

US1AD THRU US1MD

Surface Mount Ultrafast RECOVERY RECTIFIER

Reverse Voltage – 50 to 1000 V

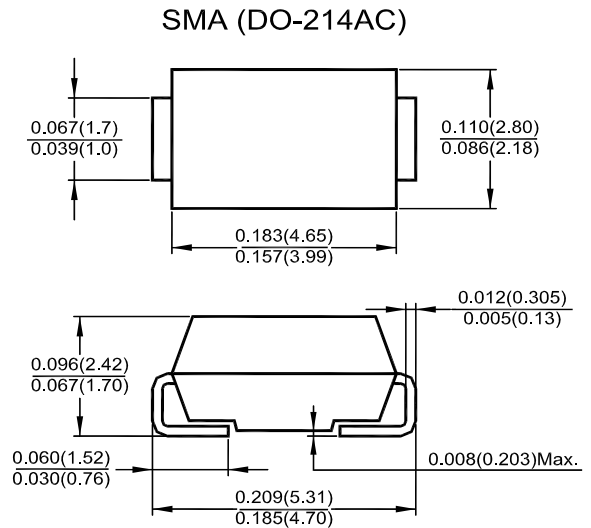
Forward Current – 1 A

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



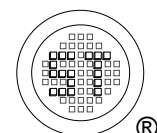
Dimensions in inches and (millimeters)

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 | US1AD | US1BD | US1DD | US1GD | US1JD | US1KD | US1MD | Units |
|--|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| 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 at $T_L = 100\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V_F | 1 | | 1.4 | | 1.7 | | V | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 100\text{ }^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Typical Junction Capacitance at 4 V, 1 MHz | C_j | 17 | | | | | | | pF |
| Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$ | t_{rr} | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance ¹⁾ | $R_{\theta JA}$ | 50 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | - 55 to + 150 | | | | | | | $^\circ\text{C}$ |

¹⁾ Mounted on P.C.B. with 0.2 X 0.2" (5 X 5 mm) copper pad areas.



US1AD THRU US1MD

