL41-20	SGL41-30	SGL41-40	SGL41-50	SGL41-60	
Polarity color bands (2 nd band) voltage type		Gray	Red	Orange	Yellow	Green	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS voltage	V _{RMS}	14	21	28	35	42	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	V
Maximum average forward rectified current (fig. 1)	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
Voltage rate of change (rated V _R)	dV/dt	10 000					V/µs
Operating junction temperature range	TJ	-55 to +125 -55 to +150			°C		
Storage temperature range	T _{STG}	-55 to +150				°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS	SYMBOL	BYM13-20 BYM13-30	BYM13-40	BYM13-50	BYM13-60	UNIT		
	IESIC	I CONDITIONS STRIBUL		SGL41-20	SGL41-30	SGL41-40	SGL41-50	SGL41-60	UNII
Maximum instantaneous forward voltage (1)	1.0 A		V _F	0.50	0.50	0.50	0.70	0.70	V
Maximum reverse		T _A = 25 °C		0.5			0.5		
current at rated DC blocking voltage (1)		T _A = 100 °C	I _R		10		5	.0	mA
Typical junction capacitance	4.0 V, 1.0) MHz	CJ	110		8	80	pF	

Note

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BYM13-20 BYM13-30 BYM13-40	BYM13-50	BYM13-60	UNIT		
PARAMETER	STINIBUL	SGL41-20	SGL41-30	SGL41-40	SGL41-50	SGL41-60	UNII
Maximum thermal resistance (1)	$R_{\theta JA}$	75					°C/W
Waximum thermal resistance (7)	$R_{\theta JT}$			30			C/VV

Note

 $^{^{(1)}}$ Thermal resistance 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					
SGL41-40-E3/96	0.137	96	1500	7" diameter plastic tape and reel					
SGL41-40-E3/97	0.137	97	5000	13" diameter plastic tape and reel					
BYM13-40-E3/96	0.137	96	1500	7" diameter plastic tape and reel					
BYM13-40-E3/97	0.137	97	5000	13" diameter plastic tape and reel					
SGL41-40HE3_A/H (1)	0.137	Н	1500	7" diameter plastic tape and reel					
SGL41-40HE3_A/I (1)	0.137	I	5000	13" diameter plastic tape and reel					
BYM13-40HE3_A/H (1)	0.137	Н	1500	7" diameter plastic tape and reel					
BYM13-40HE3_A/I (1)	0.137	I	5000	13" diameter plastic tape and reel					

Note

⁽¹⁾ AEC-Q101 qualified

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

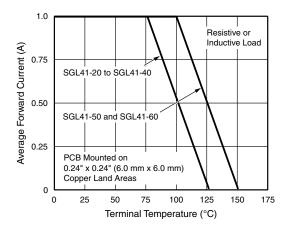


Fig. 1 - Forward Current Derating Curve

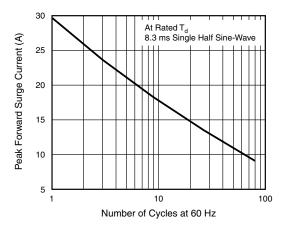


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

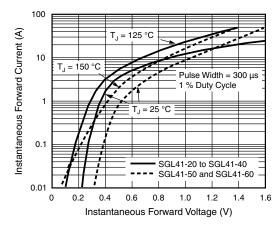


Fig. 3 - Typical Instantaneous Forward Characteristics

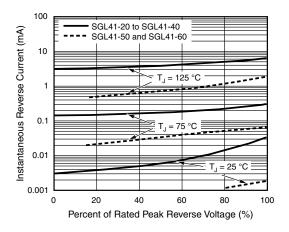


Fig. 4 - Typical Reverse Characteristics

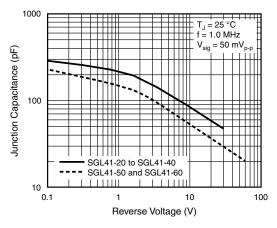


Fig. 5 - Typical Junction Capacitance

0.118 (3.0) MIN.



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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Solderable Ends D2 = D1 + 0.008 (0.20) D1 = 0.105 (2.67) D1 = 0.022 (0.56) 0.018 (0.46) 0.205 (5.2) 0.238 (6.0) REF.

¹st band denotes type and positive end (cathode)



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