

ES2A THRU ES2J

2.0 AMP. SUPER FAST RECOVERY SILICON RECTIFIERS



FEATURES

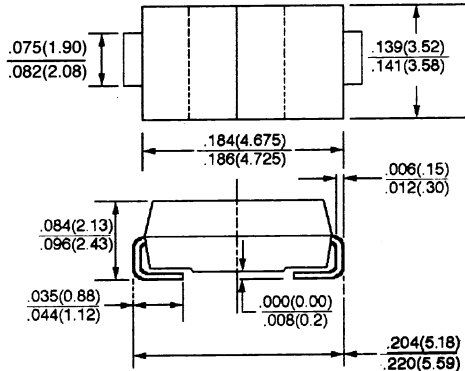
- * For surface mounted application
- * Extremely low thermal resistance
- * Easy pick and place
- * High temp soldering: 250°C for 10 seconds at terminals
- * Superfast recovery times for high efficiency

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



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 $T_J = 75^\circ\text{C}$	$I_{F(AV)}$	2.0						A
Peak Forward Surge Current, (8.3 ms half sine)	I_{FSM}	50						A
Maximum Instantaneous Forward Voltage (Note 1) $I_{FM} = 2.0\text{A}$ $T_J = 25^\circ\text{C}$	V_F	0.95				1.35	1.7	V
Maximum D. C Reverse Current at Rated D. C. Blocking Voltage	I_R				10 350			μA
								@ $T_A = 25^\circ\text{C}$ @ $T_A = 100^\circ\text{C}$
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						°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

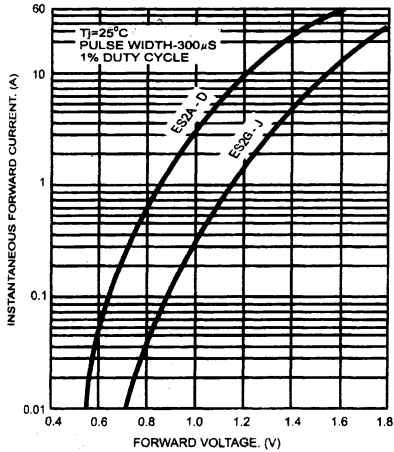


Figure 2 - Forward Current Derating Curve

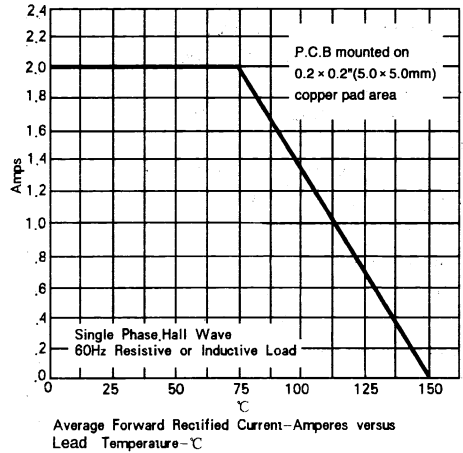
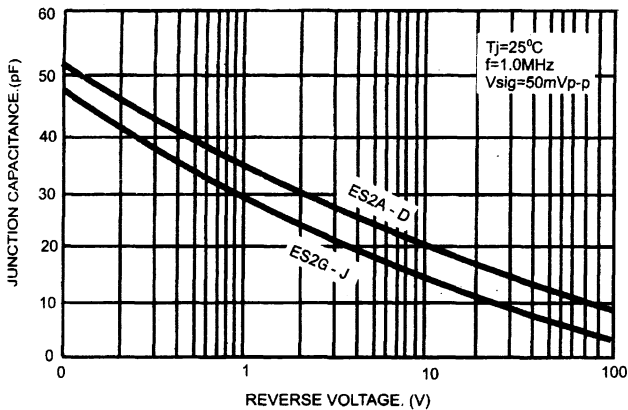


Figure 3 - Typical Junction Capacitance



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Figure 4 – Maximum – Non – repetitive Surge Current

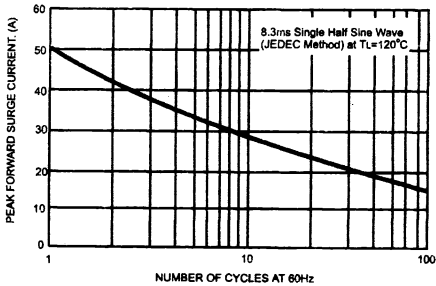


Figure 5 – SUGGESTED SOLDER PAD LAYOUT

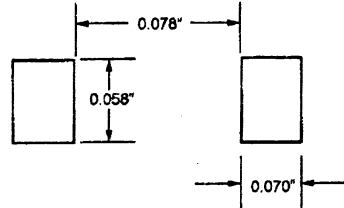
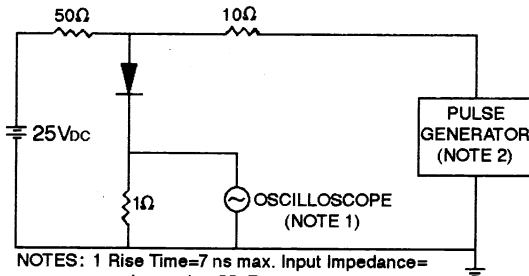


Figure 6 – Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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

