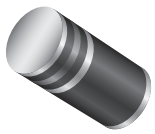
Surface-Mount Glass Passivated Junction Rectifier

Superectifier®



MELF (DO-213AB)

FEATURES

- Superectifier structure for high reliability condition
- Ideal for automated placement
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM} (BYM10-xxx, GL41x)	50 V to 1000 V, 50 V to 1600 V
I_{FSM}	30 A
I_R	10 µA
E_{AS}	5 mJ
V_F	1.1 V, 1.2 V
T_J max.	175 °C
Package	MELF (DO-213AB)
Circuit configuration	Single

MECHANICAL DATA

Case: MELF (DO-213AB), molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A 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	
Max. repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1300	1600	V
Max. RMS voltage	V_{RMS}	35	70	140	280	420	560	700	910	1120	V
Max. DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	1300	1600	V
Max. average forward rectified current (fig. 1)	$I_{F(AV)}$	1.0									A
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	30									A
Max. 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

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ELECTRICAL CHARACTERISTICS (T_A = 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**	
Max. instantaneous forward voltage	1.0 A	V_F	1.1					1.2				V
Max. DC reverse current at rated DC blocking voltage	T_A = 25 °C	I_R	10									µA
	T_A = 125 °C		50									
Typical junction capacitance	4.0 V, 1 MHz	C_J	8.0									pF

THERMAL CHARACTERISTICS (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**
		GL41A	**GL41B**	**GL41D**	**GL41G**	**GL41J**	**GL41K**	**GL41M**	**GL41T**	**GL41Y**	
Typical thermal resistance	$R_{\theta JA}$ (1)	75									°C/W
	$R_{\theta JT}$ (2)	30									

Notes

(1) Thermal resistance from junction to ambient, 0.24" x 0.24" (6.0 mm x 6.0 mm) copper pads to each terminal

(2) Thermal resistance from junction to terminal, 0.24" x 0.24" (6.0 mm x 6.0 mm) copper pads to each terminal

ORDERING INFORMATION (Example)				
PREFERRED P/N	**UNIT WEIGHT (g)**	**PREFERRED PACKAGE CODE**	**BASE QUANTITY**	**DELIVERY MODE**
BYM10-600-E3/96	0.114	96	1500	7" diameter plastic tape and reel
BYM10-600-E3/97	0.114	97	5000	13" diameter plastic tape and reel
GL41J-E3/96	0.114	96	1500	7" diameter plastic tape and reel
GL41J-E3/97	0.114	97	5000	13" diameter plastic tape and reel

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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

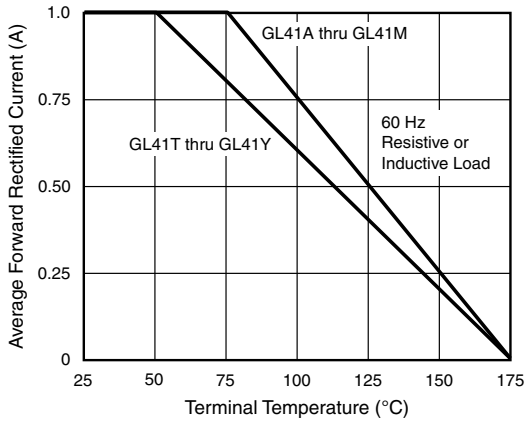

Fig. 1 - Forward Current Derating Curve

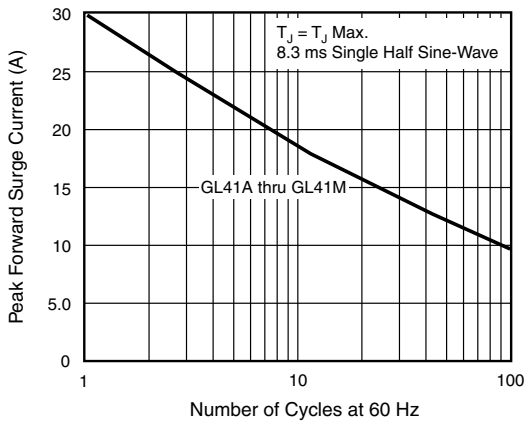

Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

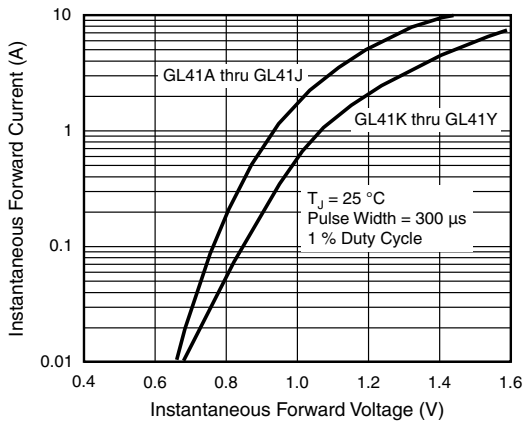

Fig. 3 - Typical Instantaneous Forward Characteristics

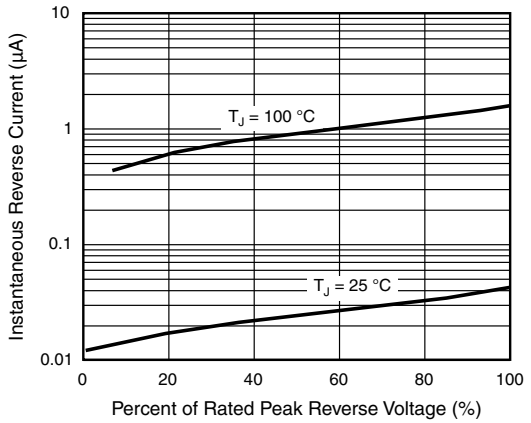

Fig. 4 - Typical Reverse Characteristics

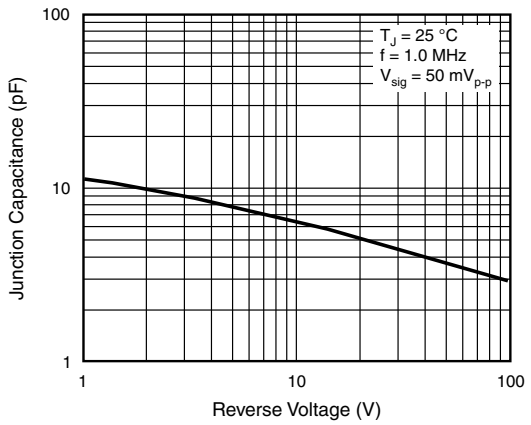

Fig. 5 - Typical Junction Capacitance

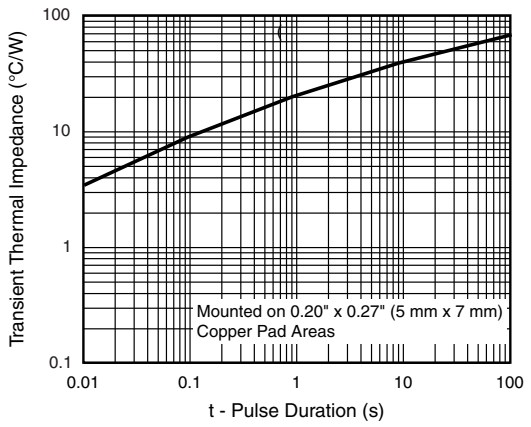

Fig. 6 - Typical Transient Thermal Impedance

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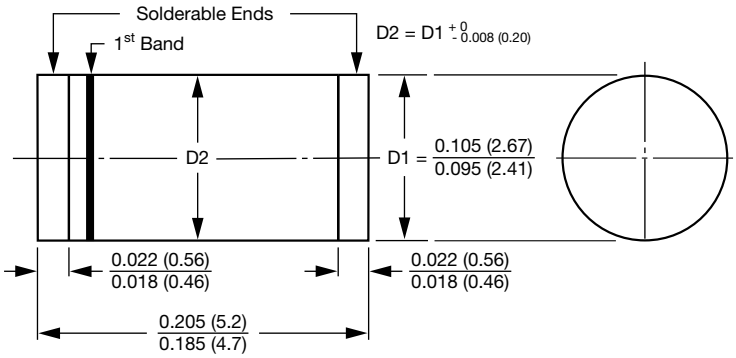
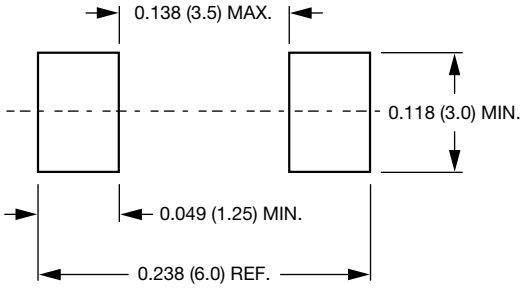
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL41 (DO-213AB)



1st band denotes type and positive end (cathode)

Mounting Pad Layout



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