



ES3AB thru ES3MB

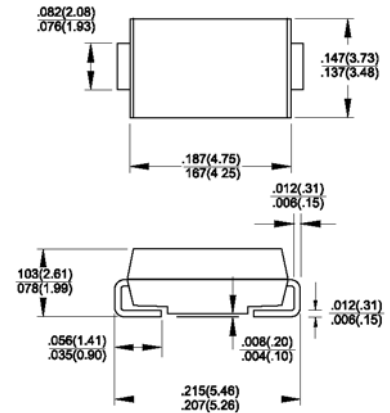
Super Fast Surface Mount Rectifiers
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

Features

- ◆ Glass passivated chip
- ◆ Super fast switching for high efficiency
- ◆ For surface mounted applications
- ◆ Low forward voltage drop and high current capability
- ◆ Low reverse leakage current
- ◆ Plastic material has UL flammability classification 94V-0



DO-214AA (SMB)



Mechanical Data

- ◆ Case : Molded plastic
- ◆ Polarity : Color band denote cathode
- ◆ Weight : 0.003 ounce, 0.093 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, derate current by 20%

| Parameter | Symbols | ES 3AB | ES 3BB | ES 3CB | ES 3DB | ES 3FB | ES 3GB | ES 3JB | ES 3KB | ES 3MB | Units | |
|---|------------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|--------------------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | 700 | Volts | |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum average forward rectified current @ $T_L=100^\circ\text{C}$ | I_{AV} | 3.0 | | | | | | | | | Amps | |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 100.0 | | | | | | | | | Amps | |
| Maximum forward voltage @ 3.0A DC | V_F | 0.92 | | | 1.25 | | | 1.7 | | | Volts | |
| Maximum DC reverse current at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$ | I_R | 10.0 | | | | | 500 | | | | | μA μA |
| Maximum reverse recovery time (Note 1) | t_{rr} | 25 | | | | | 25 | | | | | nS |
| Typical junction capacitance (Note 2) | C_j | 45 | | | | | 45 | | | | | pF |
| Typical thermal resistance (Note 3) (Note 4) | $R_{\theta JL}$ $R_{\theta JA}$ | 10 | | | | | 50 | | | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_J | -55 to +150 | | | | | | | | | $^\circ\text{C}$ | |
| Storage temperature range | T_{STG} | -55 to +150 | | | | | | | | | $^\circ\text{C}$ | |

- Notes:**
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Thermal Resistance junction to Lead.
 4. Thermal Resistance junction to Ambient.

RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

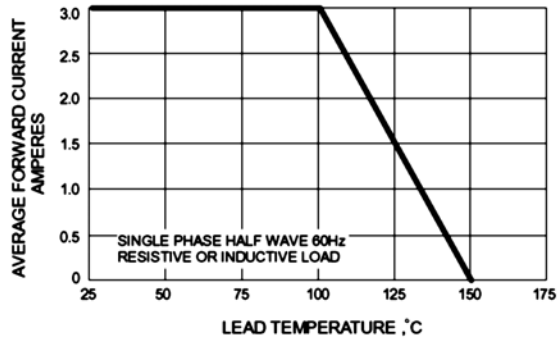


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

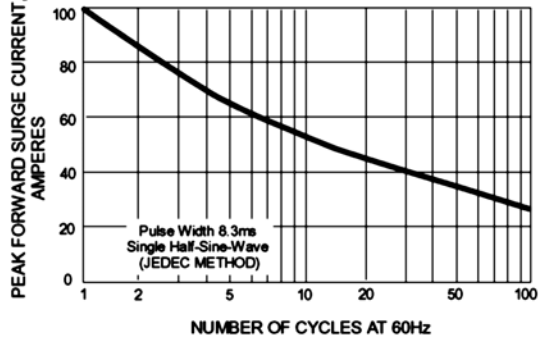


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

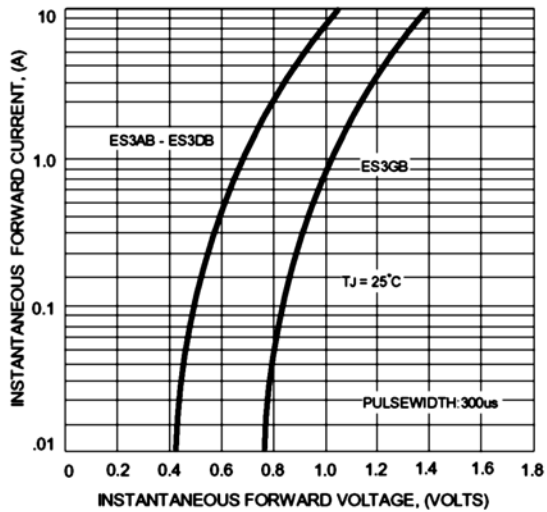


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

