



YENYO

# US1AB THRU US1MB

Surface Mount Ultra Fast Recovery Rectifier

## Features

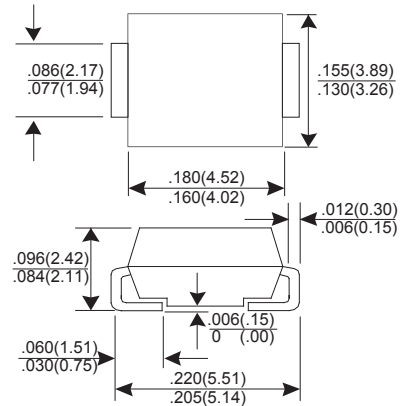
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability
- \* Glass passivated chip

## Mechanical Data

- \* Case: Molded plastic SMB/DO-214AA
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solderable per MIL-STD-750 method 2026
- \* Polarity: Color band denotes cathode
- \* Mounting position: Any
- \* Weight: 0.093 gram

**Voltage Range 50 to 1000 V  
Current 1.0 Ampere**

### SMB/DO-214AA



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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   | SYMBOL   | US1AB       | US1BB | US1DB | US1GB | US1JB | US1KB | US1MB | UNIT     |
|---|----------|-------------|-------|-------|-------|-------|-------|-------|----------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum RMS Voltage   | VRMS     | 35          | 70    | 140   | 280   | 420   | 560   | 700   | V        |
| Maximum DC Blocking Voltage   | VDC      | 50          | 100   | 200   | 400   | 600   | 800   | 1000  | V        |
| Maximum Average Forward Rectified Current $T_L=100^\circ\text{C}$   | IF(AV)   | 1.0         |       |       |       |       |       |       | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)             | IFSM     | 30          |       |       |       |       |       |       | A        |
| Maximum Instantaneous Forward Voltage @ 1.0 A   | VF       | 1.0         |       | 1.3   |       | 1.7   |       | V     |          |
| Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$<br>At Rated DC Blocking Voltage @ $T_J=125^\circ\text{C}$ | IR       | 5.0<br>100  |       |       |       |       |       |       | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)  | Trr      | 50          |       |       |       | 75    |       |       | nS       |
| Typical junction Capacitance (Note 2)   | CJ       | 17          |       |       |       |       |       |       | pF       |
| Maximum Thermal Resistance (Note 3)   | RθJL     | 30          |       |       |       |       |       |       | °C/W     |
| Operating Junction and Storage Temperature Range  | TJ, TSTG | -55 to +150 |       |       |       |       |       |       | °C       |

NOTES : (1) Reverse recovery test conditions  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{rr} = 0.25A$ .  
 (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.  
 (3) Thermal Resistance junction to lead.

# RATINGS AND CHARACTERISTIC CURVES US1AB THRU US1MB

FIG.1 - FORWARD CURRENT DERATING CURVE

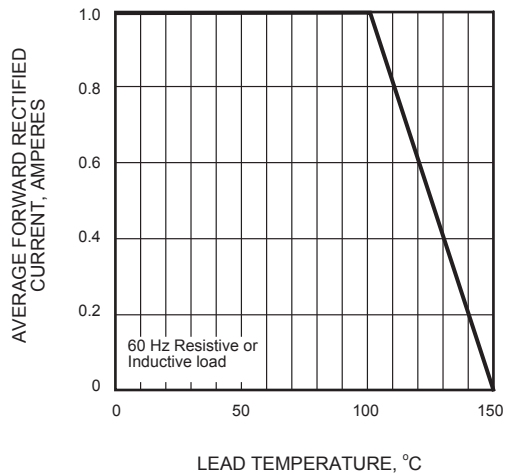


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

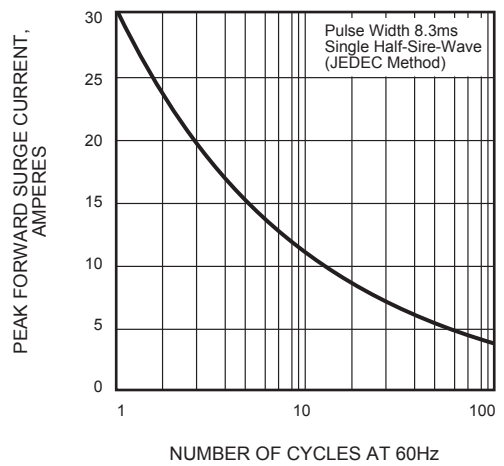


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

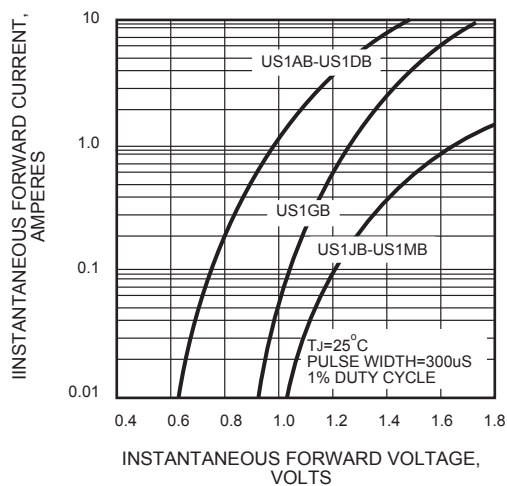


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

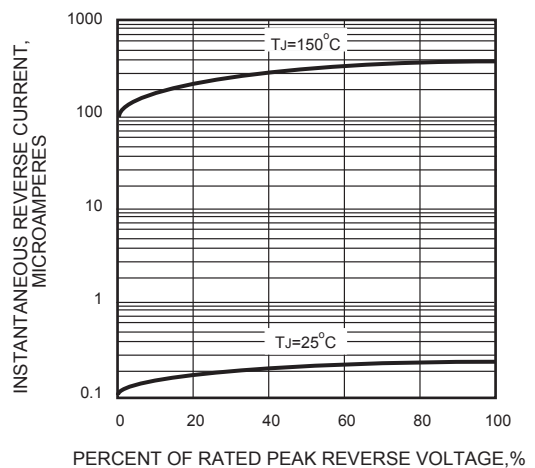


FIG.5 - TYPICAL JUNCTION CAPACITANCE

