



Surface Mount Glass Passivated Junction Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$		1.0 A
V_{RRM}	BYM-50-1000 GL41A-Y	50 V to 1000 V 50 V to 1600 V
I_{FSM}		30 A
I_R		10 μ A
V_F		1.1 V, 1.2 V
T_j max.		175 °C



DO-213AB

Patented*

*Glass-plastic encapsulation is covered by Patent No. 3,996,602, brazed-lead assembly to Patent No. 3,930,306

Features

- Superrectifier structure for high reliability condition
- Patented glass-plastic encapsulation technique
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds



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-002B and JESD22-B102D
E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Two bands indicate cathode end - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, automotive and Telecommunication

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Parameter	Symbol	BYM	BYM	BYM	BYM	BYM	BYM	BY			Unit
		10-50	10-100	10-200	10-400	10-600	10-800	M10-1000			
Standard recovery device: 1st band is white		GL 41A	GL 41B	GL 41D	GL 41G	GL 41J	GL 41K	GL 41M	GL 41T	GL 41Y	
Polarity color bands (2nd Band)		Gray	Red	Orange	Yellow	Green	Blue	Violet	White	Brown	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1300	1600	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	910	1120	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	1300	1600	V
Maximum average forward rectified current (See Fig. 1)	$I_{F(AV)}$	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 $T_A = 75$ °C	$I_{R(AV)}$	30									μ A
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 condition	Symbol	BYM	BYM	BYM	BYM	BYM	BYM	BY			Unit	
			10-50	10-100	10-200	10-400	10-600	10-800	M10-1000	GL	GL		
			41A	41B	41D	41G	41J	41K	41M	41T	41Y		
Maximum instantaneous forward voltage	at 1.0 A	V_F	1.1						1.2				V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	I_R	10						50				μA
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	8.0										pF

Thermal Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	BYM	BYM	BYM	BYM	BYM	BYM	BY			Unit	
		10-50	10-100	10-200	10-400	10-600	10-800	M10-1000	GL	GL		
		41A	41B	41D	41G	41J	41K	41M	41T	41Y		
Typical thermal resistance	$R_{\theta JA}$ $R_{\theta JT}$	75 ⁽¹⁾						30 ⁽²⁾				$^\circ\text{C}/\text{W}$

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

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

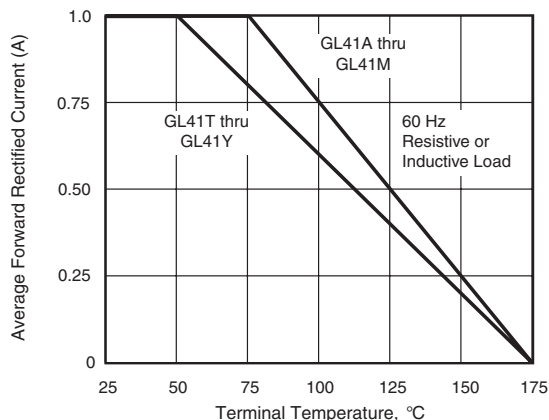


Figure 1. Forward Current Derating Curve

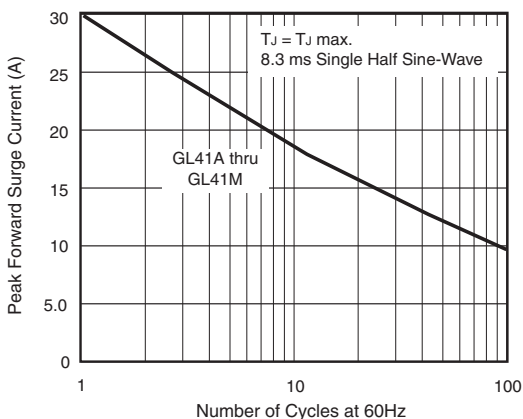


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

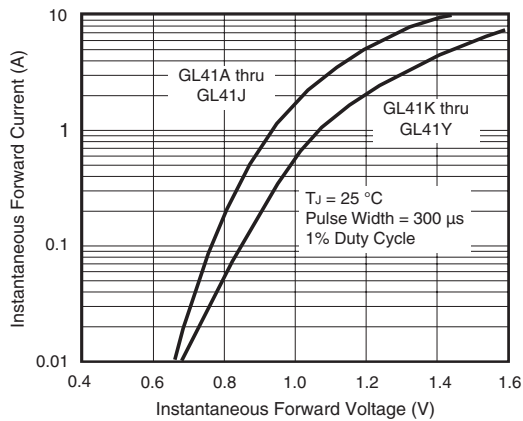


Figure 3. Typical Instantaneous Forward Characteristics

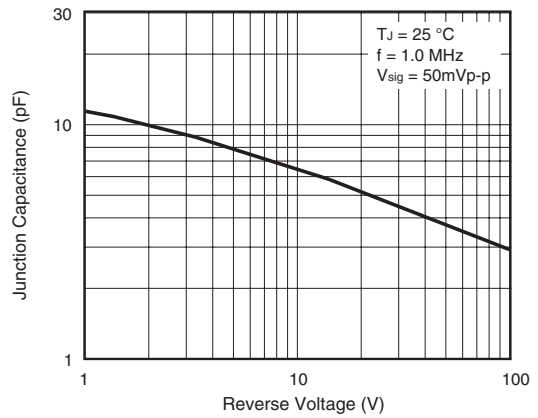


Figure 5. Typical Junction Capacitance

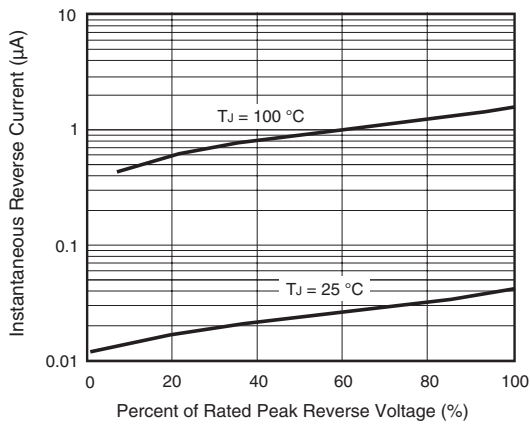


Figure 4. Maximum Non-Repetitive Peak Forward Surge Current

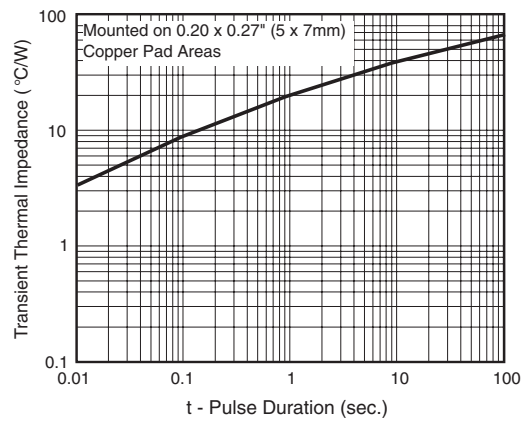
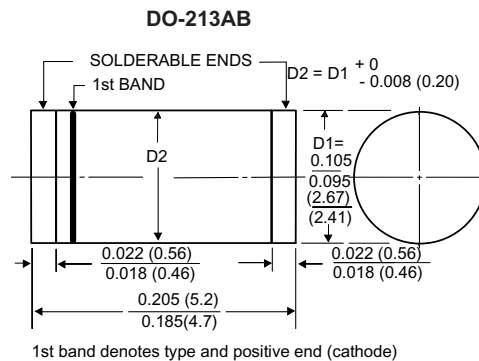


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.