



# ES2A THRU ES2J

## 2.0 AMPS. Super Fast Surface Mount Rectifiers



Voltage Range  
50 to 600 Volts  
Current  
2.0 Amperes

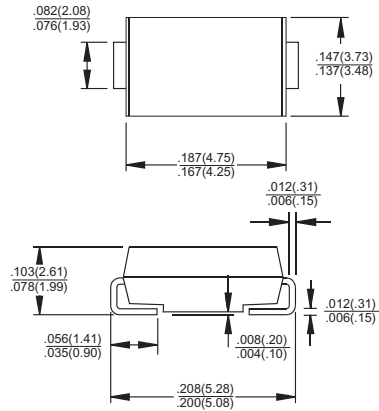
### Features

- ✧ Glass passivated junction chip
- ✧ For surface mounted application
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Ideal for automated placement
- ✧ Easy pick and place
- ✧ Superfast recovery time for high efficiency
- ✧ Glass passivated chip junction
- ✧ High temperature soldering:  
260°C/10 seconds at terminals
- ✧ Plastic material used carries Underwriters  
Laboratory Classification 94V-O

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per E1A STD RS-481
- ✧ Weight: 0.093 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number  | Symbol                             | ES 2A        | ES 2B | ES 2C | ES 2D | ES 2F | ES 2G | ES 2H | ES 2J | Units    |
|--|------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|----------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$                          | 50           | 100   | 150   | 200   | 300   | 400   | 500   | 600   | V        |
| Maximum RMS Voltage  | $V_{RMS}$                          | 35           | 70    | 105   | 140   | 210   | 280   | 350   | 420   | V        |
| Maximum DC Blocking Voltage  | $V_{DC}$                           | 50           | 100   | 150   | 200   | 300   | 400   | 500   | 600   | V        |
| Maximum Average Forward Rectified Current See Fig. 1   | $I_{(AV)}$                         | 2.0          |       |       |       |       |       |       |       | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)         | $I_{FSM}$                          | 50           |       |       |       |       |       |       |       | A        |
| Maximum Instantaneous Forward Voltage @ 2.0A   | $V_F$                              | 0.95         |       |       | 1.3   |       | 1.7   |       |       | V        |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | $I_R$                              |              |       |       |       | 10    |       |       |       | uA<br>uA |
| Maximum Reverse Recovery Time ( Note 1 )   | $T_{rr}$                           | 35           |       |       |       |       |       |       |       | nS       |
| Typical Junction Capacitance ( Note 2 )  | $C_j$                              | 25           |       |       |       | 20    |       |       |       | pF       |
| Maximum Thermal Resistance (Note 3)  | $R_{\theta JA}$<br>$R_{\theta JL}$ |              |       |       |       | 75    |       |       |       | °C/W     |
|  |                                    |              |       |       |       | 20    |       |       |       |          |
| Operating Temperature Range  | $T_J$                              | -55 to +150  |       |       |       |       |       |       |       | °C       |
| Storage Temperature Range  | $T_{STG}$                          | -55 to + 150 |       |       |       |       |       |       |       | °C       |

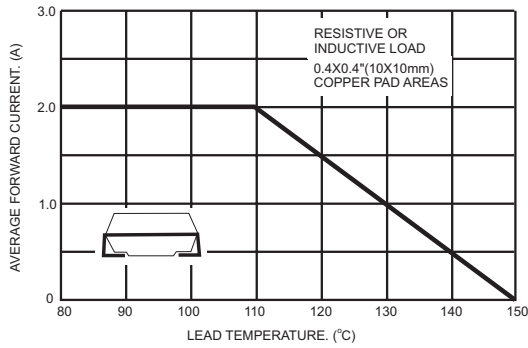
Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $IRR=0.25A$

2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts

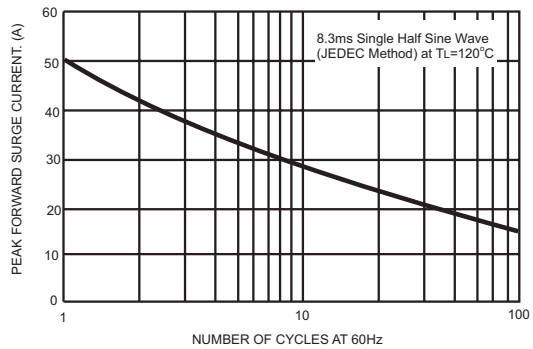
3. Units Mounted on P.C.B. 0.4 x 0.4" (10 x 10mm) Pad Areas

## RATINGS AND CHARACTERISTIC CURVES (ES2A THRU ES2J)

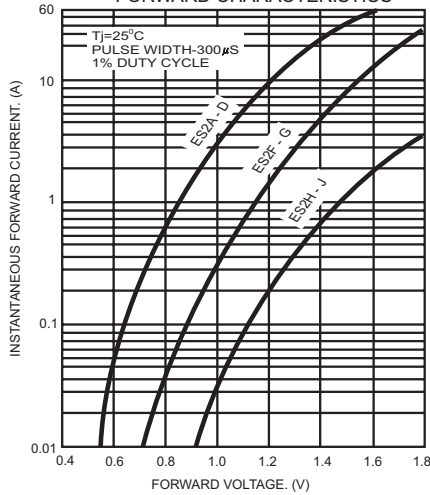
**FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE**



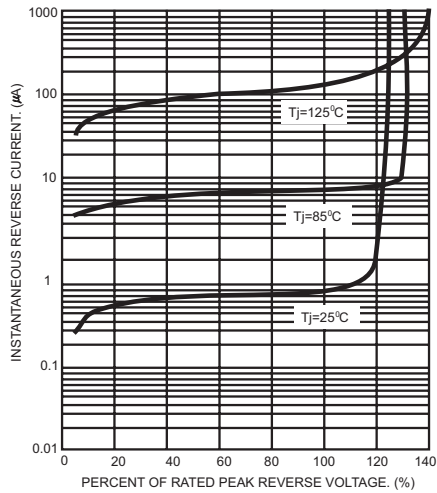
**FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



**FIG.5- TYPICAL JUNCTION CAPACITANCE**

