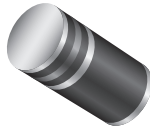


# Surface Mount Glass Passivated Junction Fast Switching Rectifier

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

- Superrectifier 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](http://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 - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> 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
		RGL41A	RGL41B	RGL41D	RGL41G	RGL41J	RGL41K	RGL41M	
<b>FAST SWITCHING TIME DEVICE: 1<sup>ST</sup> BAND IS RED</b>									
Polarity color bands (2 <sup>nd</sup> 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** ( $T_A = 25\text{ }^\circ\text{C}$  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	$T_A = 25\text{ }^\circ\text{C}$	$I_R$	5.0							$\mu\text{A}$
	$T_A = 125\text{ }^\circ\text{C}$		50							
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	150				250	500		ns
Typical junction capacitance	4.0 V, 1 MHz	$C_J$	15							pF

**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^\circ\text{C}$  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							$^\circ\text{C/W}$
	$R_{\theta JT}^{(2)}$	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 <sup>(1)(2)</sup>	0.114	H	1500	7" diameter plastic tape and reel
RGL41KHE3_AI <sup>(1)(2)</sup>	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** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

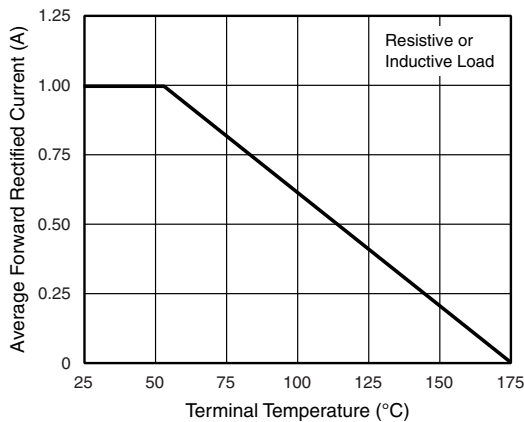


Fig. 1 - Forward Current Derating Curve

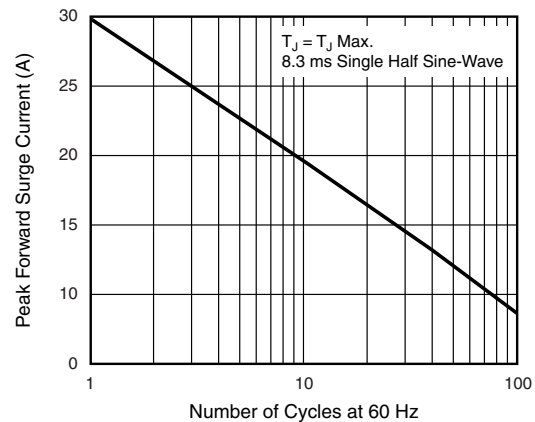


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

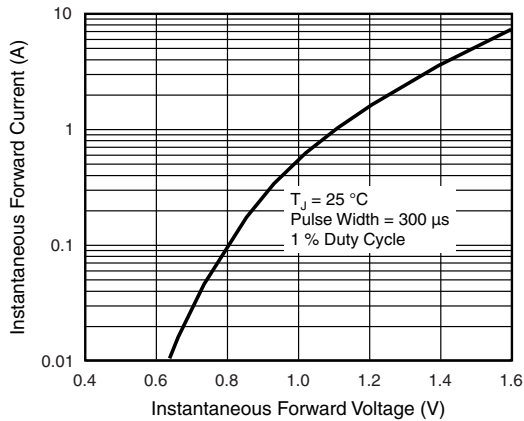


Fig. 3 - Typical Instantaneous Forward Characteristics

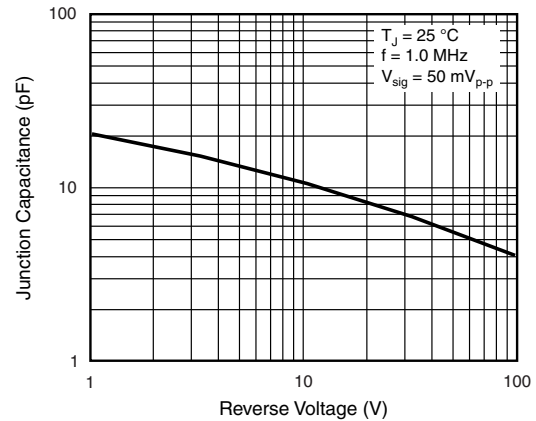


Fig. 5 - Typical Junction Capacitance

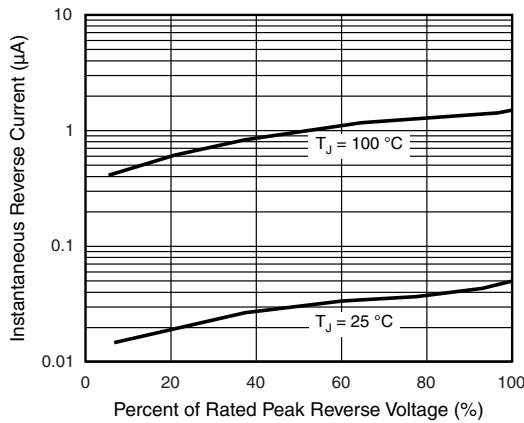


Fig. 4 - Typical Reverse Characteristics

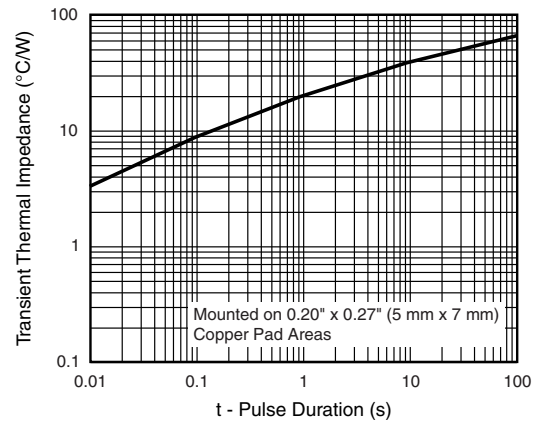
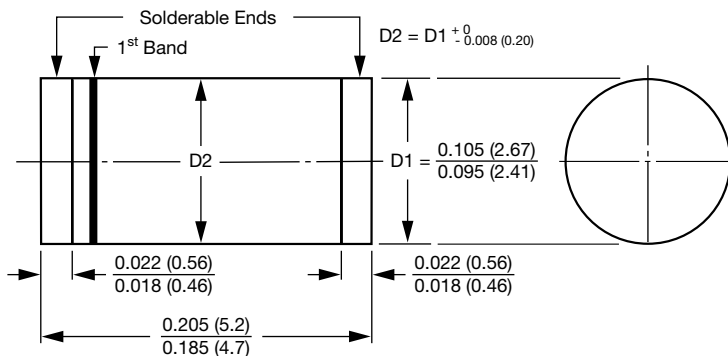


Fig. 6 - Typical Transient Thermal Impedance

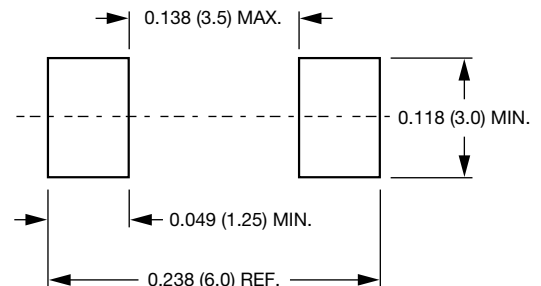
**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**GL41 (DO-213AB)**



1<sup>st</sup> band denotes type and positive end (cathode)

**Mounting Pad Layout**





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