

# US1A THRU US1M

## SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

Reverse Voltage – 50 to 1000 V

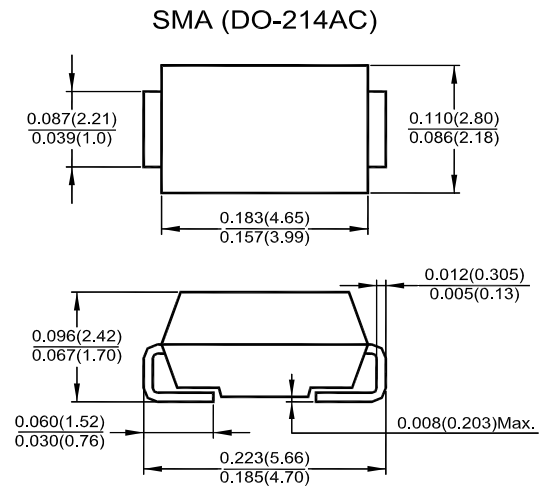
Forward Current – 1 A

### Features

- For surface mount applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0

### Mechanical Data

- **Case:** SMA (DO-214AC) molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026 guaranteed
- **Polarity:** Color band denotes cathode end



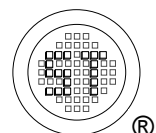
Dimensions in inches and (millimeters)

### 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	Symbols	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Units
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T <sub>C</sub> = 125 °C	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Forward Voltage at 1 A	V <sub>F</sub>	1			1.3	1.65			V
Maximum DC Reverse Current T <sub>A</sub> = 25 °C at Rated DC Blocking Voltage T <sub>A</sub> = 125 °C	I <sub>R</sub>	5 100							µA
Typical Junction Capacitance at 4 V, 1 MHz	C <sub>J</sub>	15							pF
Maximum Reverse Recovery Time at I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, I <sub>rr</sub> = 0.25 A	t <sub>rr</sub>	50				75			ns
Typical Thermal Resistance <sup>1)</sup>	R <sub>θJA</sub>	75							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>Stg</sub>	- 55 to + 150							°C

<sup>1)</sup> Mounted on P.C.B. with 2" X 2" (5 X 5 mm) copper pad areas.



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## Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

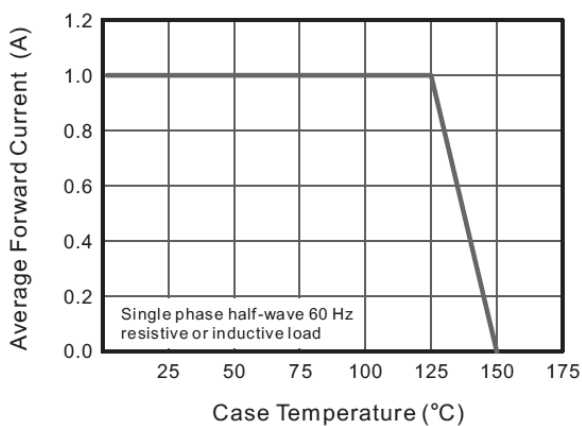


Fig.2 Typical Reverse Characteristics

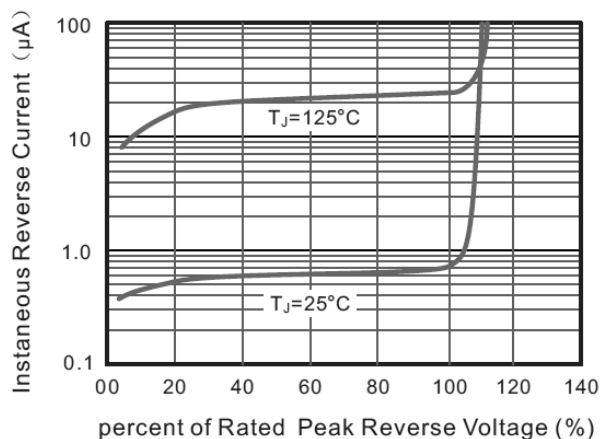


Fig.3 Typical Forward Characteristics

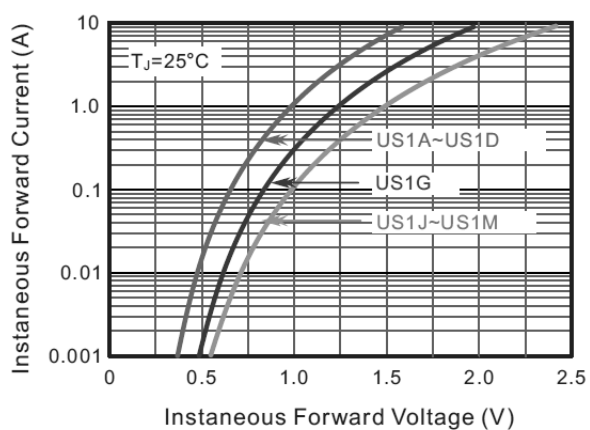


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

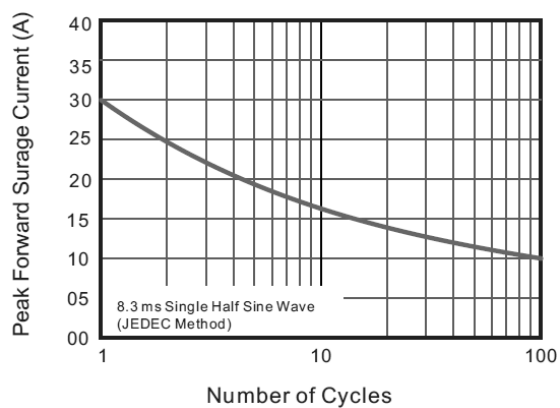


Fig.5- Typical Transient Thermal Impedance

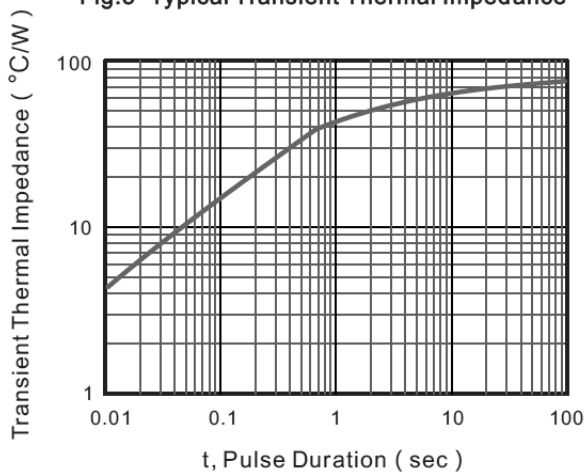


Fig.6 Typical Junction Capacitance

