

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 environmental standard MIL-S-19500
- Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C
- AEC-Q101 qualified
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

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
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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	30 A
I_R	10 μ A
V_F	1.1 V
T_J max.	175 °C

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	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum 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
Maximum 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 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Maximum instantaneous forward voltage	1.0 A	T _A = 25 °C	V _F	1.1						V	
		T _A = 75 °C		1.0							
Maximum DC reverse current at rated DC blocking voltage			I _R	10						μA	
				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	
Maximum thermal resistance	R _{θJA} ⁽¹⁾	50						°C/W		
	R _{θJT} ⁽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)

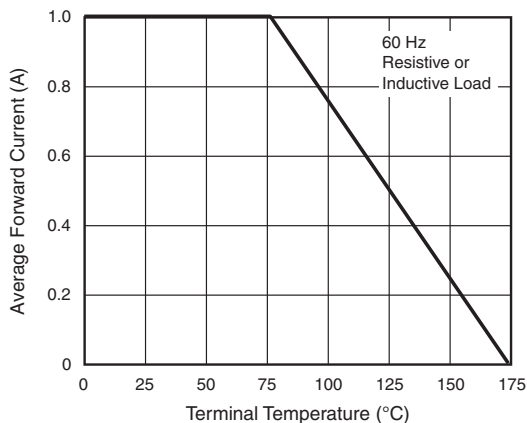


Fig. 1 - Forward Current Derating Curve

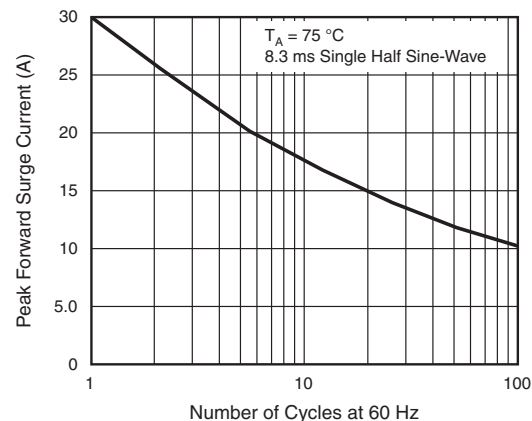


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

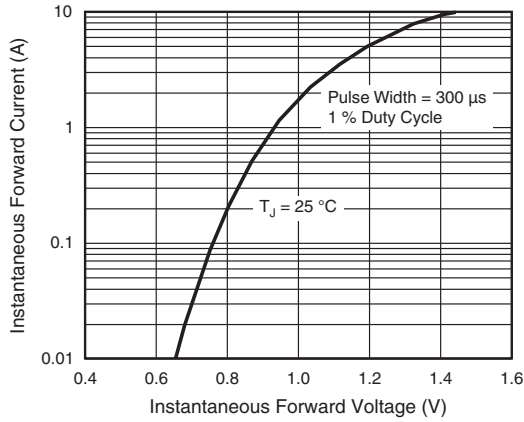


Fig. 3 - Typical Instantaneous Forward Characteristics

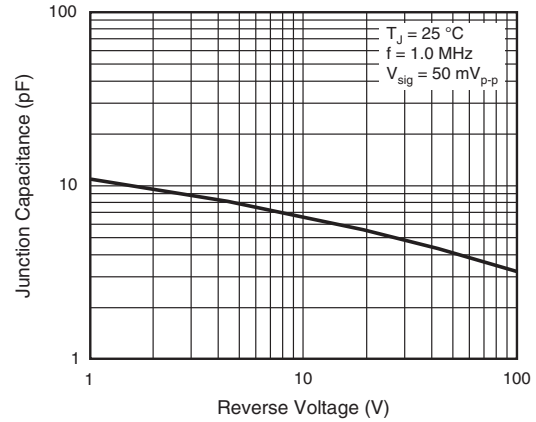


Fig. 5 - Typical Junction Capacitance

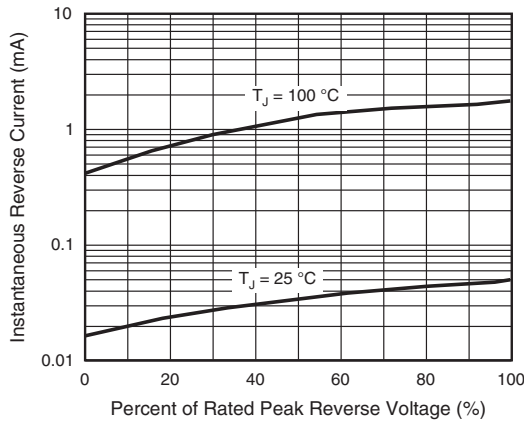


Fig. 4 - Typical Reverse Characteristics

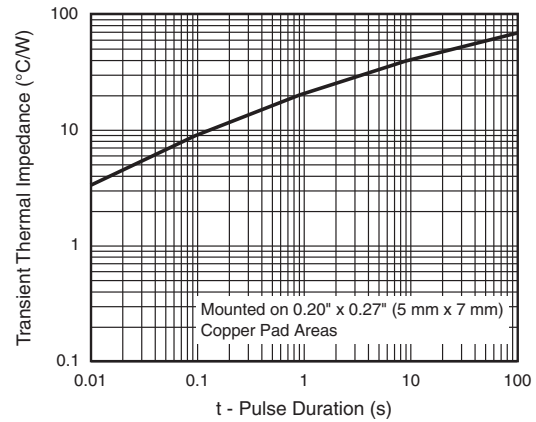
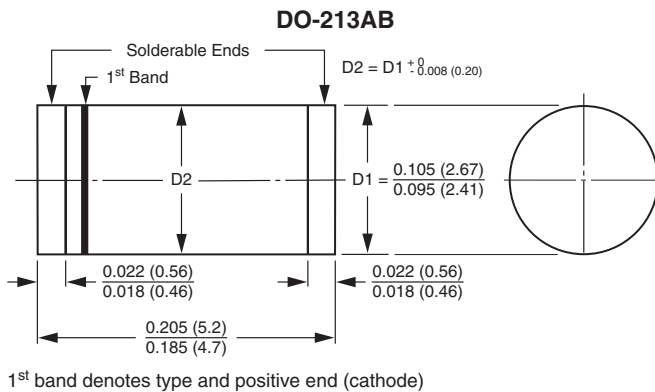
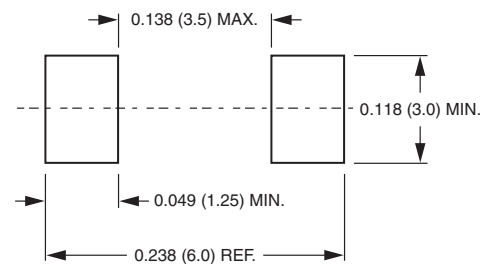


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Mounting Pad Layout





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