

SURFACE MOUNT RECTIFIERS

REVERSE VOLTAGE: 50 - 1000 V
FORWARD CURRENT: 3.0 A

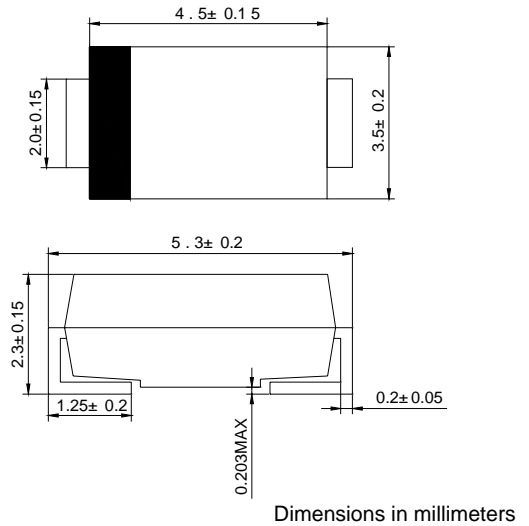
FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Low profile package
- Easypick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering: 250°C/10 seconds on terminals

MECHANICAL DATA

Case: JEDEC DO-214AA, molded plastic body over passivated chip
 Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
 Polarity: Color band denotes cathode end
 Weight: 0.003 ounces, 0.093 gram

DO-214AA(SMB)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | | US3AB | US3BB | US3DB | US3GB | US3JB | US3KB | US3MB | UNITS |
|---|-------------|--------------|-------|-------|-------|-------|-------|-------|--------------------|
| Device marking code | | US3AB | US3BB | US3DB | US3GB | US3JB | US3KB | US3MB | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RWS} | 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 $T_L=110^\circ\text{C}$ | $I_{F(AV)}$ | 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 3A | V_F | 1.0 | | | | 1.7 | | | V |
| Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$ | I_R | 10.0 | | | | 500 | | | μA |
| Maximum reverse recovery time at $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{tr}=0.25\text{A}$ | t_{rr} | 50 | | | | 75 | | | ns |
| Typical junction capacitance at 4.0V, 1MHz | C_J | 70 | | | | 50 | | | pF |
| Maximum thermal resistance (NOTE1) | R_{JA} | 25 | | | | | | | $^\circ\text{C/W}$ |
| Operating temperature range | T_J | -55-----+150 | | | | | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55-----+150 | | | | | | | $^\circ\text{C}$ |

NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm)copper pad area

FIG.1 – FORWARD CURRENT DERATING CURVE

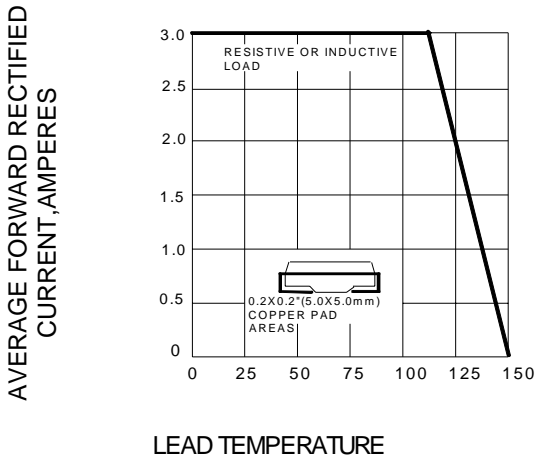


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

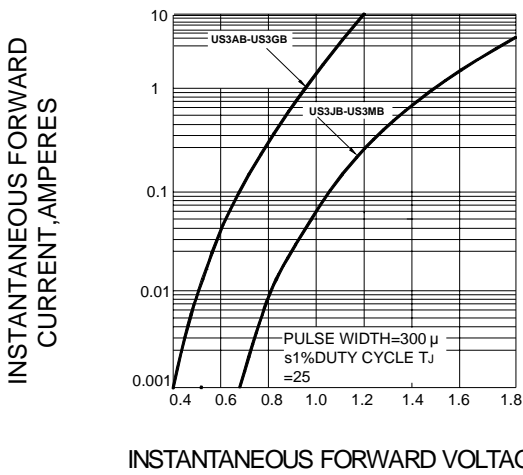


FIG.5 – TYPICAL JUNCTION CAPACITANCE

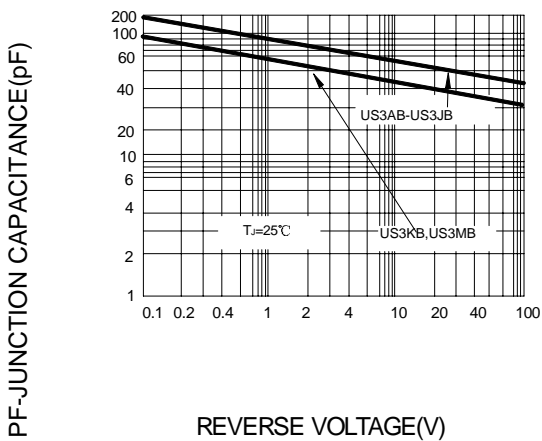


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

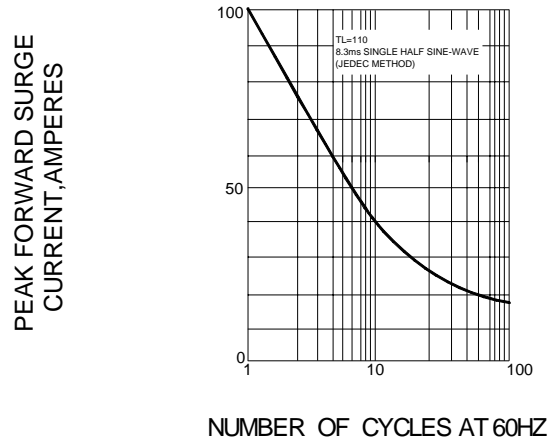


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

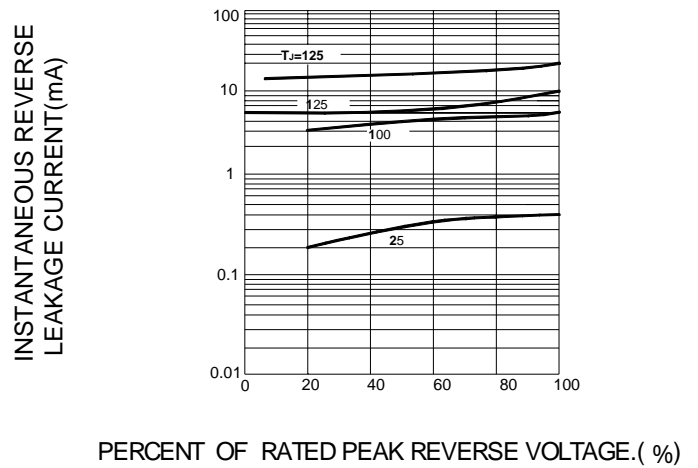


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

