

ES2A THRU ES2J

2.0 AMP. SUPER FAST RECOVERY SILICON RECTIFIERS



FEATURES

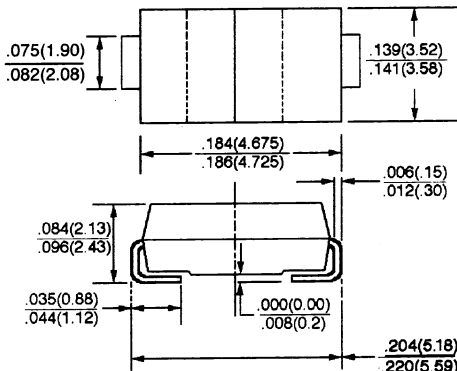
- * For surface mounted application
- * Extremely low thermal resistance
- * Easy pick and place
- * High temp soldering: 250°C for 10 seconds at terminals
- * Superfast recovery times for high efficiency

MECHANICAL DATA

- * Case: Molded plastic
- * Terminals: Solder plated
- * Polarity: Indicated by cathod band
- * Packaging: 12mm tape per EIA STD RS-481
- * Weight: 0.093 grams

VOLTAGE RANGE
50 to 600 Volts

SMB/DO-214AA



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum thermal resistance: 15°C/W Junction to lead.

Rating at 25°C ambient temperature unless otherwise specified.

| TYPE NUMBER | SYMBOLS | ES2A | ES2B | ES2C | ES2D | ES2G | ES2J | UNITS |
|--|----------------|-------------------------------|------|------|------|------|------|-------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 50 | 200 | 400 | 600 | V |
| Maximum Average Forward Rectified Current $T_J = 75^{\circ}C$ | $I_{F(AV)}$ | 2.0 | | | | | | A |
| Peak Forward Surge Current, (8.3 ms half sine) | I_{FSM} | 50 | | | | | | A |
| Maximum Instantaneous Forward Voltage(Note 1) $I_{FM} = 2.0A$ $T_J = 25^{\circ}C$ | V_F | 0.95 | | | | 1.35 | 1.7 | V |
| Maximum D. C Reverse Current @ $T_A = 25^{\circ}C$ at Rated D. C. Blocking Voltage @ $T_A = 100^{\circ}C$ | I_R | 10 350 | | | | | | μA |
| Maximum Reverse Recovery Time(Note 2) | T_{rr} | 35 | | | | | | nS |
| Typical Junction Capacitance (Note 3) | C_J | 25 | | | | 20 | | pF |
| Operating and Storage Temperature Range | T_J/ T_{STG} | - 50 to + 150 / - 50 to + 150 | | | | | | $^{\circ}C$ |

NOTES: 1. Pulse test: Pulse width 300 μsec , Duty cycle 1%

2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$

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

RATINGS AND CHARACTERISTIC CURVES (ES2A THRU ES2J)

Figure 1 – Typical Forward Characteristics

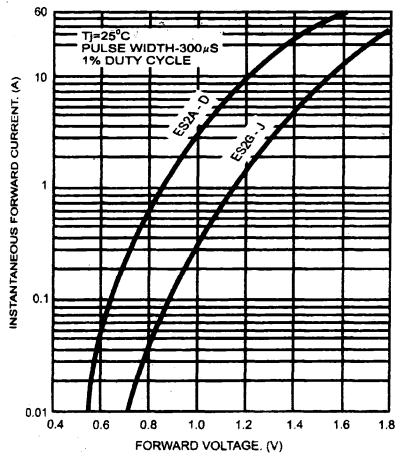


Figure 2 – Forward Current Derating Curve

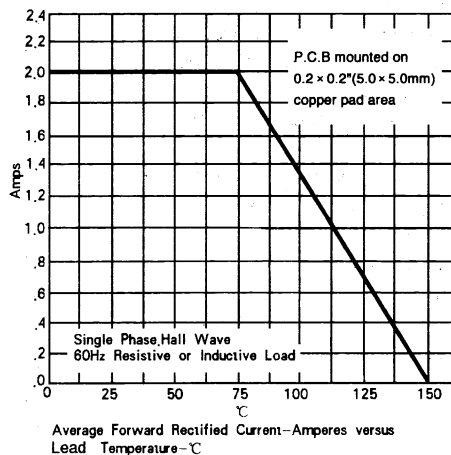
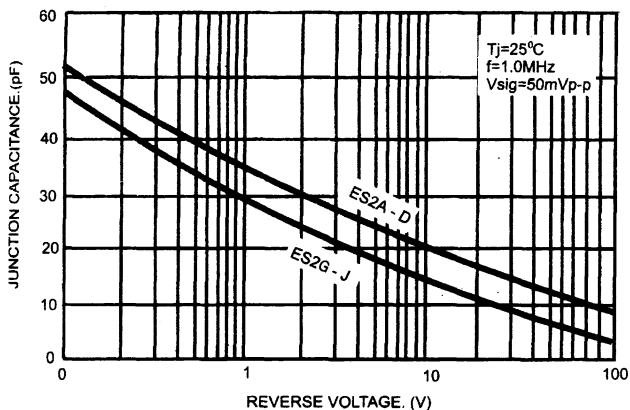


Figure 3 – Typical Junction Capacitance



RATINGS AND CHARACTERISTIC CURVES (ES2A THRU ES2J)

Figure 4 – Maximum – Non – repetitive
Surge Current

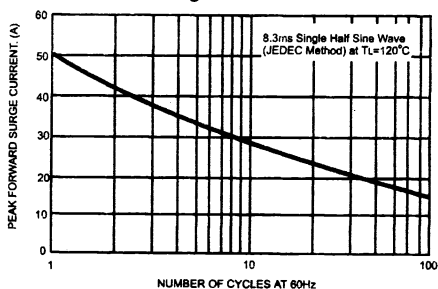


Figure 5 – SUGGESTED SOLDER PAD LAYOUT

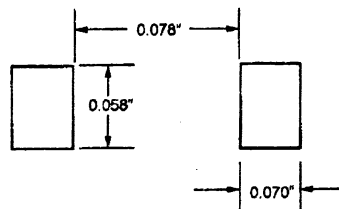
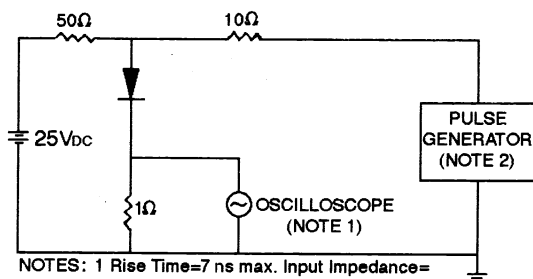


Figure 6 – Reverse Recovery Time Characteristic And Test Circuit Diagram



- NOTES: 1 Rise Time=7 ns max. Input Impedance= 1 megohm 22pF
2 Rise Time=10ns max. Source Impedance= 50 ohms
3 Resistors are non-inductive

