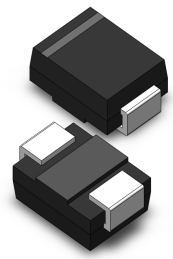
# UF3AB - UF3MB

## SURFACE MOUNT ULTRA FAST RECTIFIER DIODES

**VOLTAGE RANGE: 50 - 1000V**
**CURRENT: 3.0 A**



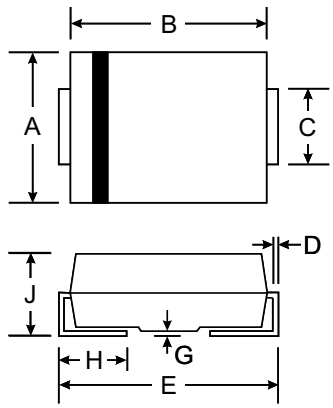
## Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Ultra-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

## Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)

RoHS COMPLIANT




| SMB(DO-214AA) | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 3.30 | 3.94 |
| **B** | 4.06 | 4.70 |
| **C** | 1.91 | 2.21 |
| **D** | 0.15 | 0.31 |
| **E** | 5.00 | 5.59 |
| **G** | 0.10 | 0.20 |
| **H** | 0.76 | 1.52 |
| **J** | 2.00 | 2.62 |
| **All Dimensions in mm** | | |

## Maximum Ratings and Electrical Characteristics $T_A$ = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic | Symbol | UF3AB | UF3BB | UF3DB | UF3GB | UF3JB | UF3KB | UF3MB | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 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 0.375″(9.5mm) lead length at $T_A$=55℃ | $I_{(AV)}$ | 3.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 100.0 | | | | | | | A |
| Maximum instantaneous forward voltage at 3.0A | $V_F$ | 1.0 | | | 1.30 | 1.70 | | | V |
| Maximum DC reverse current $T_A$=25℃ at rated DC blocking voltage $T_A$=100℃ | $I_R$ | 5.0<br>250.0 | | | | | | | μA |
| Maximum reverse recovery time (NOTE 1) | $t_{rr}$ | 50 | | | | 75 | | | ns |
| Typical junction capacitance (NOTE 2) | $C_J$ | 75 | | | | | | | pF |
| Typical thermal resistance (NOTE 3) | $R_{\theta JL}$ | 15.0 | | | | | | | °C/W |
| Operating junction and storage temperature range | $T_J$,$T_{STG}$ | -65 to +150 | | | | | | | °C |

**Note:** 1.Reverse recovery condition $I_{F=0.5A,I}$ R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Thermal resistance from junction to lead and from junction to ambient with P.C.B mounted on 0.3 x 0.3" (8.0 x 8.0 mm) Copper pad area

Fig. 1 – Maximum Forward Current Derating Curve

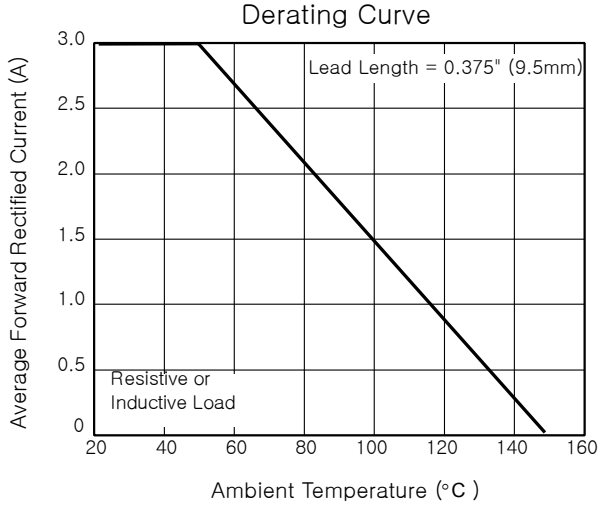



Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

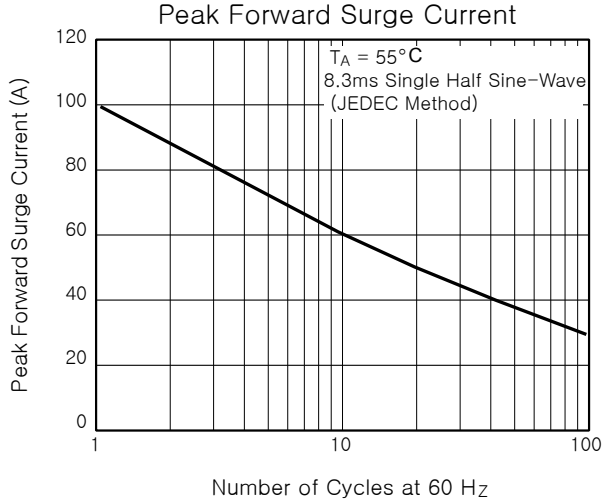



Fig. 3 – Typical Instantaneous Forward Characteristics

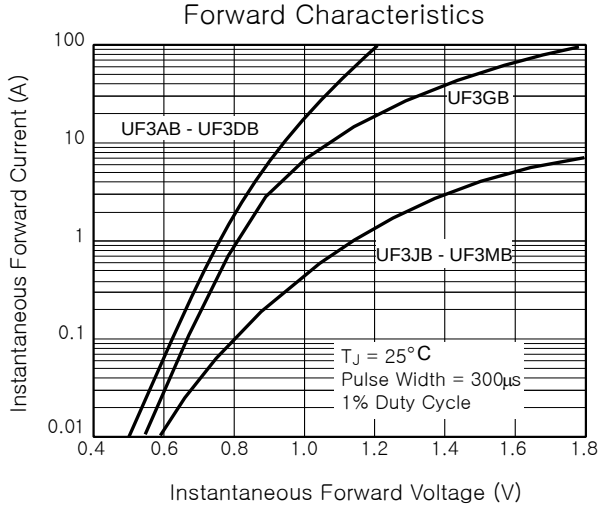



Fig. 4 – Typical Reverse Leakage Characteristics

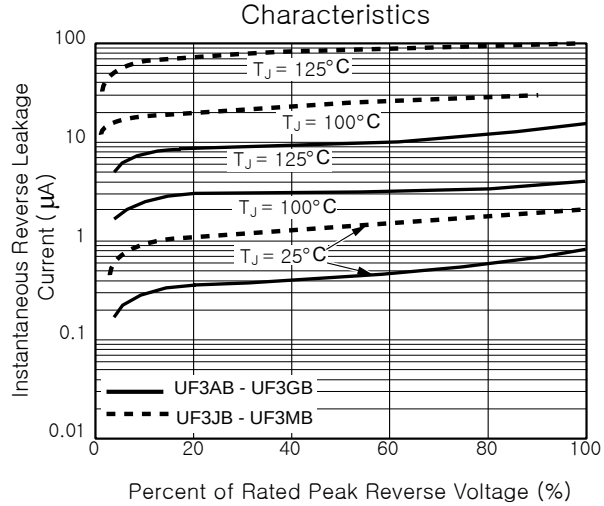



Fig. 5 – Typical Junction Capacitance