



Surface Mount Glass Passivated Junction Fast Switching Rectifier

SUPERECTIFIER®**DO-213AB**

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

FEATURES

- Superectifier structure for high reliability condition
- Patented glass-plastic encapsulation technique
- Ideal for automated placement
- Fast switching for high efficiency
- 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 fast switching rectification of power supply, 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

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
$T_j \text{ max.}$	175 °C

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

BYM11-50 thru BYM11-1000, RGL41A thru RGL41M

Vishay General Semiconductor



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	at 1.0 A	V _F	1.3							V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C T _A = 125 °C	I _R	5.0 50							μA
Maximum reverse recovery time	at I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A	t _{rr}	150				250	500		ns
Typical junction capacitance	at 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	$R_{\theta JA}$ $R_{\theta JT}$	75 ⁽¹⁾ 30 ⁽²⁾							$^{\circ}\text{C/W}$	

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

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	REFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
RGL41J-E3/96	0.114	96	1500	7" Diameter Plastic Tape & Reel
RGL41J-E3/97	0.114	97	5000	13" Diameter Plastic Tape & Reel
BYM11-600-E3/96	0.114	96	1500	7" Diameter Plastic Tape & Reel
BYM11-600-E3/97	0.114	97	5000	13" Diameter Plastic Tape & Reel
RGL41JHE3/96 ⁽¹⁾	0.114	96	1500	7" Diameter Plastic Tape & Reel
RGL41JHE3/97 ⁽¹⁾	0.114	97	5000	13" Diameter Plastic Tape & Reel
BYM11-600HE3/96 ⁽¹⁾	0.114	96	1500	7" Diameter Plastic Tape & Reel
BYM11-600HE3/97 ⁽¹⁾	0.114	97	5000	13" Diameter Plastic Tape & Reel

Note:

- (1) Automotive grade AEC Q101 qualified



RATINGS AND CHARACTERISTICS CURVES

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

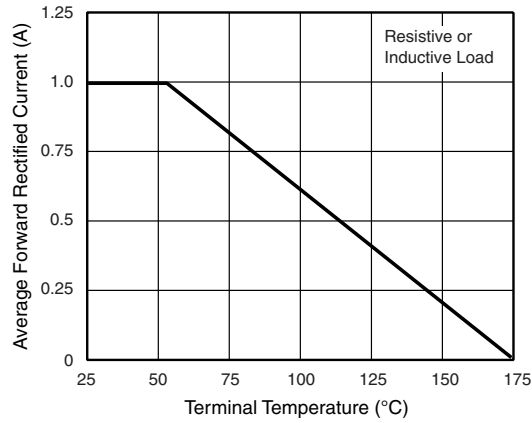


Figure 1. Forward Current Derating Curve

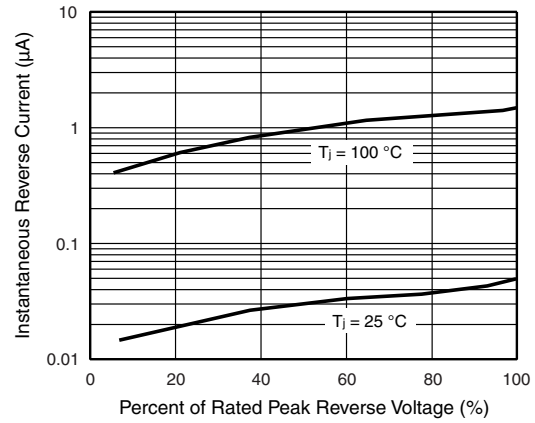


Figure 4. Typical Reverse Characteristics

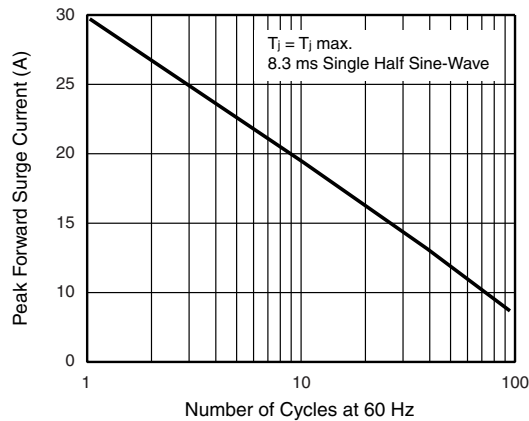


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

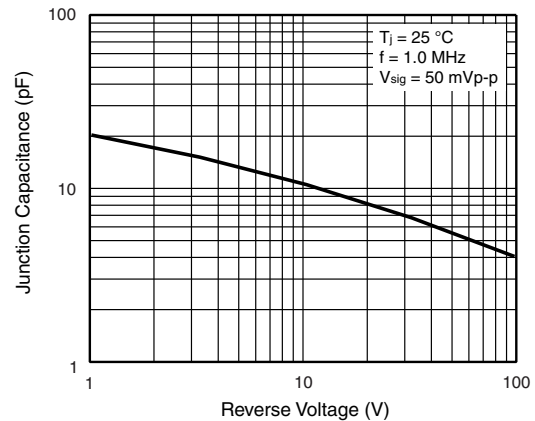


Figure 5. Typical Junction Capacitance

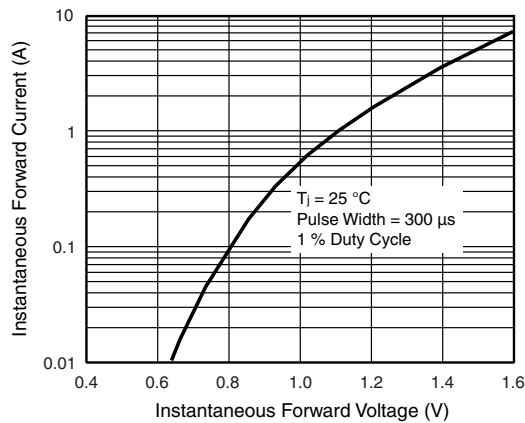


Figure 3. Typical Instantaneous Forward Characteristics

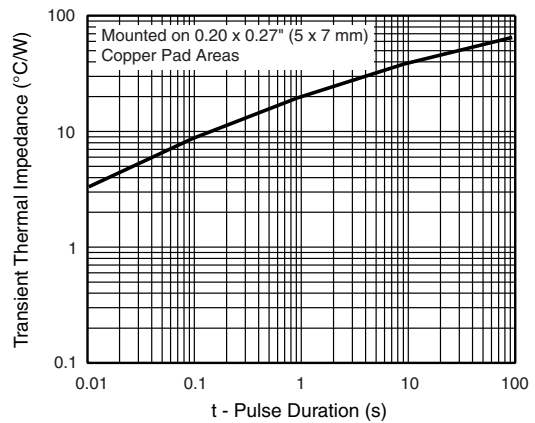
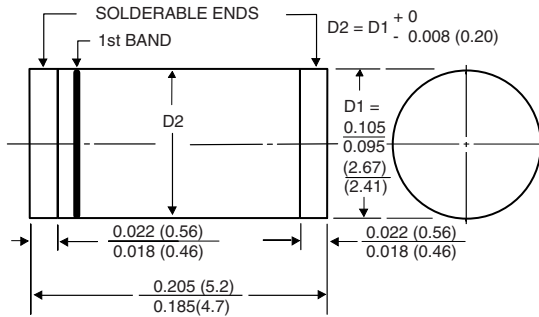


Figure 6. Typical Transient Thermal Impedance

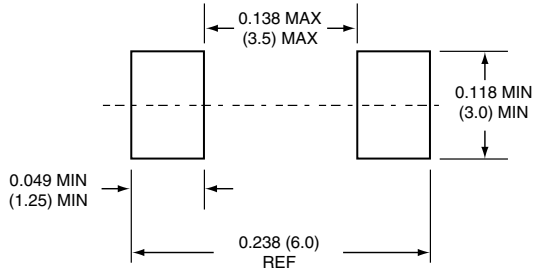
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AB



1st band denotes type and positive end (cathode)

Mounting Pad Layout





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