

Surface-Mount Glass Passivated Junction Rectifier

SUPERRECTIFIER®


GL41 (DO-213AB)

FEATURES

- Superrectifier 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
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1.0 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	30 A
I_R	10 μ A
V_F	1.1 V
T_J max.	175 °C
Package	GL41 (DO-213AB)
Circuit configuration	Single

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: GL41 (DO-213AB), molded epoxy over glass body
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix 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	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE									
Polarity color bands (2 nd band)		Gray	Red	Orange	Yellow	Green	Blue	Violet	
Max. repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Max. RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Max. DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Max. average forward rectified current	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Max. full load reverse current, full cycle average at $T_A = 75$ °C	$I_{R(AV)}$	100							μ A
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							°C

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

PARAMETER	TEST CONDITIONS		SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Max. instantaneous forward voltage	1.0 A	$T_A = 25^\circ\text{C}$	V_F			1.1				V	
		$T_A = 75^\circ\text{C}$				1.0					
Max. DC reverse current at rated DC blocking voltage		$T_A = 25^\circ\text{C}$	I_R			10				μA	
		$T_A = 125^\circ\text{C}$				200					
Typical junction capacitance	4.0 V, 1 MHz		C_J			8.0				pF	

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

PARAMETER	SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Max. thermal resistance	$R_{\theta JA}$ (1)			50					
	$R_{\theta JT}$ (2)			20					

Notes

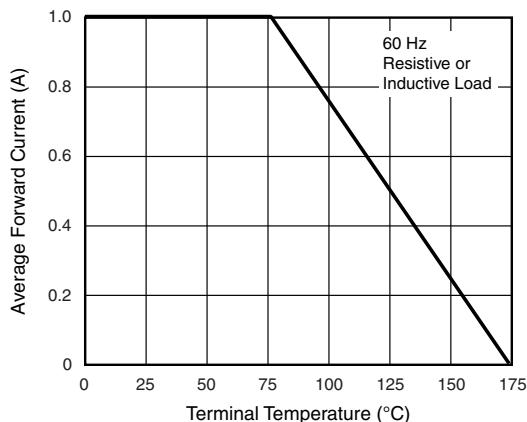
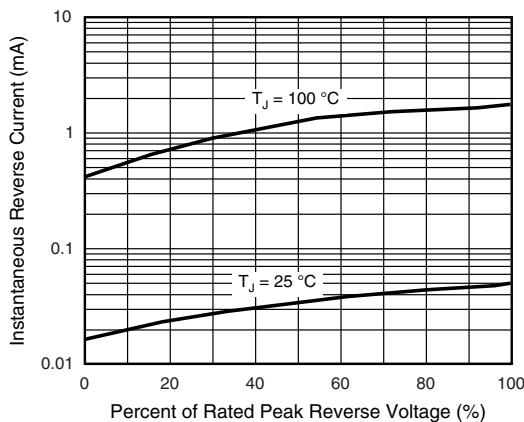
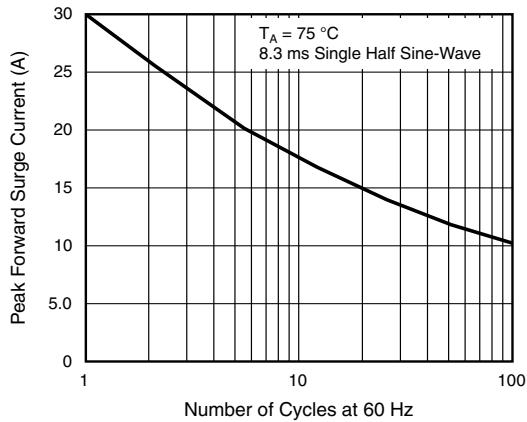
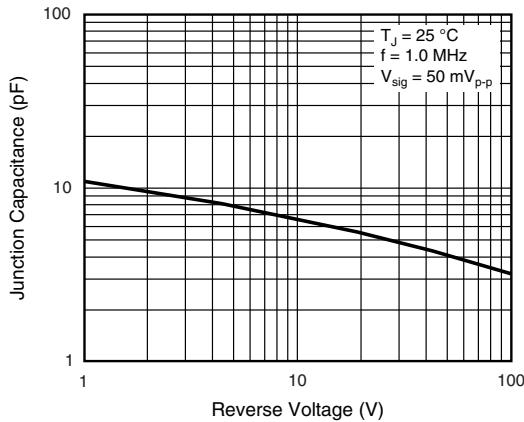
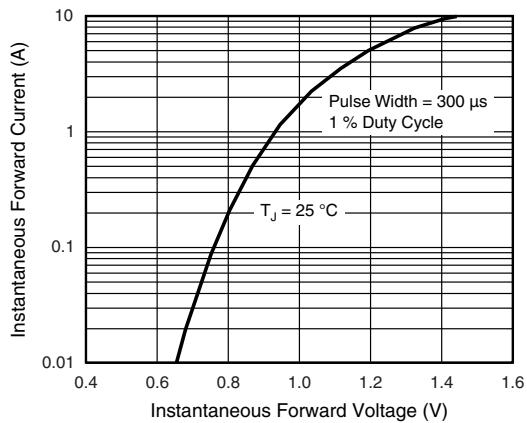
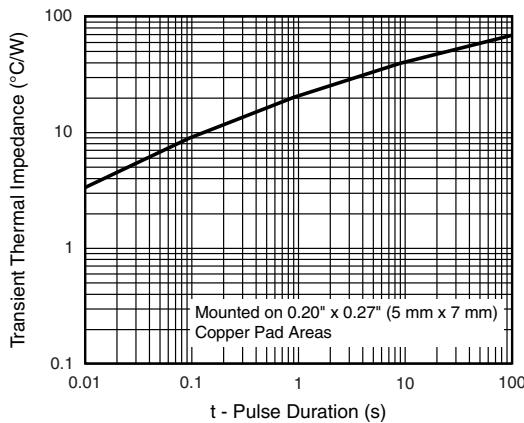
(1) Thermal resistance from junction to ambient, 0.24" x 0.24" (6.0 mm x 6.0 mm) copper pads to each terminal
 (2) Thermal resistance from junction to terminal, 0.24" x 0.24" (6.0 mm x 6.0 mm) copper pads to each terminal

ORDERING INFORMATION (Example)

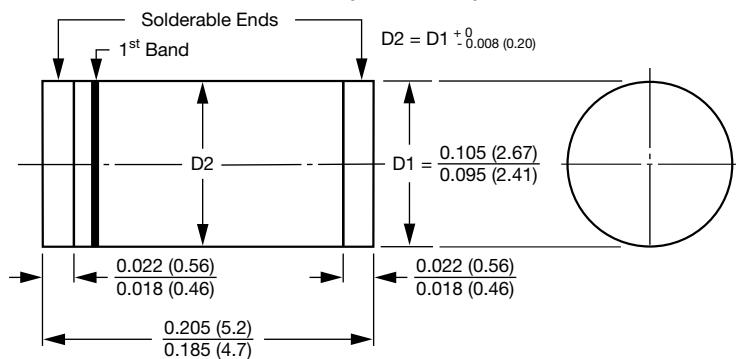
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N6482-E3/96	0.114	96	1500	7" diameter plastic tape and reel
1N6482-E3/97	0.114	97	5000	13" diameter plastic tape and reel
1N6482HE3/96 (1)	0.114	96	1500	7" diameter plastic tape and reel
1N6482HE3/97 (1)	0.114	97	5000	13" diameter plastic tape and reel

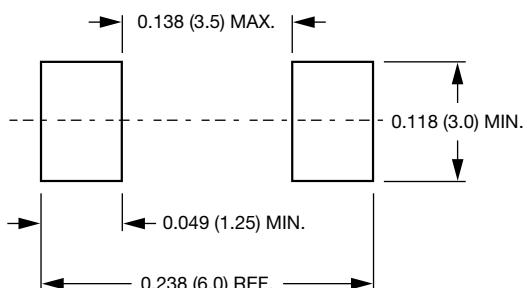
Note

(1) AEC-Q101 qualified

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

Fig. 1 - Forward Current Derating Curve

Fig. 4 - Typical Reverse Characteristics

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

Fig. 5 - Typical Junction Capacitance

Fig. 3 - Typical Instantaneous Forward Characteristics

Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

GL41 (DO-213AB)

1st band denotes type and positive end (cathode)

Mounting Pad Layout


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