



# Surface Mount Glass Passivated Junction Fast Switching Rectifier

## Major Ratings and 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



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
- 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
- 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 fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, automotive and Telecommunication

## Maximum Ratings

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

Parameter	Symbols	BYM 11-50	BYM 11-100	BYM 11-200	BYM 11-400	BYM 11-600	BYM 11-800	BYM 11-1000	Units
Fast switching time device: 1st band is Red		RGL 41A	RGL 41B	RGL 41D	RGL 41G	RGL 41J	RGL 41K	RGL 41M	
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 $T_T = 55\text{ °C}$	$I_{F(AV)}$	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 $T_A = 55\text{ °C}$	$I_{R(AV)}$	50							$\mu\text{A}$
Operating junction and storage temperature range	$T_J, T_{STG}$	- 65 to + 175							°C

**Electrical Characteristics**

(T<sub>A</sub> = 25 °C unless otherwise noted)

Parameter	Test condition	Symbols	BYM 11-50	BYM 11-100	BYM 11-200	BYM 11-400	BYM 11-600	BYM 11-800	BYM 11-1000	Units
Maximum instantaneous forward voltage	at 1.0 A	V <sub>F</sub>	1.3							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>	5.0 50							μA
Maximum reverse recovery time	at I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	t <sub>rr</sub>	150			250		500		ns
Typical junction capacitance	at 4.0 V, 1 MHz	C <sub>J</sub>	15							pF

**Thermal Characteristics**

(T<sub>A</sub> = 25 °C unless otherwise noted)

Parameter	Symbols	BYM 11-50	BYM 11-100	BYM 11-200	BYM 11-400	BYM 11-600	BYM 11-800	BYM 11-1000	Units
Maximum thermal resistance	R <sub>θJA</sub> R <sub>θJT</sub>	75 (1) 30 (2)							°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

**Ratings and Characteristics Curves**

(T<sub>A</sub> = 25 °C unless otherwise noted)

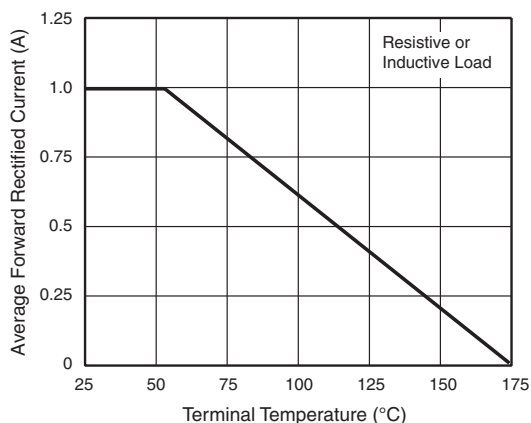


Figure 1. Forward Current Derating Curve

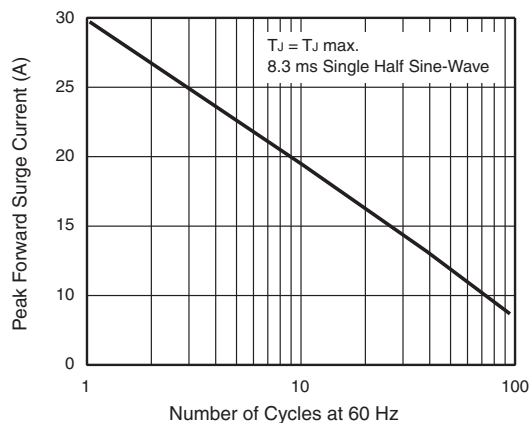


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

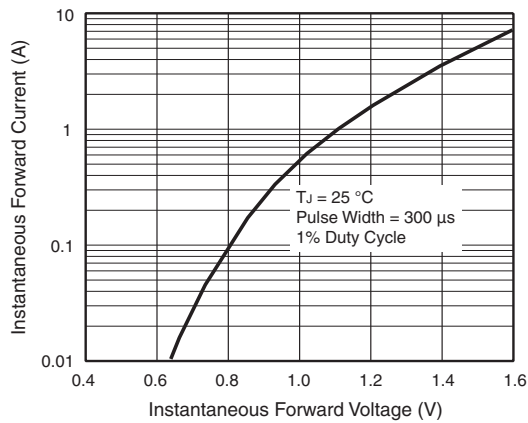


Figure 3. Typical Instantaneous Forward Characteristics

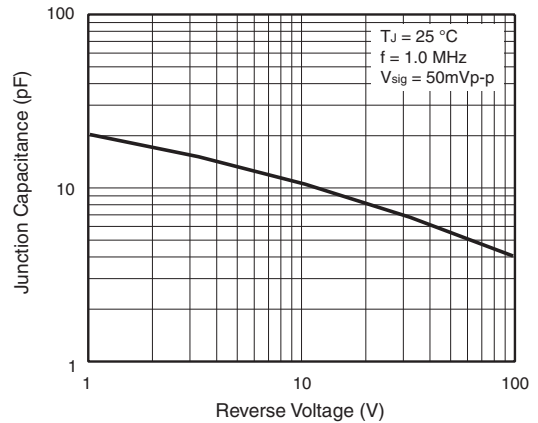


Figure 5. Typical Junction Capacitance

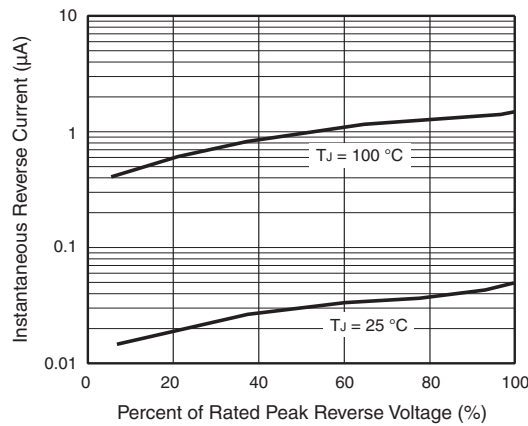


Figure 4. Typical Reverse Characteristics

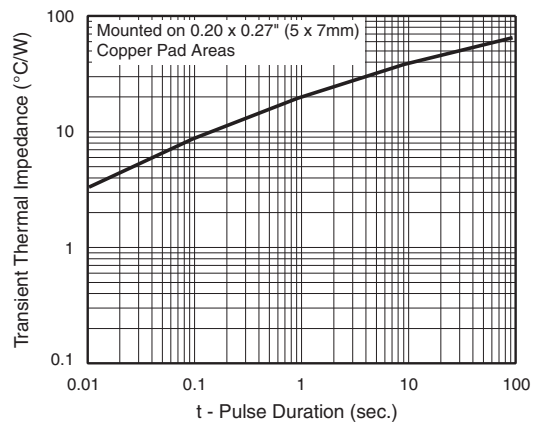
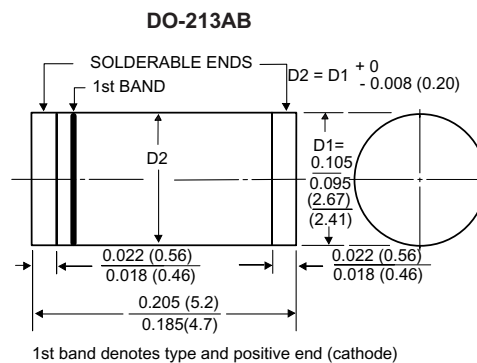


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





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