



**Surface Mount Glass Passivated Junction Rectifier**

**SUPERRECTIFIER®**




**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, LF max peak of 250 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

**TYPICAL APPLICATIONS**

For use in general purpose rectification of power supplies, inverters, converters and free-wheeling diodes for consumer, automotive and telecommunication.

**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

<b>MAJOR RATINGS AND CHARACTERISTICS</b>		
$I_{F(AV)}$		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 $\mu$ A
$E_{AS}$		5 mJ
$V_F$		1.1 V, 1.2 V
$T_j$ max.		175 °C

<b>MAXIMUM RATINGS</b> ( $T_A = 25\text{ °C}$ unless otherwise noted)											
PARAMETER	SYMBOL	BYM 10-50	BYM 10-100	BYM 10-200	BYM 10-400	BYM 10-600	BYM 10-800	BYM 10-1000			UNIT
<b>STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE</b>		GL41A	GL41B	GL41D	GL41G	GL41J	GL41K	GL41M	GL41T	GL41Y	
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

# BYM10-50 thru BYM10-1000, GL41A thru GL41Y



Vishay General Semiconductor

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	SYMBOL	BYM 10-50	BYM 10-100	BYM 10-200	BYM 10-400	BYM 10-600	BYM 10-800	BYM 10-1000			UNIT
STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE		GL41A	GL41B	GL41D	GL41G	GL41J	GL41K	GL41M	GL41T	GL41Y	
Maximum full load reverse current full cycle average at T <sub>A</sub> = 75 °C	I <sub>R(AV)</sub>	30									μA
Non-repetitive peak reverse avalanche energy at T <sub>J</sub> = 25 °C, I <sub>AS</sub> = 1 A, L = 10 mH	E <sub>AS</sub>	5							-		μA
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 175									°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)													
PARAMETER	TEST CONDITIONS	SYMBOL	BYM 10-50	BYM 10-100	BYM 10-200	BYM 10-400	BYM 10-600	BYM 10-800	BYM 10-1000			UNIT	
			GL41A	GL41B	GL41D	GL41G	GL41J	GL41K	GL41M	GL41T	GL41Y		
Maximum instantaneous forward voltage	at 1.0 A	V <sub>F</sub>	1.1					1.2				V	
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>							10	50			μA
Typical junction capacitance	at 4.0 V, 1 MHz	C <sub>J</sub>							8.0			pF	

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	SYMBOL	BYM 10-50	BYM 10-100	BYM 10-200	BYM 10-400	BYM 10-600	BYM 10-800	BYM 10-1000			UNIT
		GL41A	GL41B	GL41D	GL41G	GL41J	GL41K	GL41M	GL41T	GL41Y	
Typical thermal resistance	R <sub>θJA</sub> R <sub>θJT</sub>							75 <sup>(1)</sup>			°C/W
								30 <sup>(2)</sup>			

**Note:**

- (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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	REFERRED PACKAGE	BASE QUANTITY	DELIVERY MODE
BYM10-600-E3/96	0.114	96	1500	7" Diameter Plastic Tape & Reel
BYM10-600-E3/97	0.114	97	5000	13" Diameter Plastic Tape & Reel
GL41J-E3/96	0.114	96	1500	7" Diameter Plastic Tape & Reel
GL41J-E3/97	0.114	97	5000	13" Diameter Plastic Tape & Reel



## RATINGS AND CHARACTERISTICS CURVES

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

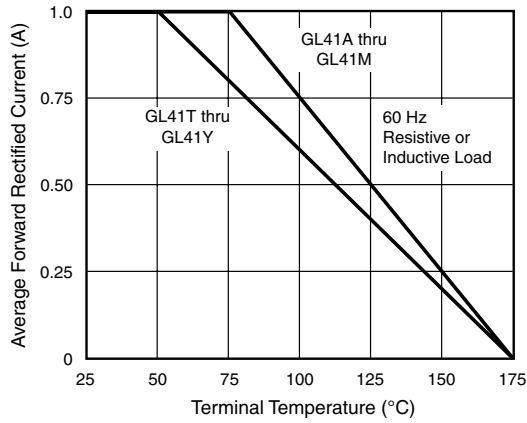


Figure 1. Forward Current Derating Curve

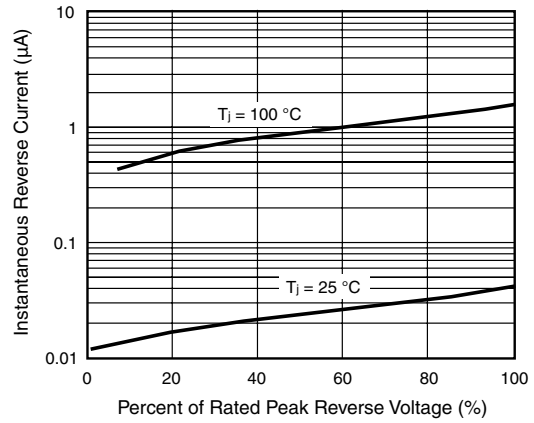


Figure 4. Maximum Non-Repetitive Peak Forward Surge Current

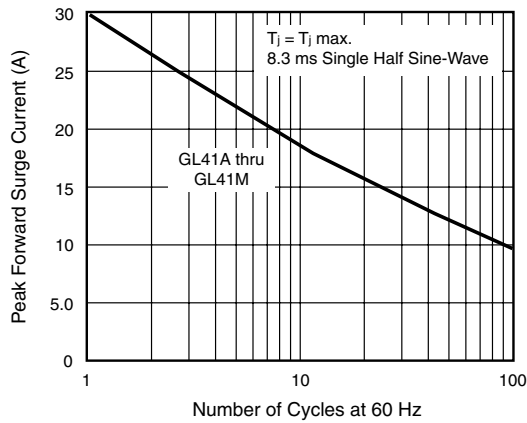


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

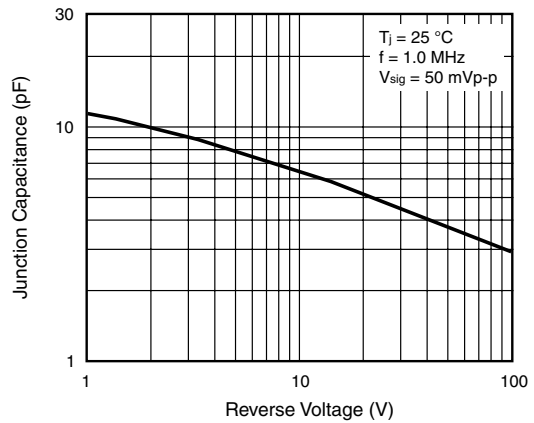


Figure 5. Typical Junction Capacitance

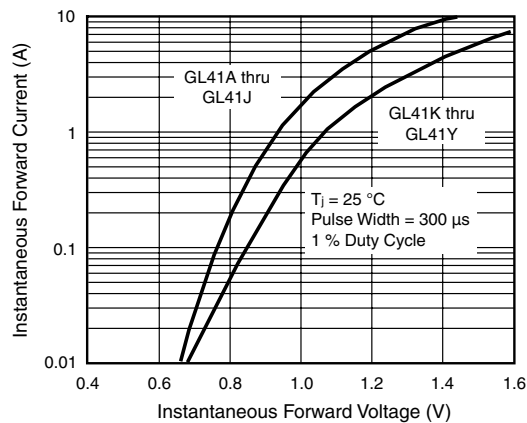


Figure 3. Typical Instantaneous Forward Characteristics

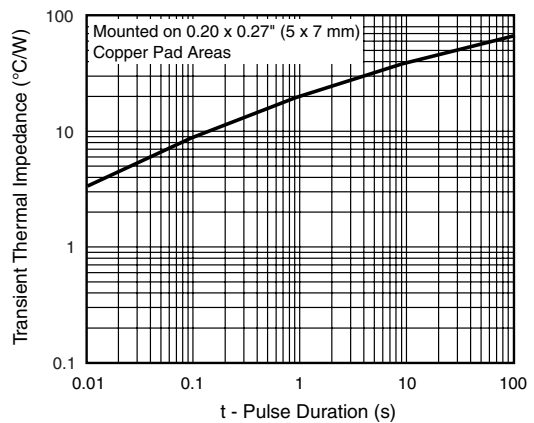
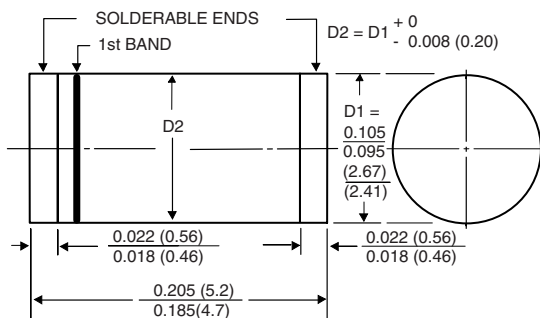


Figure 6. Typical Transient Thermal Impedance



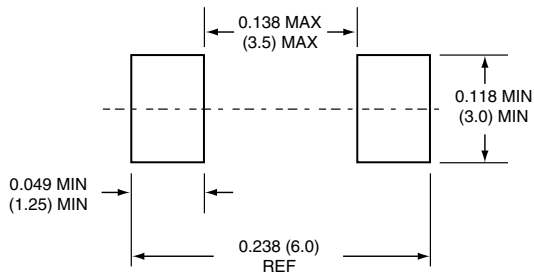
## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-213AB



1st band denotes type and positive end (cathode)

### Mounting Pad Layout





## Notice

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