

Pb Free Plating Product

## ES5AB thru ES5JB



5.0 Ampere Surface Mount Type Super Fast Recovery Rectifier Diodes

### FEATURE

- ◆ Glass passivated chip junction
- ◆ 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

### MECHANICAL DATA

**Case:** SMB/DO-214AA Package

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode band

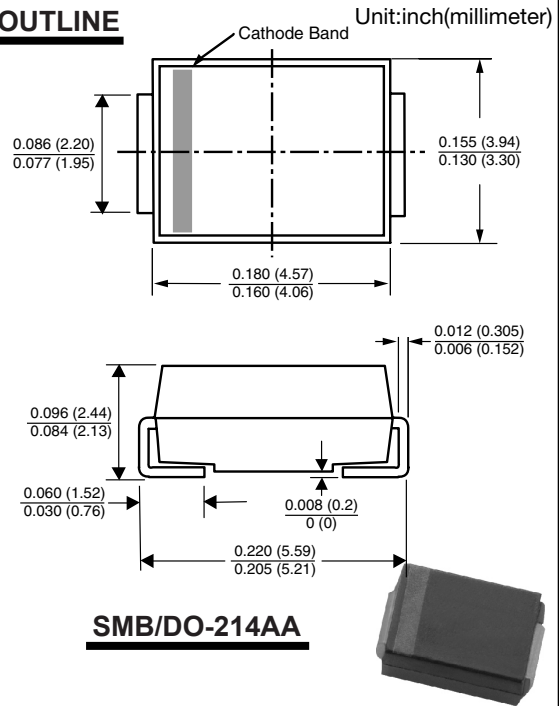
**Mounting Position:** Any

**Weight:** 0.11 gram approximately

### APPLICATION

- ◆ LED SMPS/Industrial power supply
- ◆ HID ballast stabilizer
- ◆ Telecommunication SMPS/LED street lamp

### OUTLINE



### 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%.

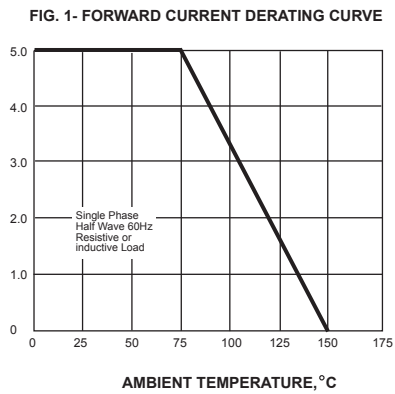
|   | SYMBOLS         | ES5AB         | ES5BB | ES5CB | ES5DB | ES5EB | ES5GB | ES5JB | UNITS              |
|---|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50            | 100   | 150   | 200   | 300   | 400   | 600   | VOLTS              |
| Maximum RMS voltage   | $V_{RMS}$       | 35            | 70    | 105   | 140   | 210   | 280   | 420   | VOLTS              |
| Maximum DC blocking voltage   | $V_{DC}$        | 50            | 100   | 150   | 200   | 300   | 400   | 600   | VOLTS              |
| Maximum average forward rectified current at $T_L=75^\circ\text{C}$                                       | $I_{(AV)}$      | 5.0           |       |       |       |       |       |       | Amps               |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method)       | $I_{FSM}$       | 125           |       |       |       |       |       |       | Amps               |
| Maximum instantaneous forward voltage at 5.0A   | $V_F$           | 0.95          |       |       | 1.3   |       | 1.7   |       | 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>300.0 |       |       |       |       |       |       | $\mu\text{A}$      |
| Maximum reverse recovery time (NOTE 1)  | $t_{rr}$        | 35            |       |       |       |       |       |       | ns                 |
| Typical junction capacitance (NOTE 2)   | $C_J$           | 58.0          |       |       |       |       |       |       | 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  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$

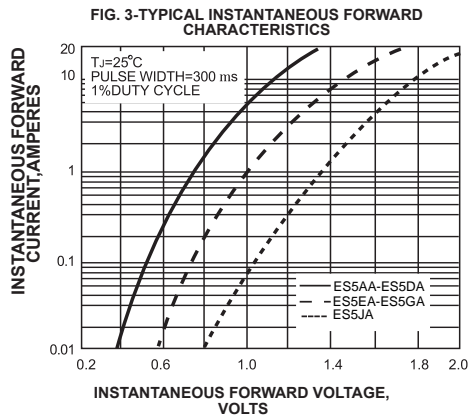
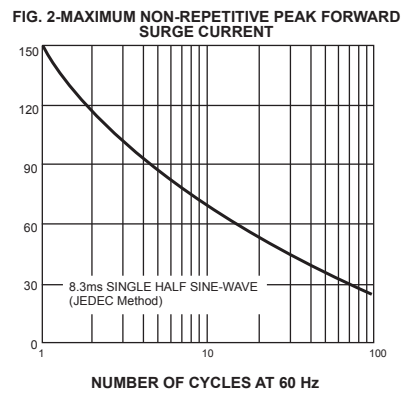
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATINGS AND CHARACTERISTIC CURVES ES5AB thru ES5JB

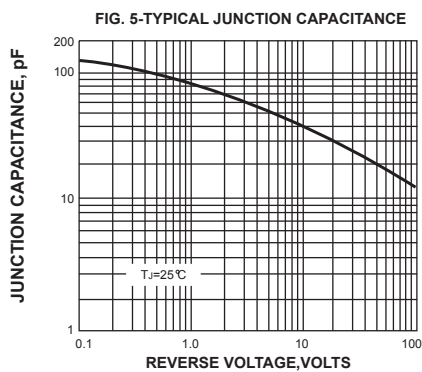
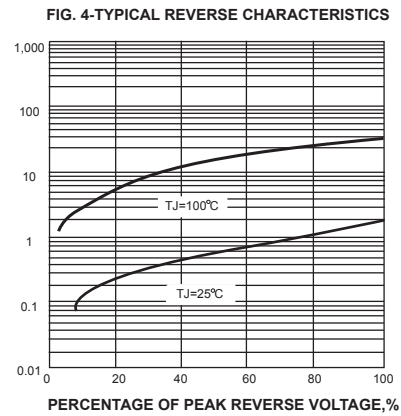
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



PEAK FORWARD SURGE CURRENT, AMPERES



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



TRANSIENT THERMAL IMPEDANCE, °C/W

