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Vishay Semiconductor/Diodes Division
1N6478-E3/97

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1N6478, 1N6479, 1N6480, 1N6481, 1N6482, 1N6483, 1N6484

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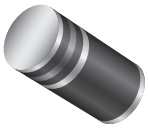
Vishay General Semiconductor

Surface Mount Glass Passivated Junction Rectifier

SUPERECTIFIER®



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
- 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 µA
V_F	1.1 V
T_J max.	175 °C
Package	DO-213AB
Diode variations	Single die

MECHANICAL DATA

Case: 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

TYPICAL APPLICATIONS

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

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER / STANDARD RECOVERY DEVICE: 1ST BAND IS WHITE	SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Polarity color bands (2nd 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							µA
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175							°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °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 °C	V_F	1.1							V
		T_A = 75 °C		1.0							
Max. DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	10							µA
		T_A = 125 °C		200							
Typical junction capacitance	4.0 V, 1 MHz		C_J	8.0							pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	**SYMBOL**	**1N6478**	**1N6479**	**1N6480**	**1N6481**	**1N6482**	**1N6483**	**1N6484**	**UNIT**
Max. thermal resistance	$R_{\theta JA}$ (1)	50							°C/W
	$R_{\theta JT}$ (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 °C unless otherwise noted)

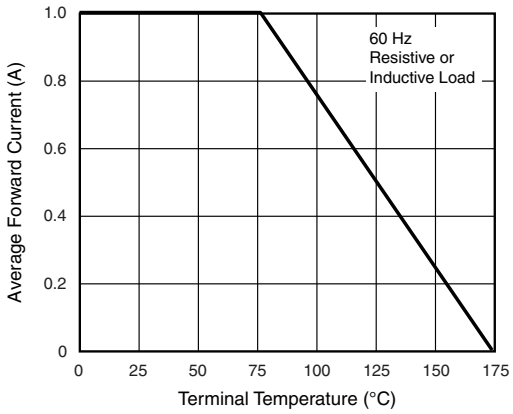


Fig. 1 - Forward Current Derating Curve

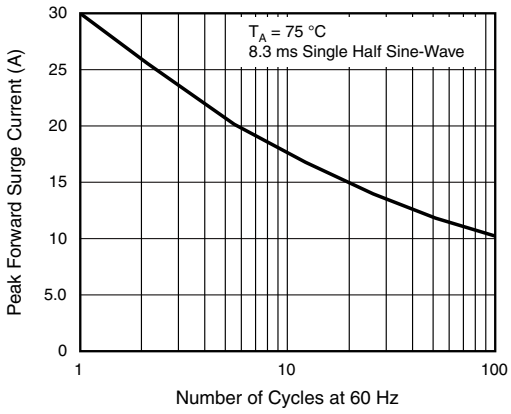


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

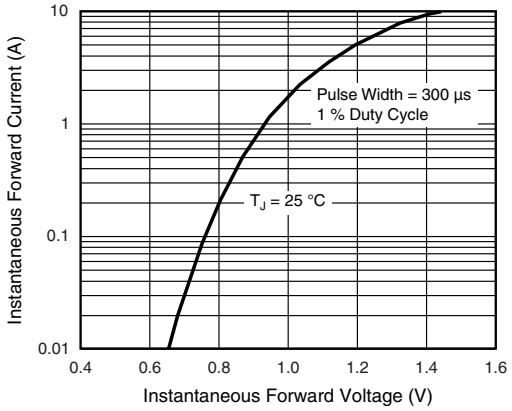


Fig. 3 - Typical Instantaneous Forward Characteristics

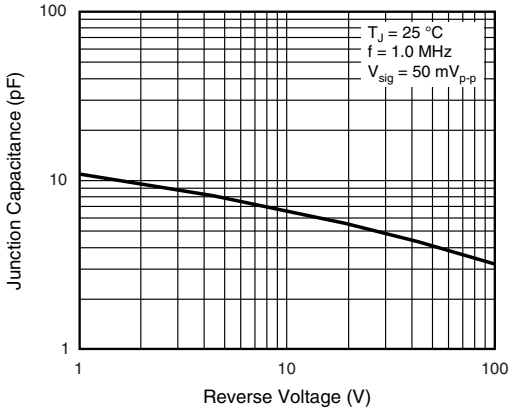


Fig. 5 - Typical Junction Capacitance

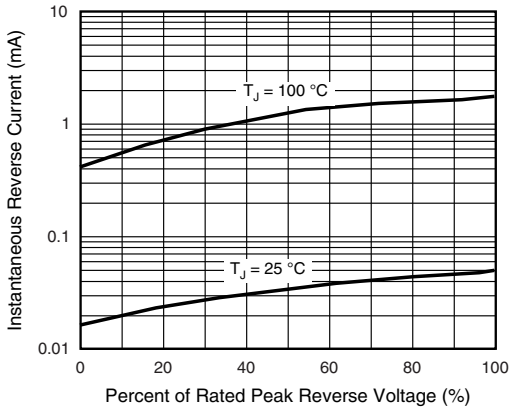


Fig. 4 - Typical Reverse Characteristics

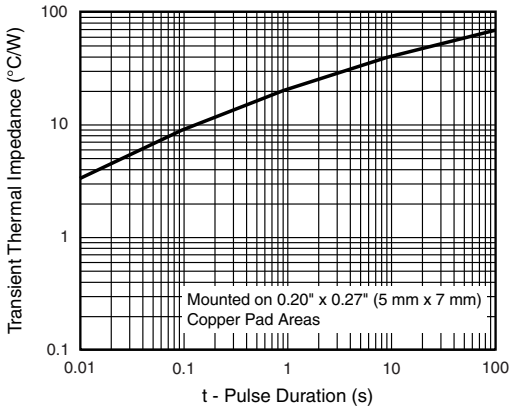
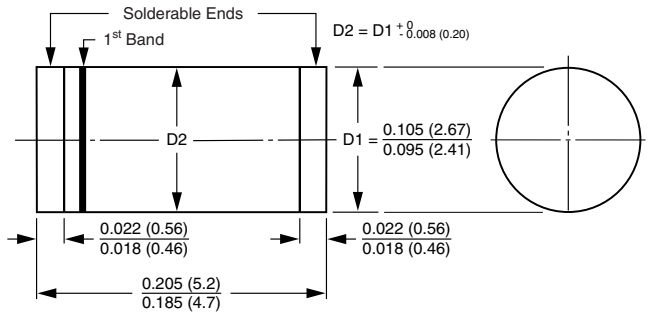


Fig. 6 - Typical Transient Thermal Impedance

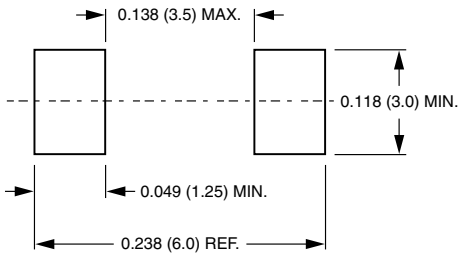
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AB



1st band denotes type and positive end (cathode)

Mounting Pad Layout



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