

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

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Vishay General Semiconductor

## **Surface Mount Glass Passivated Junction Rectifier**

#### SUPERECTIFIER®



**DO-213AB** 

PRIMARY CHARACTERISTICS							
I <sub>F(AV)</sub>	1.0 A						
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V						
I <sub>FSM</sub>	30 A						
I <sub>R</sub>	10 μA						
V <sub>F</sub>	1.1 V						
T <sub>J</sub> max.	175 °C						
Package	DO-213AB						
Diode variations	Single die						

### TYPICAL APPLICATIONS

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

#### **FEATURES**





- 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 <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

#### **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 - 1<sup>st</sup> band denotes device type and 2<sup>nd</sup> band denotes repetitive peak reverse voltage rating

PARAMETER									
STANDARD RECOVERY DEVICE: 1 <sup>ST</sup> BAND IS WHITE	SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Polarity color bands (2 <sup>nd</sup> 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 <sub>RMS</sub>	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 <sub>F(AV)</sub>				1.0				Α
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30						Α	
Max. full load reverse current, full cycle average at $T_A = 75~^{\circ}C$	I <sub>R(AV)</sub>	100					μА		
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 65 to + 175						°C	



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Max. instantaneous	1.0 A	T <sub>A</sub> = 25 °C	V <sub>F</sub>	1.1							V
forward voltage	1.0 A	T <sub>A</sub> = 75 °C	VF	1.0						] V	
Max. DC reverse current at rated DC		T <sub>A</sub> = 25 °C		10							μA
blocking voltage		T <sub>A</sub> = 125 °C	I <sub>R</sub>	200						μΛ	
Typical junction capacitance	4.0 V, 1	MHz	CJ	8.0					pF		

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)								
PARAMETER SYMBOL 1N6478 1N6479 1N6480 1N6481 1N6482 1N6483 1N6484 U						UNIT		
Max. thermal resistance	R <sub>0JA</sub> (1)	50						°C/W
Max. trierrial resistance	20						C/VV	

#### **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

## RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

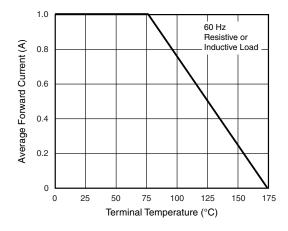


Fig. 1 - Forward Current Derating Curve

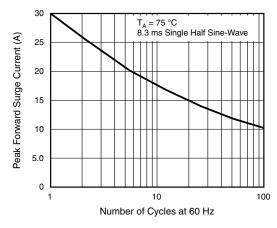


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

<sup>(1)</sup> AEC-Q101 qualified

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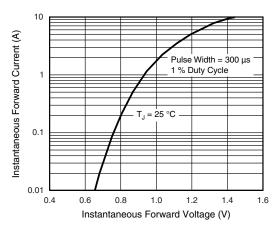


Fig. 3 - Typical Instantaneous Forward Characteristics

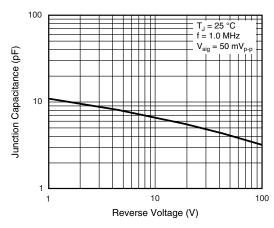


Fig. 5 - Typical Junction Capacitance

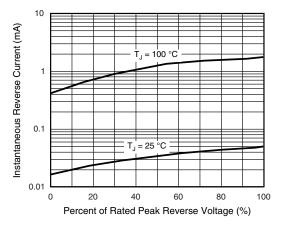


Fig. 4 - Typical Reverse Characteristics

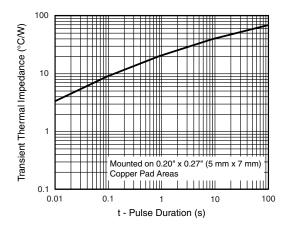
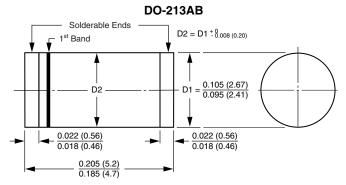


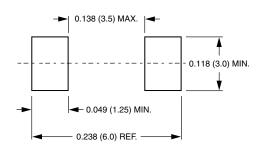
Fig. 6 - Typical Transient Thermal Impedance

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)



1st band denotes type and positive end (cathode)

### **Mounting Pad Layout**





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