



Surface Mount Glass Passivated Junction Rectifier

SUPERECTIFIER®



DO-213AB

Patented*

*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
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS
COMPLIANT

PRIMARY 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
E_{AS}	5 mJ
V_F	1.1 V, 1.2 V
T_J max.	175 °C

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters and freewheeling 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-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC-Q101 qualified), meets JESD 201 class 2 whisker test

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

MAXIMUM RATINGS ($T_A = 25$ °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	
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 (Fig. 1)	$I_{F(AV)}$	1.0									A

MAXIMUM RATINGS (T _A = 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	
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									μA
Non-repetitive peak reverse avalanche energy at T _J = 25 °C, I _{AS} = 1 A, L = 10 mH	E _{AS}	5							-		mJ
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 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	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	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 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	$R_{\theta JA}$ $R_{\theta JT}$	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

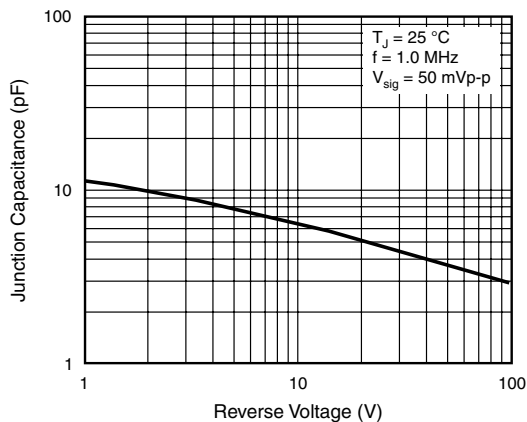


Figure 5. Typical Junction Capacitance

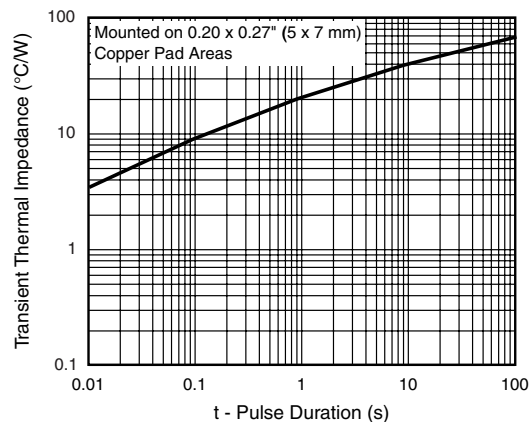
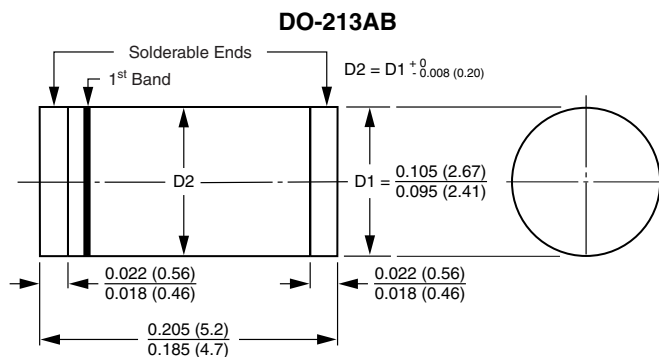


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



1st band denotes type and positive end (cathode)

Mounting Pad Layout

