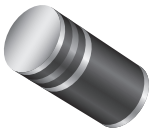
Surface Mount Glass Passivated Junction Fast Switching Rectifier

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)
Diode variation	Single

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- 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
- AEC-Q101 qualified
  - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

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
Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified
("X" denotes revision code e.g. A, B, ...)

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	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: 1ST BAND IS RED		RGL41A	RGL41B	RGL41D	RGL41G	RGL41J	RGL41K	RGL41M	
Polarity color bands (2nd 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							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum full load reverse current, full cycle average at T_A = 55 °C	$I_{R(AV)}$	50							µA
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							°C

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 current at rated DC blocking voltage		T_A = 25 °C	I_R	5.0							µA
		T_A = 125 °C		50							
Maximum reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	150				250	500		ns
Typical junction capacitance	4.0 V, 1 MHz		C_J	15							pF

THERMAL CHARACTERISTICS (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**
Maximum thermal resistance	$R_{\theta JA}$ (1)	75							°C/W
	$R_{\theta JT}$ (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**
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
BYM11-800HE3_A (1)(2)	0.114	H	1500	7" diameter plastic tape and reel
RGL41KHE3_A/I (1)(2)	0.114	I	5000	13" diameter plastic tape and reel

Notes

(1) AEC-Q101 qualified

(2) _A is only applied for K and M class

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

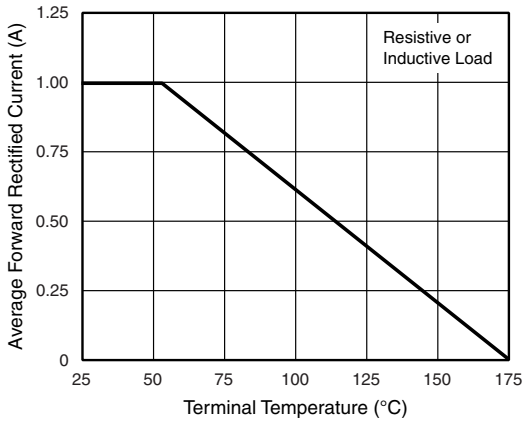


Fig. 1 - Forward Current Derating Curve

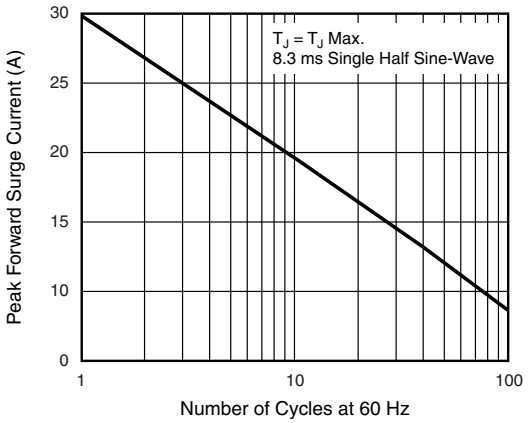


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

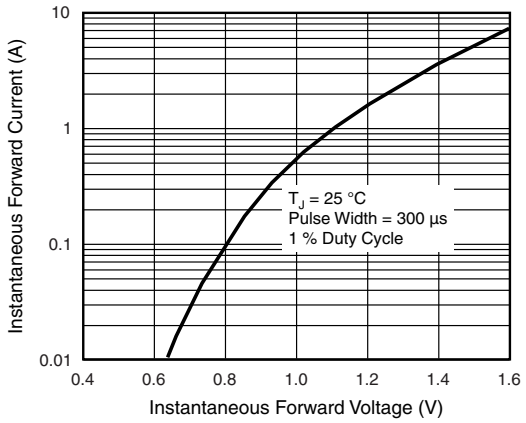


Fig. 3 - Typical Instantaneous Forward Characteristics

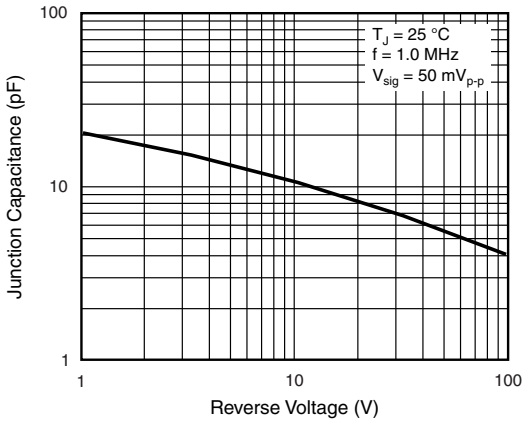


Fig. 5 - Typical Junction Capacitance

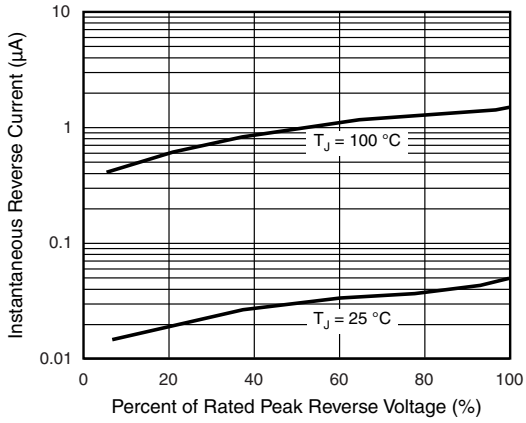


Fig. 4 - Typical Reverse Characteristics

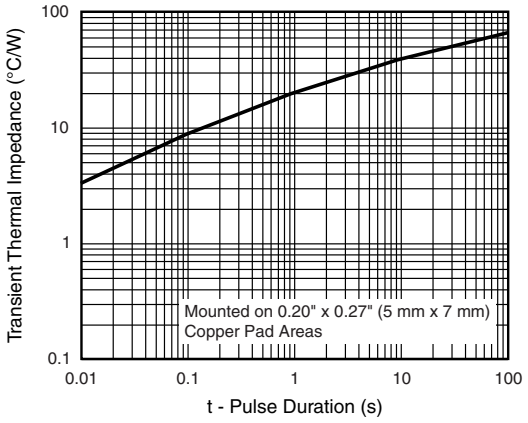
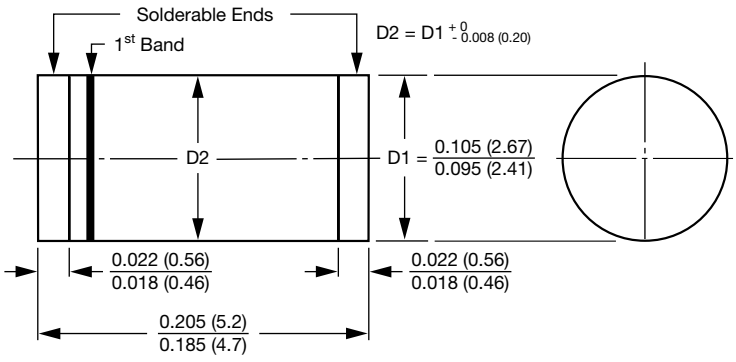


Fig. 6 - Typical Transient Thermal Impedance

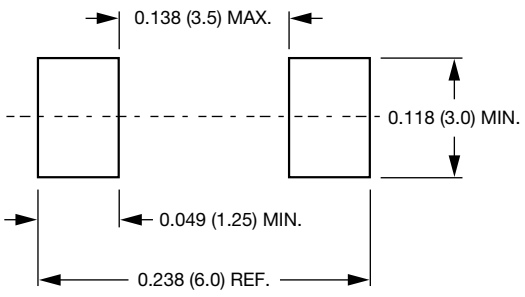
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL41 (DO-213AB)



1st band denotes type and positive end (cathode)

Mounting Pad Layout



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