

# ES2A THRU ES2J

2.0 AMP. SUPER FAST RECOVERY SILICON RECTIFIERS



## FEATURES

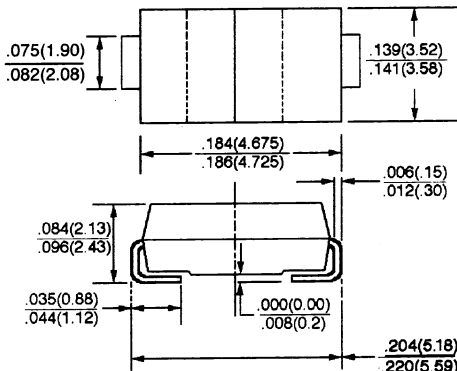
- \* For surface mounted application
- \* Extremely low thermal resistance
- \* Easy pick and place
- \* High temp soldering: 250°C for 10 seconds at terminals
- \* Superfast recovery times for high efficiency

## 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 <sub>RRM</sub>	50	100	150	200	400	600	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	280	420	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	50	200	400	600	V
Maximum Average Forward Rectified Current T <sub>J</sub> = 75°C	I <sub>F(AV)</sub>	2.0						A
Peak Forward Surge Current, (8.3 ms half sine)	I <sub>FSM</sub>	50						A
Maximum Instantaneous Forward Voltage( Note 1) I <sub>FM</sub> = 2.0A T <sub>J</sub> = 25°C	V <sub>F</sub>	0.95				1.35	1.7	V
Maximum D. C Reverse Current @ T <sub>A</sub> = 25°C at Rated D. C. Blocking Voltage @ T <sub>A</sub> = 100°C	I <sub>R</sub>	10 350						μA
Maximum Reverse Recovery Time( Note 2)	T <sub>rr</sub>	35						nS
Typical Junction Capacitance ( Note 3)	C <sub>J</sub>	25				20		pF
Operating and Storage Temperature Range	T <sub>J</sub> / T <sub>STG</sub>	- 50 to + 150 / - 50 to + 150						°C

NOTES: 1. Pulse test: Pulse width 300  $\mu\text{sec}$ , 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

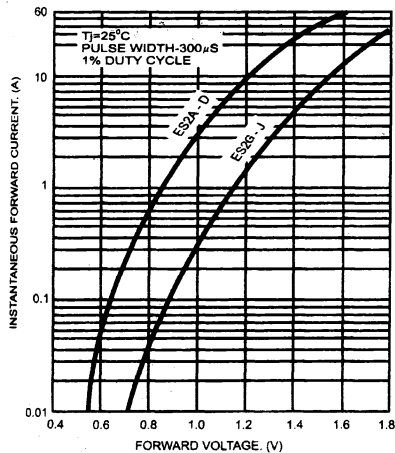


Figure 2 – Forward Current Derating Curve

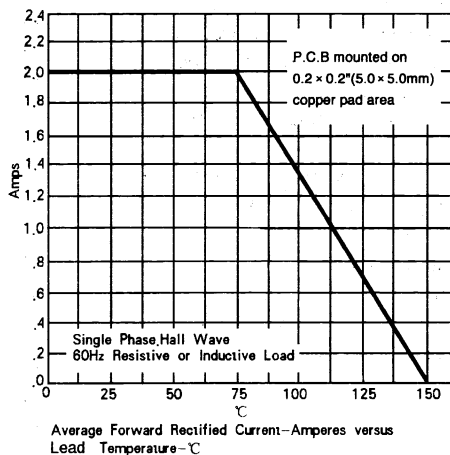
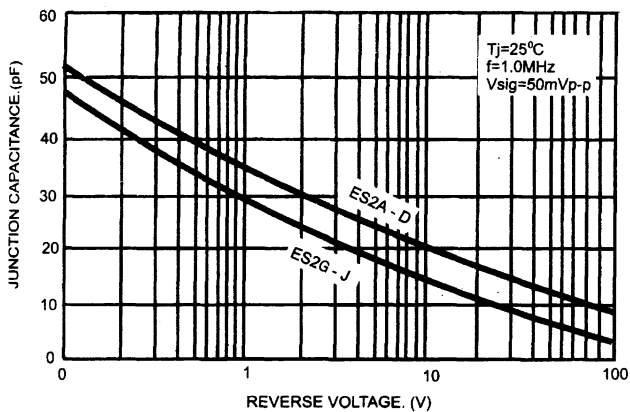


Figure 3 – Typical Junction Capacitance



## RATINGS AND CHARACTERISTIC CURVES (ES2A THRU ES2J)

Figure 4 – Maximum – Non – repetitive  
Surge Current

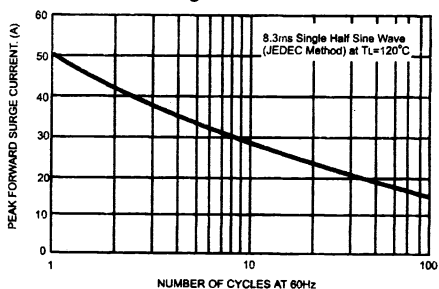


Figure 5 – SUGGESTED SOLDER PAD LAYOUT

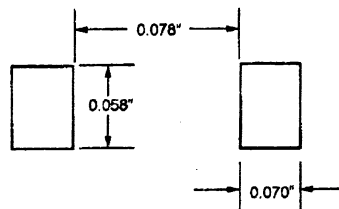
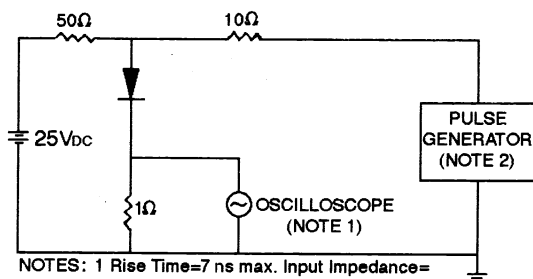


Figure 6 – Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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

