

US1A SERIES

SURFACE MOUNT ULTRAFAST RECTIFIER

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

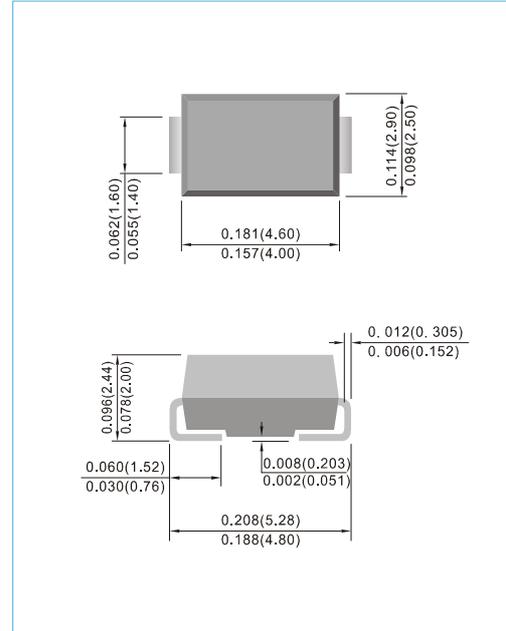
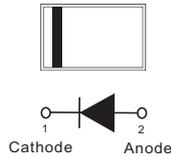
SMA / DO-214AC Unit : inch(mm)

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-0
- 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)
- Weight: 0.0023 ounces, 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	UNITS
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 $T_J=25^{\circ}C$ $T_J=125^{\circ}C$	I_R	1 100							μA
Typical Junction Capacitance (Note 2)	C_J	17							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	30							$^{\circ}C / W$
Typical Thermal Resistance (Note 4)	$R_{\theta JC}$	28							$^{\circ}C / W$
Maximum Reverse Recovery Time (Note 1)	T_{RR}	50					100		ns
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^{\circ}C$

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. $8mm^2$ (0.013mm thick) land areas.
 4. Mounted on $100cm^2$ FR4 PCB.

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RATING AND CHARACTERISTIC CURVES

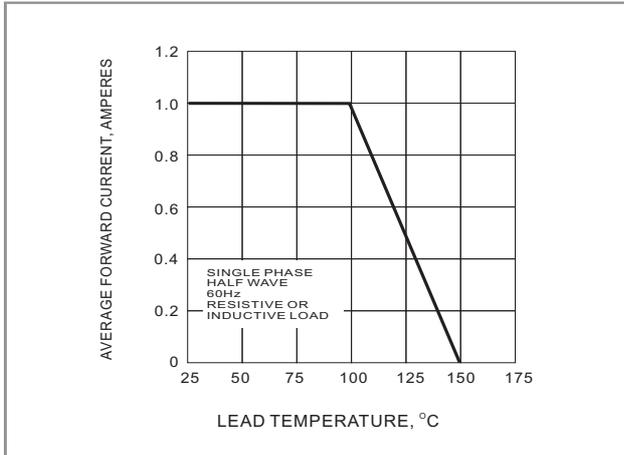


Fig.1 FORWARD CURRENT DERATING CURVE

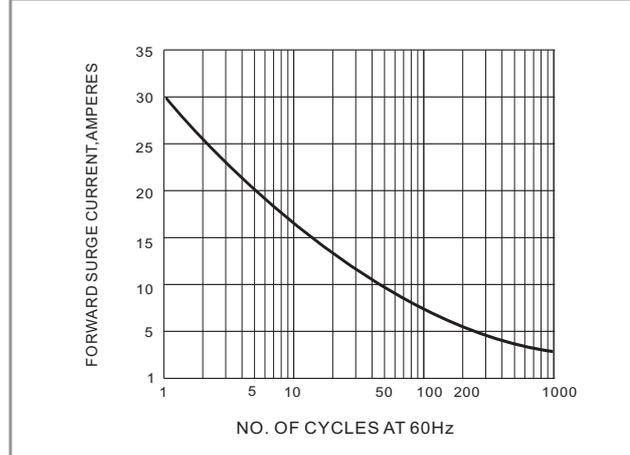


Fig.2 PEAK FORWARD SURGE CURRENT

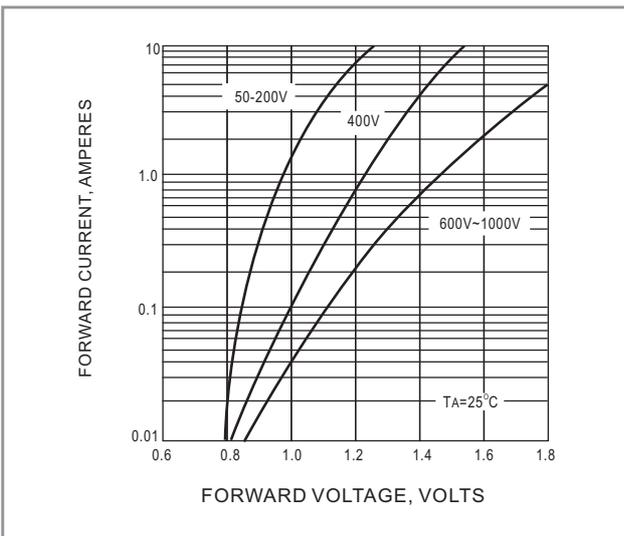


Fig.3 FORWARD CHARACTERISTICS

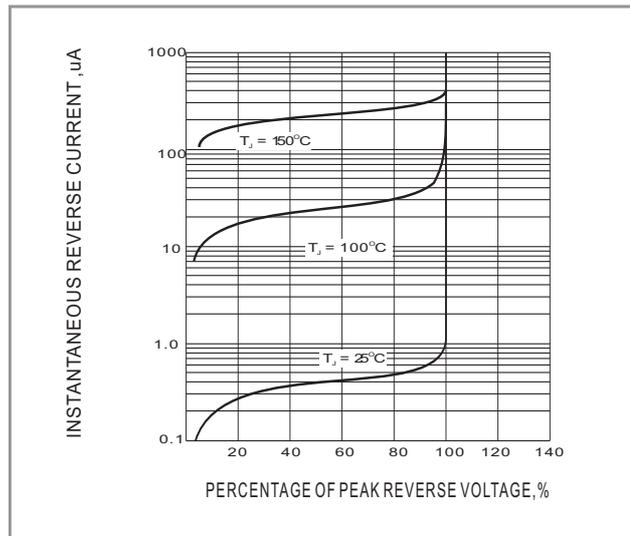


Fig.4-TYPICAL REVERSE CHARACTERISTIC

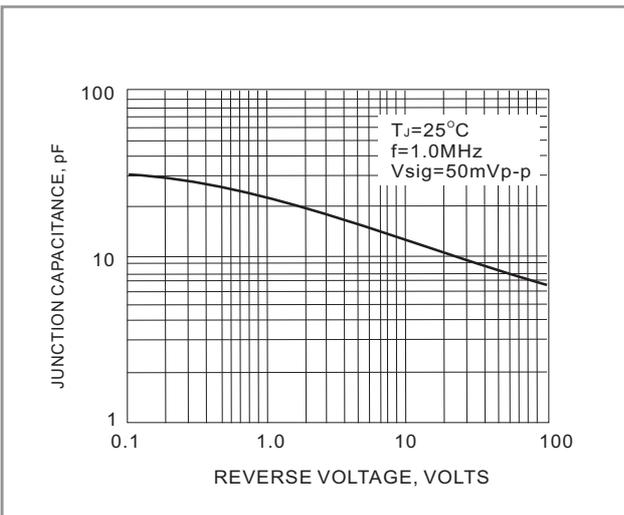
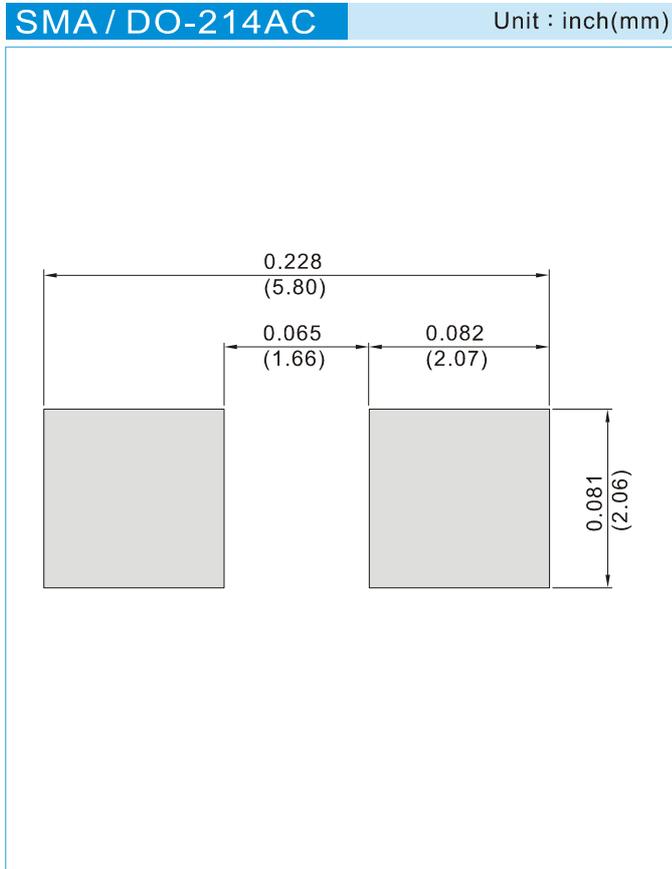


Fig.5 TYPICAL JUNCTION CAPACITANCE

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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 7.5K per 13" plastic Reel
T/R - 1.8K per 7" plastic Reel

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