


Surface Mount Glass Passivated Junction Rectifier



DO-213AB

*Glass-plastic encapsulation is covered by Patent No. 3,996,602, brazed-lead assembly to Patent No. 3,930,306

FEATURES

- Superectifier structure for high reliability condition 
- Patented glass-plastic encapsulation technique
- 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-020C, LF max peak of 250 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-213AB, molded epoxy over glass body
Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Two bands indicate cathode end - 1st band denotes device type and 2nd band denotes repetitive peak reverse voltage rating

MAJOR RATINGS AND 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 TIME DEVICE: 1ST BAND IS WHITE									
Polarity color bands (2nd 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 ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	1N6478	1N6479	1N6480	1N6481	1N6482	1N6483	1N6484	UNIT
Maximum instantaneous forward voltage	at 1.0 A $T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 75\text{ }^{\circ}\text{C}$	V_F					1.1 1.0			V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 125\text{ }^{\circ}\text{C}$	I_R					10 200			μA
Typical junction capacitance	at 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 ^(1,2)	R _{θJA} R _{θJT}	50 20							°C/W

Note:

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	REFERRED PACKAGE	BASE QUANTITY	DELIVERY MODE
1N6482-E3/96	0.114	96	1500	7" Diameter Plastic Tape & Reel
1N6482-E3/97	0.114	97	5000	13" Diameter Plastic Tape & Reel

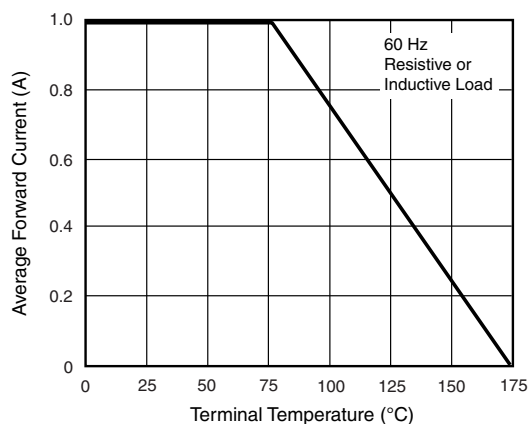
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve

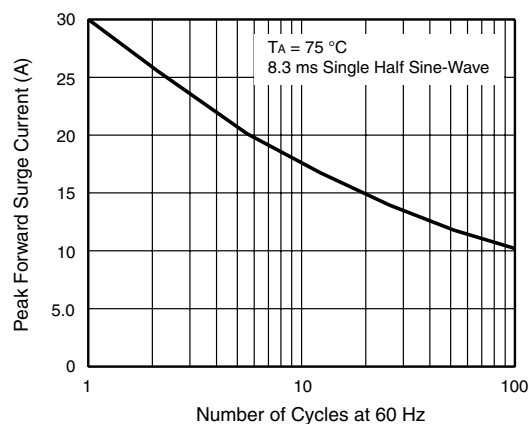


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

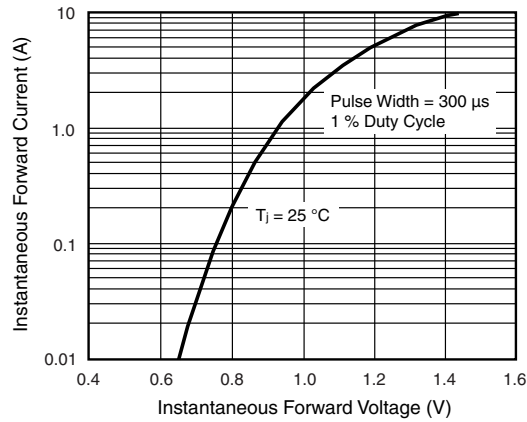


Figure 3. Typical Instantaneous Forward Characteristics

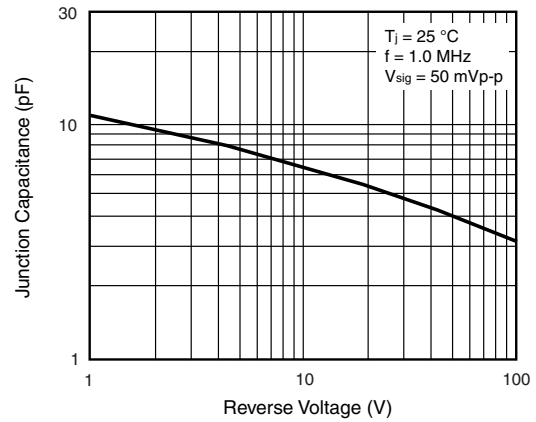


Figure 5. Typical Junction Capacitance

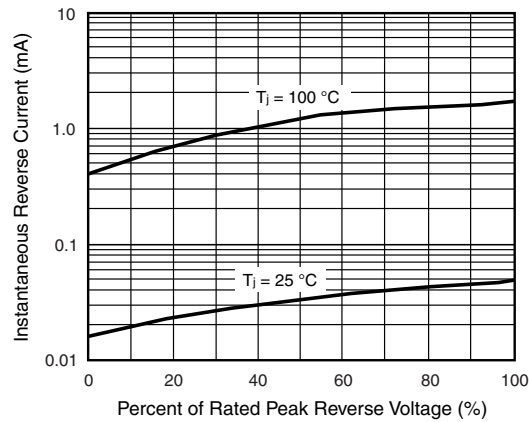


Figure 4. Typical Reverse Characteristics

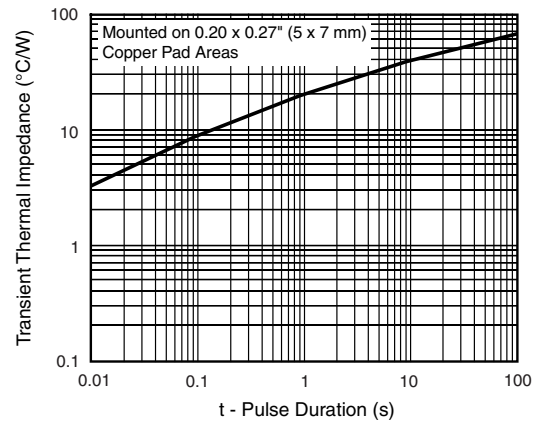
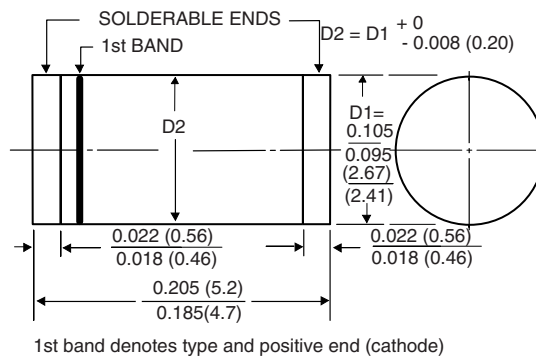


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-213AB





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