

US1A SERIES

SURFACE MOUNT ULTRAFAST RECTIFIER

VOLTAGE 50 to 1000 Volt **CURRENT** 1 Ampere

SMA / DO-214AC

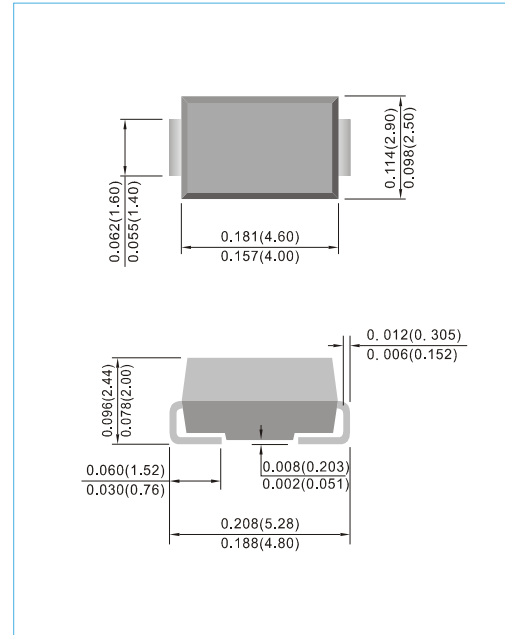
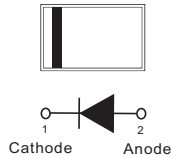
Unit : inch(mm)

FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Approx. Weight: 0.0679 grams
- Marking: Part number



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNIT
Maximum Recurrent 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 Current	I _{F(AV)}	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	30							A
Maximum Forward Voltage at 1A	V _F	1			1.3	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _J = 25°C T _J = 125°C	I _R	1 100							μA
Typical Junction Capacitance (Note 2)	C _J	17							pF
Typical Thermal Resistance (Note 3)	R _{θJL}	30							°C / W
Typical Thermal Resistance (Note 4)	R _{θJC}	28							°C / W
Maximum Reverse Recovery Time (Note 1)	T _{RR}	50				100			ns
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150							°C

NOTES: 1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1A$, $I_{rr}=0.25A$
2. Measured at 1 MHz and applied $V_r = 4$ volts.
3. 8mm² (0.013mm thick) land areas.
4. Mounted on 100cm² FR4 PCB.

US1A SERIES

RATING AND CHARACTERISTIC CURVES

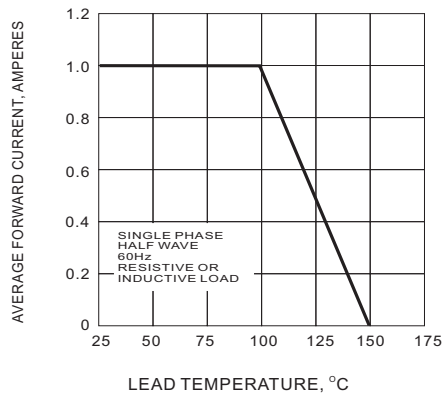


Fig.1 FORWARD CURRENT DERATING CURVE

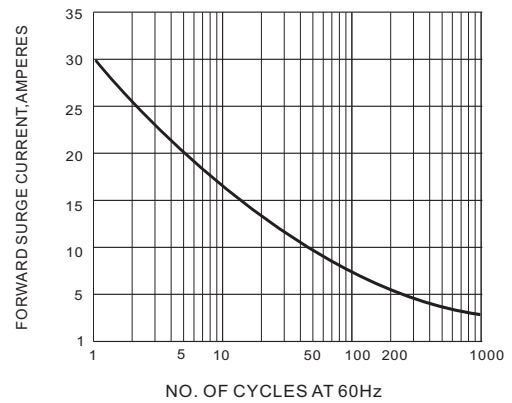


Fig.2 PEAK FORWARD SURGE CURRENT

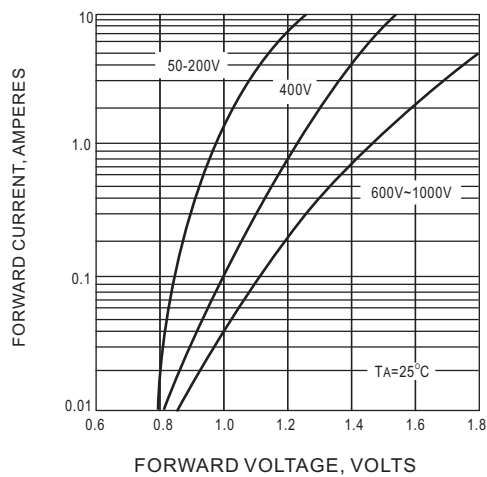


Fig.3 FORWARD CHARACTERISTICS

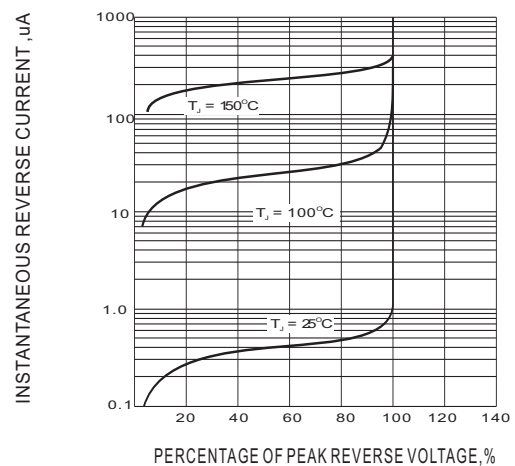


Fig.4-TYPICAL REVERSE CHARACTERISTIC

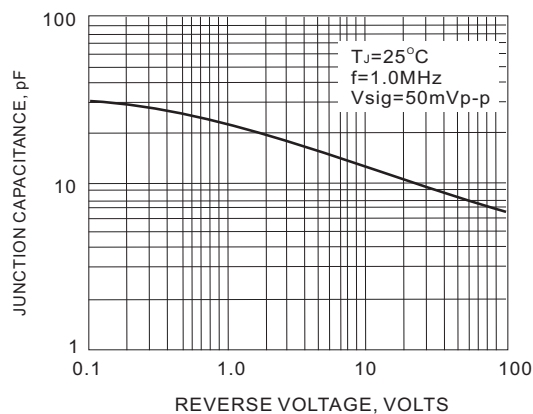


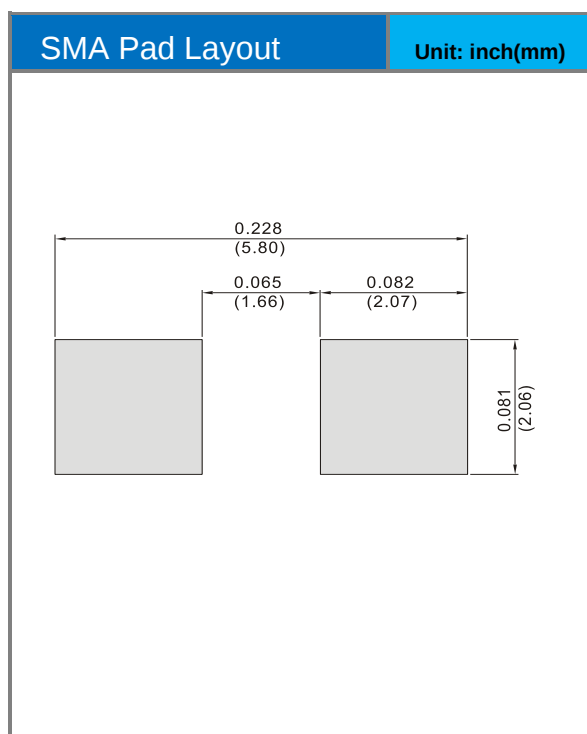
Fig.5 TYPICAL JUNCTION CAPACITANCE

US1A SERIES

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
US1x	SMA	1.8K pcs / 7" reel	See Table
US1x	SMA	7.5K pcs / 13" reel	See Table

Mounting Pad Layout



US1A SERIES

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from PANJIT International Inc..
- PANJIT International Inc. reserves the rights to make changes of the content herein the document follow PCN procedure. Please refer to our website for the latest document.
- PANJIT International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- PANJIT International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. PANJIT International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed or authorized for equipment relating to human life, life-saving or life-sustaining applications, such as medical instruments, transportation equipment, aerospace machinery, or for other applications intended to cause personal injury. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify PANJIT International Inc. for any damages resulting from such improper use or sale. For additional terms and conditions regarding the use of PANJIT products, please refer to the Terms of Use available on the PANJIT website.
- Since PANJIT uses lot number as the tracking base, please provide the lot number for tracking when complaining.