

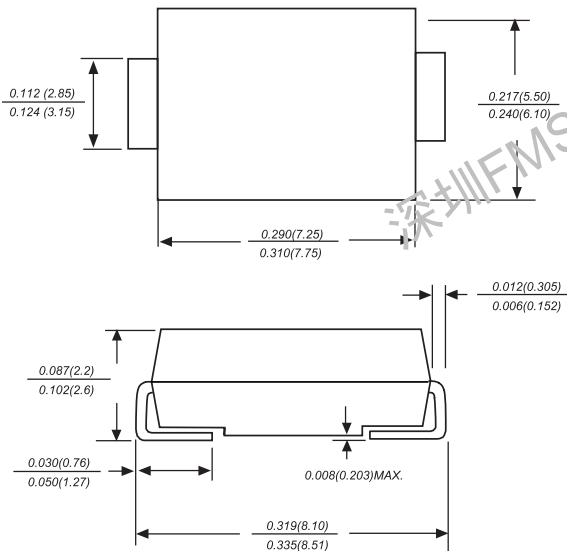
SURFACE MOUNT SUPER FAST RECTIFIER

Formosa MS

ES3J THRU ES3M

Reverse Voltage - 600 to 1000 Volts Forward Current - 3.0 Amperes

SMC /DO-214AB



Dimensions in inches and (millimeters)

FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Super fast switching for high efficiency
- ◆ 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: JEDEC DO-214AB molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.008 ounce, 0.217 grams

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%.

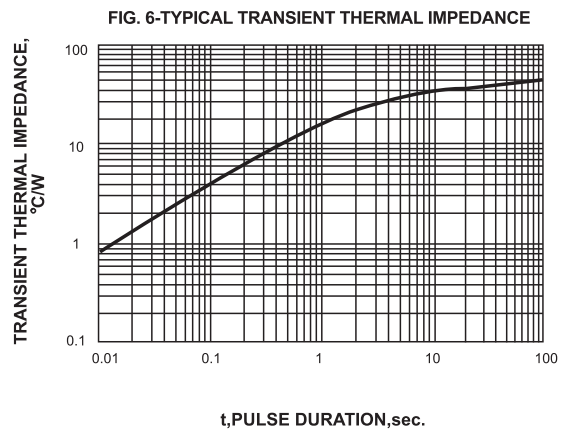
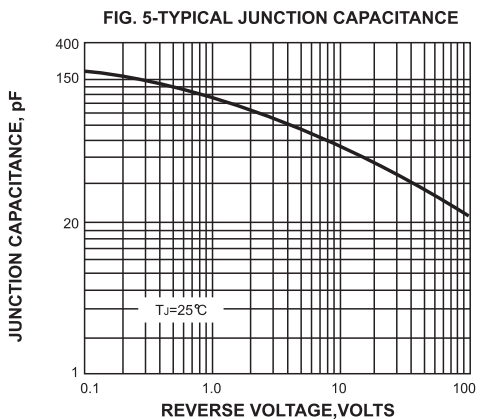
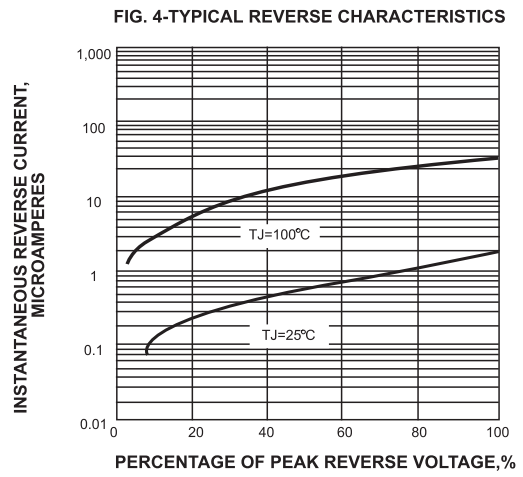
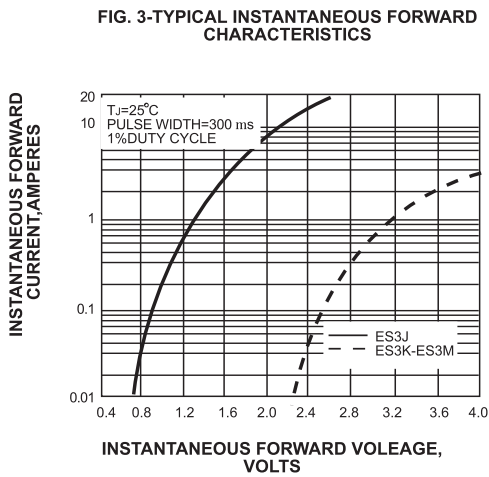
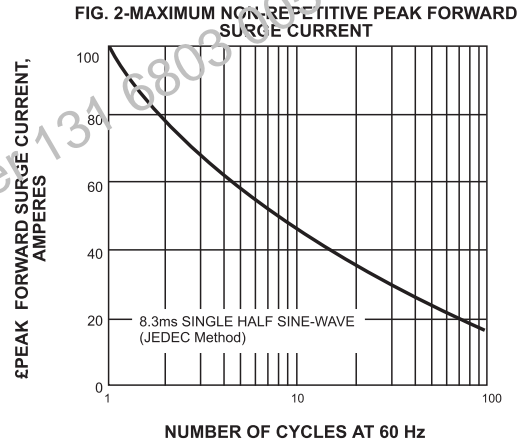
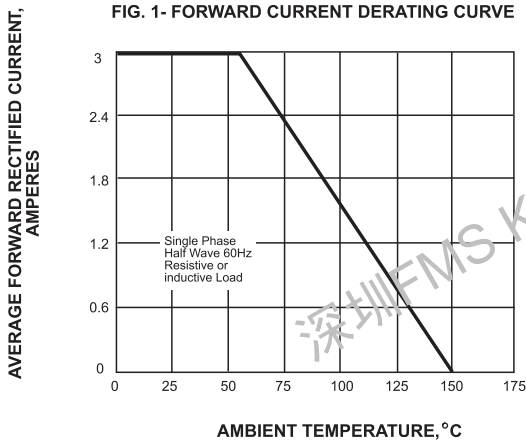
| | SYMBOLS | ES3J | ES3K | ES3M | UNITS |
|---|----------------|-------------|------|------|--------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 600 | 800 | 1000 | VOLTS |
| Maximum RMS voltage | V_{RMS} | 420 | 560 | 700 | VOLTS |
| Maximum DC blocking voltage | V_{DC} | 600 | 800 | 1000 | VOLTS |
| Maximum average forward rectified current at $T_L=55^\circ C$ | $I_{(AV)}$ | 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 instantaneous forward voltage at 3.0A | V_F | 1.7 | 3.2 | | Volts |
| Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=100^\circ C$ | I_R | 5.0 50.0 | | | μA |
| Maximum reverse recovery time (NOTE 1) | t_{rr} | 35 | | | ns |
| Typical junction capacitance (NOTE 2) | C_J | 130.0 | | | pF |
| Typical thermal resistance (NOTE 3) | R_{qJA} | 40.0 | | | $^\circ C/W$ |
| Operating junction and storage temperature range | T_J, T_{STG} | -65 to +150 | | | $^\circ C$ |

- Note:**
1. Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. P.C.B. mounted with 0.6x0.6" (16x16mm) copper pad areas



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RATINGS AND CHARACTERISTIC CURVES ES3J THRU ES3M

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|-------------|-------------|--------------|----------|------|
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