



US1AW THRU US1MW

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

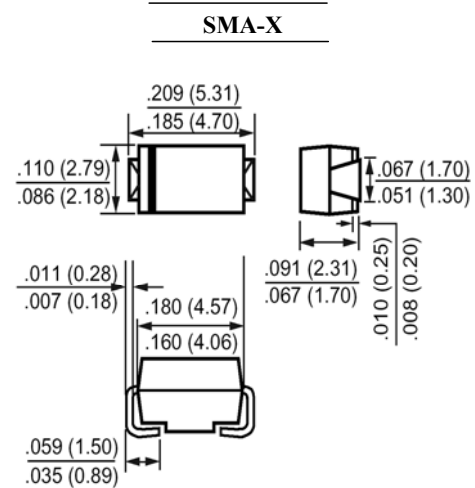
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Ultrafast recovery times for high efficiency
- Suffix "H" indicates Halogen-free parts, ex. US1AWH

MECHANICAL DATA

Case : Molded plastic, SMA-X

Terminals : Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity : Color band denotes cathode end



Dimensions in inchs and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Parameter | Symbols | US1AW | US1BW | US1DW | US1GW | US1JW | US1KW | US1MW | Units | |
|---|-----------------|-------------|-------|-------|-------|-------|-------|-------|-------|------|
| Maximum Recerrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts | |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum Average Forward Rectified Current at $T_L=55^\circ C$ | $I_{(AV)}$ | 1.0 | | | | | | | Amp | |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | Amp | |
| Maximum Forward Voltage at 1.0A | V_F | 1.0 | | | 1.3 | | 1.7 | | Volts | |
| Maximum Reverse Current at $T_A=25^\circ C$ at Rated DC Blocking Voltage $T_A=100^\circ C$ | I_R | 10.0 | | | | 100 | | | | uAmp |
| Typical Junction Capacitance (Note 1) | C_J | 18 | | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JL}$ | 30 | | | | | | | | °C/W |
| Maximum Reverse Recovery Time (Note 3) | T_{RR} | 50 | | | | 75 | | | | nS |
| Operating Junction Temperature Range | T_J | -65 to +150 | | | | | | | °C | |
| Storage Temperature Range | T_{stg} | -65 to +150 | | | | | | | °C | |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions: $I_F=.5A$, $I_R=1A$, $I_{RR}=.25A$.



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RATINGS AND CHARACTERISTIC CURVES

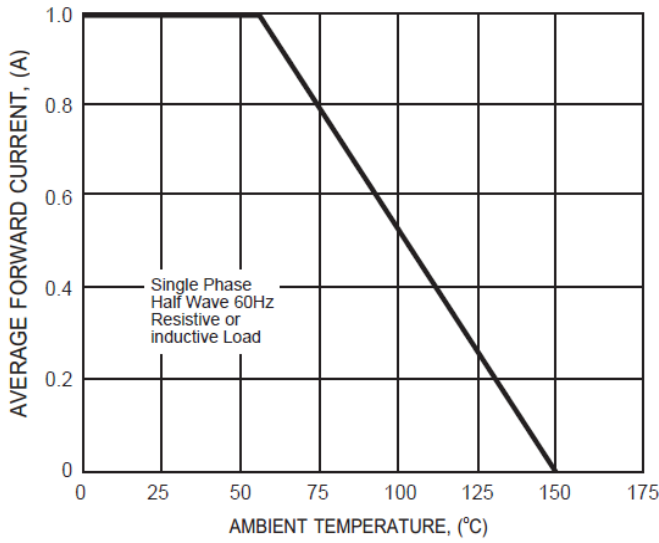


FIG. 1- FORWARD CURRENT DERATING CURVE

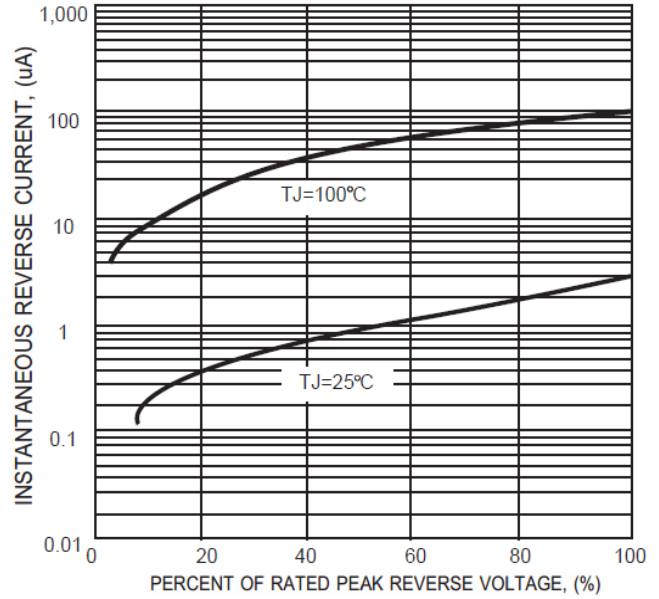


FIG.2 TYPICAL REVERSE CHARACTERISTICS

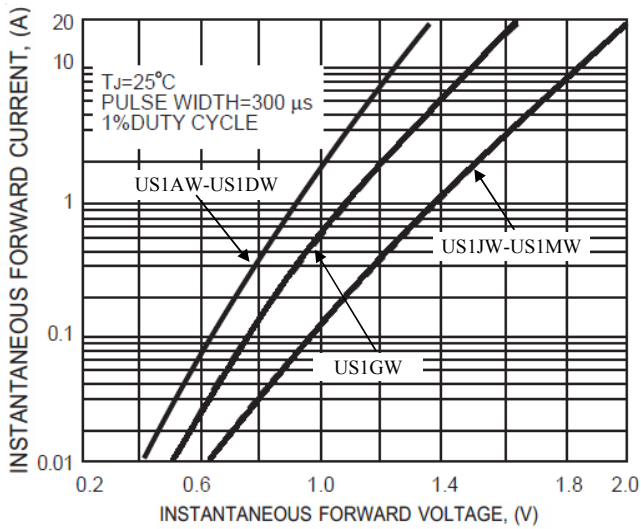


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

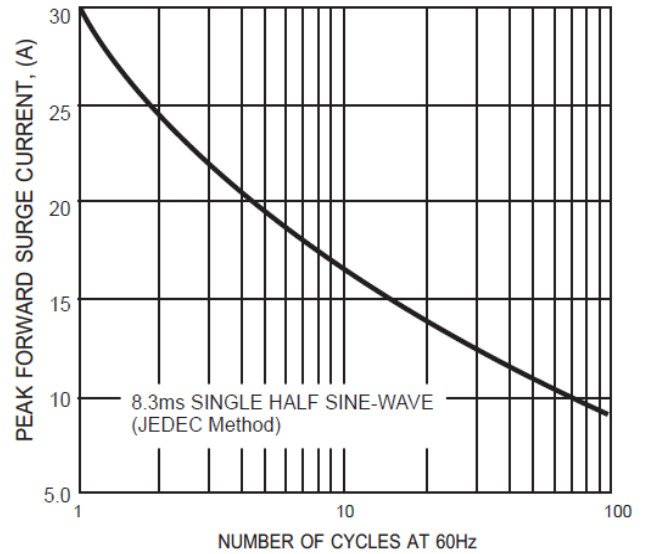


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT