

# Superfast Recovery Rectifier 50V~600V 1A DO-214AC SMA

ES1xA

MERITEK

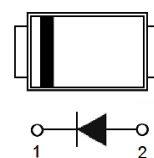
## FEATURE

- Glass Passivated Chip Junction
- High Forward Surge Current Capability
- Built-in Strain Relief, Ideal for Automated Placement
- Super-Fast Switching for High Efficiency
- Low Reverse Leakage



## MECHANICAL DATA

- Case: Molded Plastic, DO-214AC (SMA)
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Flammability Classification 94V-0
- Polarity: Color Band Denotes Cathode End



## ELECTRICAL CHATACTERISTIC

| Parameter                                                                         | Symbol                | ES1AA          | ES1BA | ES1CA | ES1DA | ES1EA | ES1GA | ES1JA | Unit |
|-----------------------------------------------------------------------------------|-----------------------|----------------|-------|-------|-------|-------|-------|-------|------|
| Maximum Recurrent Peak Reverse Voltage                                            | V <sub>RRM</sub>      | 50             | 100   | 150   | 200   | 300   | 400   | 600   | V    |
| Maximum RMS Voltage                                                               | V <sub>RMS</sub>      | 35             | 70    | 105   | 140   | 210   | 280   | 420   | V    |
| Maximum DC Blocking Voltage                                                       | V <sub>DC</sub>       | 50             | 100   | 150   | 200   | 300   | 400   | 600   | V    |
| Maximum Average Forward Rectified Current                                         | I <sub>F(AV)</sub>    | 1.0            |       |       |       |       |       |       | A    |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rate load | I <sub>FSM</sub>      | 30             |       |       |       |       |       |       | A    |
| Maximum Forward Voltage at I <sub>F</sub> =1A                                     | V <sub>F</sub>        | 0.95           |       |       |       | 1.25  |       | 1.70  | V    |
| Maximum Reverse Current at Rated DC Blocking Voltage                              | T <sub>J</sub> =25°C  | I <sub>R</sub> | 5.0   |       |       |       |       |       | μA   |
|                                                                                   | T <sub>J</sub> =100°C |                | 50    |       |       |       |       |       |      |
| Thermal Resistance from junction to ambient                                       | R <sub>ΘJA</sub>      | 60             |       |       |       |       |       |       | °C/W |
| Maximum Reverse Recovery Time                                                     | t <sub>rr</sub>       | 35             |       |       |       |       |       |       | nS   |
| Operating Junction Temperature Range                                              | T <sub>J</sub>        | -55 ~ +150     |       |       |       |       |       |       | °C   |
| Storage Temperature Range                                                         | T <sub>STG</sub>      | -65 ~ +150     |       |       |       |       |       |       | °C   |

Notes:

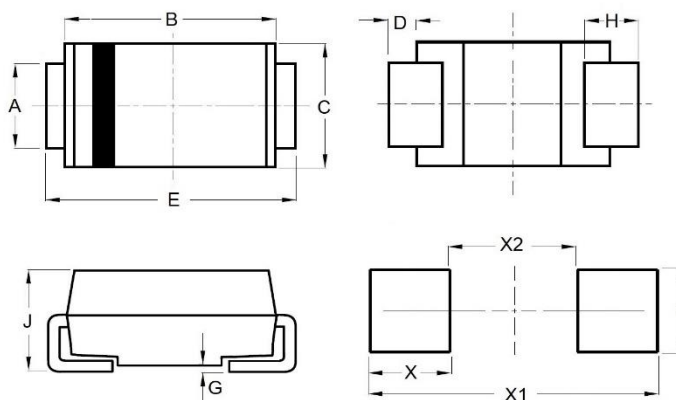
1.  $T_A=25^{\circ}C$  unless otherwise specified

2. Reverse recovery test conditions:  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{RR}=0.25A$

3. Thermal resistance from junction to lead mounted on P.C.B. with 0.2x0.2" (5.0x5.0mm) copper pad areas.

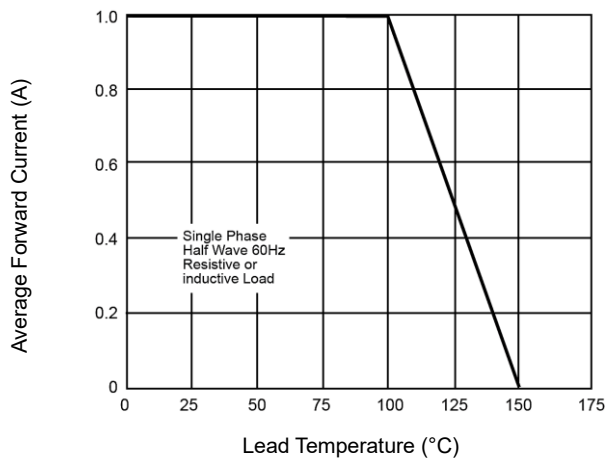
## DIMENSIONS

| Item | Min. (mm) | Max. (mm) |
|------|-----------|-----------|
| A    | 1.300     | 1.700     |
| B    | 3.990     | 4.500     |
| C    | 2.450     | 2.750     |
| D    | 0.152     | 0.305     |
| E    | 4.800     | 5.280     |
| G    | 0.000     | 0.203     |
| H    | 0.760     | 1.520     |
| J    | 1.980     | 2.420     |
| X    | 1.600     |           |
| X1   | 5.400     |           |
| X2   | 2.200     |           |
| Y    | 2.800     |           |

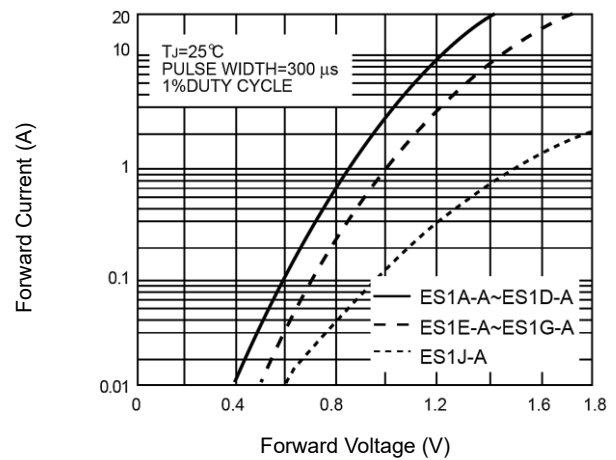


### CHARACTERISTIC CURVES

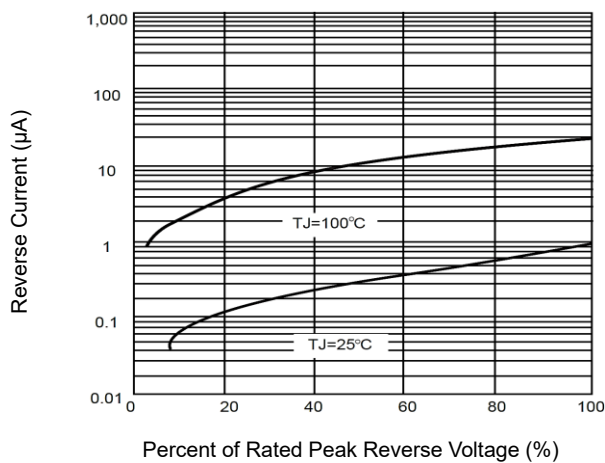
Forward Current Derating Curve



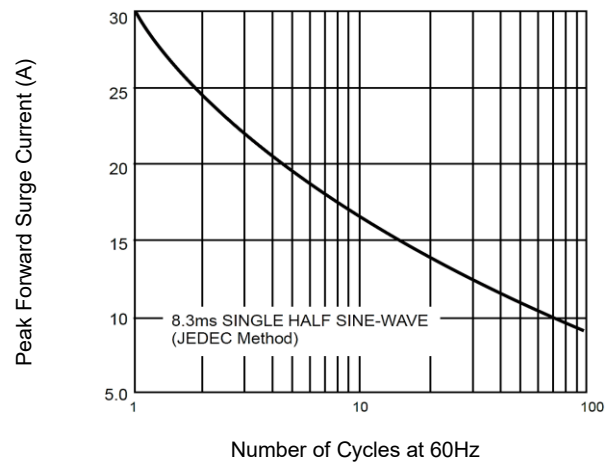
Typical Forward Characteristics



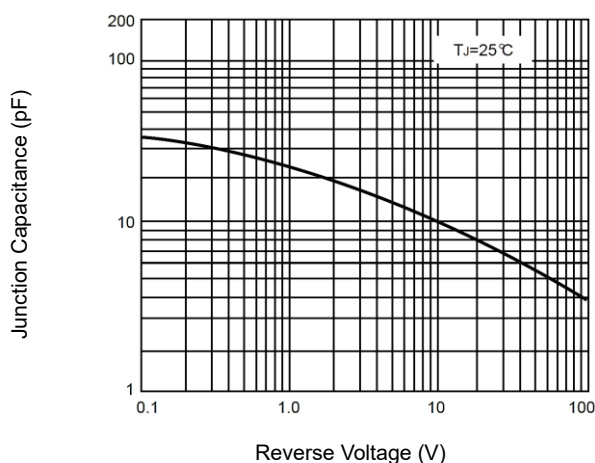
Typical Reverse Characteristics



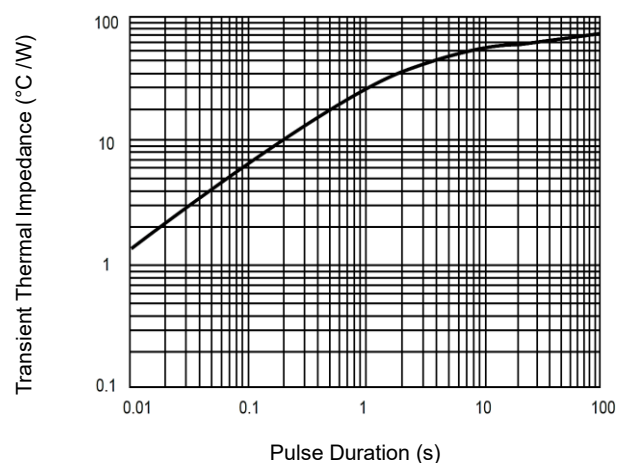
Non-Repetitive Peak Forward Surge Current



Typical Junction Capacitance



Typical Transient Thermal Impedance



\*Specifications subject to change without notice.