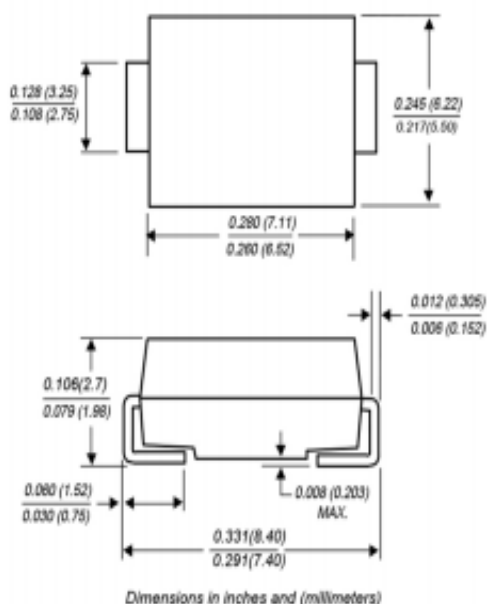


## SURFACE MOUNT ULTRA FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 5.0 Amperes

### DO-214AB



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction

### MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body over passivated chip  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight :** 0.22 gram

### 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 current derate by 20%.

|   | SYMBOLS         | US5AC         | US5BC | US5DC | US5GC | US5JC | US5KC | US5MC | UNITS              |
|---|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum repetitive 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 $T_L=55^\circ\text{C}$                                       | $I_{(AV)}$      | 5.0           |       |       |       |       |       |       | Amps               |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method)       | $I_{FSM}$       | 150.0         |       |       |       |       |       |       | Amps               |
| Maximum instantaneous forward voltage at 5.0A   | $V_F$           | 1.0           |       | 1.4   | 1.85  |       |       | Volts |                    |
| Maximum DC reverse current $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage $T_A=100^\circ\text{C}$ | $I_R$           | 10.0<br>250.0 |       |       |       |       |       |       | $\mu\text{A}$      |
| Maximum reverse recovery time (NOTE 1)  | $t_{rr}$        | 50            |       |       | 100   |       |       | ns    |                    |
| Typical junction capacitance (NOTE 2)   | $C_J$           | 98            |       |       | 82    |       |       | pF    |                    |
| Typical thermal resistance  | $R_{\theta JA}$ | 47.0          |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -65 to +150   |       |       |       |       |       |       | $^\circ\text{C}$   |

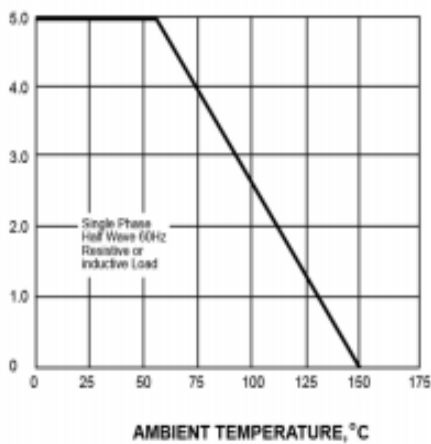
**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

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

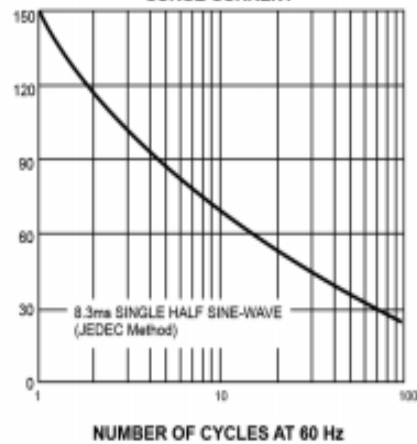
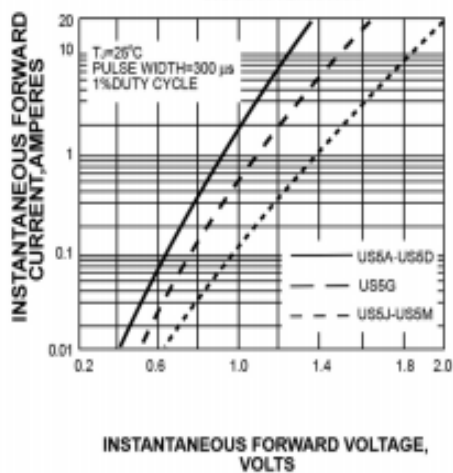


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

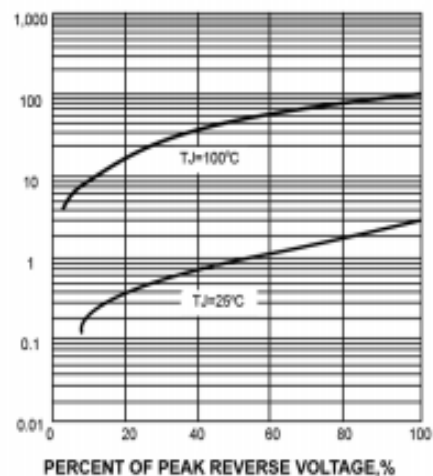
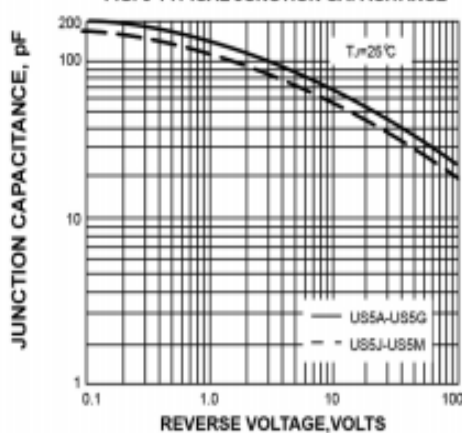


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

