

**Kingtronics**®**ES2A THRU ES2J**

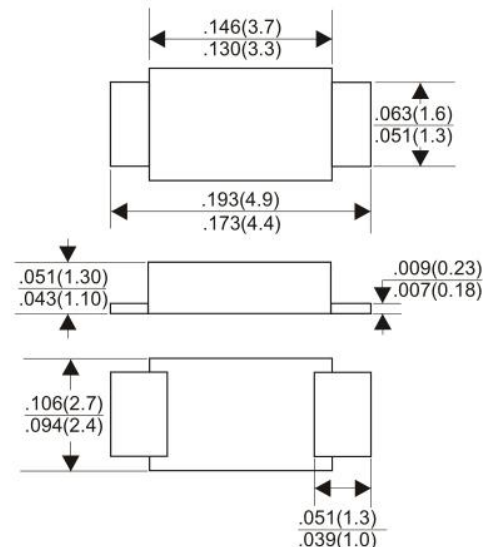
**SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER**  
**REVERSE VOLTAGE 50 to 600 Volts FORWARD CURRENT 2.0 Ampere**

**FEATURES**

For surface mounted applications  
 Low profile package  
 Glass passivated chip junction  
 Superfast reverse recovery time  
 Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

Case: SMAF  
 Terminals: Solderable per MIL-STD-750,  
 Method 2026  
 Approx.Weight: 27mg / 0.00095oz

**SMAF****MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

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

For capacitive load derate current by 20%

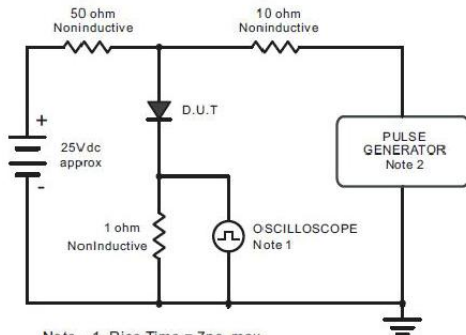
Dimensions in inches and (millimeters)

| PARAMETER  | SYMBOL          | ES2A                      | ES2B | ES2C | ES2D | ES2E | ES2G | ES2J | UNIT               |
|--|-----------------|---------------------------|------|------|------|------|------|------|--------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 50                        | 100  | 150  | 200  | 300  | 400  | 600  | VOLTS              |
| Maximum RMS Voltage  | $V_{RMS}$       | 35                        | 70   | 105  | 140  | 210  | 280  | 420  | VOLTS              |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50                        | 100  | 150  | 200  | 300  | 400  | 600  | VOLTS              |
| Maximum Average Forward Rectified Current<br>At $T_A = 125^\circ\text{C}$  | $I_{(AV)}$      | 2.0                       |      |      |      |      |      |      | Amps               |
| Peak Forward Surge Current 8.3ms single half sine-wave<br>superimposed on rated load                                 | $I_{FSM}$       | 50                        |      |      |      |      |      |      | Amps               |
| Maximum instantaneous forward voltage per at 2.0A  | $V_F$           | 1                         |      |      |      | 1.25 |      | 1.7  | VOLTS              |
| Maximum DC Reverse Current<br>at Rated DC blocking voltage   | $I_R$           | $T_A = 25^\circ\text{C}$  |      |      |      |      |      |      | uA                 |
|  |                 | $T_A = 125^\circ\text{C}$ |      |      |      |      |      |      |                    |
| Maximum Reverse Recovery Time<br>Test conditions $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{RR} = 0.25\text{A}$ | $t_{rr}$        | 30                        |      |      |      |      |      |      | nS                 |
| Typical Junction Capacitance (Measured at 1.0MHz and<br>applied reverse voltage of 4.0V)                             | $C_J$           | 30                        |      |      |      |      |      |      | pF                 |
| Typical Thermal Resistance   | $R_{\theta JA}$ | 65                        |      |      |      |      |      |      | $^\circ\text{C/W}$ |
|  | $R_{\theta JL}$ | 20                        |      |      |      |      |      |      |                    |
| Operating Junction Temperature   | $T_J$           | -55 to +150               |      |      |      |      |      |      | $^\circ\text{C}$   |
| Storage Temperature Rang   | $T_{STG}$       | -55 to +150               |      |      |      |      |      |      | $^\circ\text{C}$   |

1- Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with  $2.0 \times 2.0''$  ( $5.0 \times 5.0\text{cm}$ ) copper pad areas.

**Kingtronics**® International Company

## RATINGS AND CHARACTERISTIC CURVES



Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.

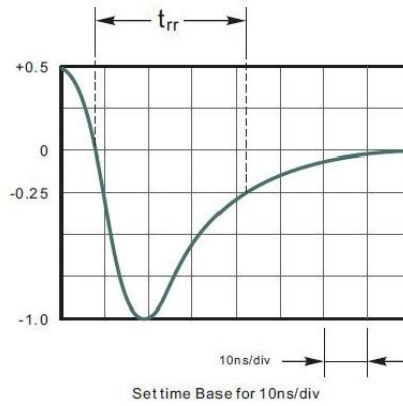


Fig.2 Maximum Average Forward Current Rating

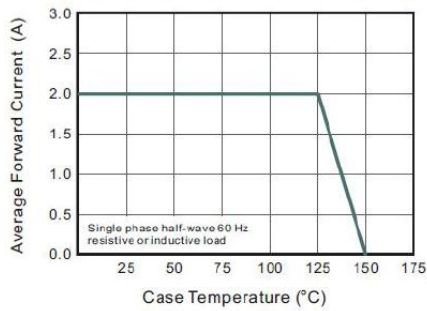


Fig.4 Typical Forward Characteristics

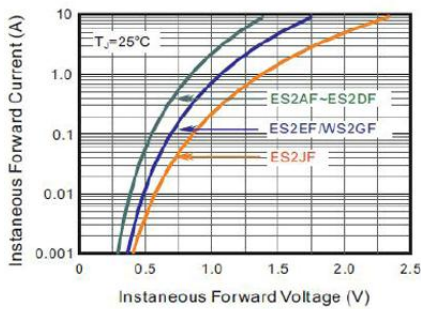


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

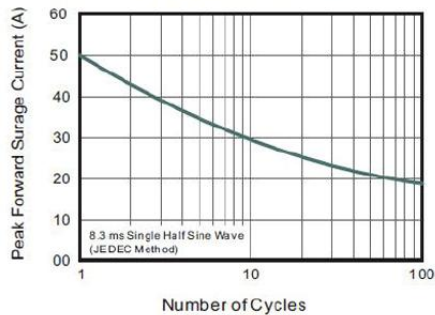


Fig.3 Typical Reverse Characteristics

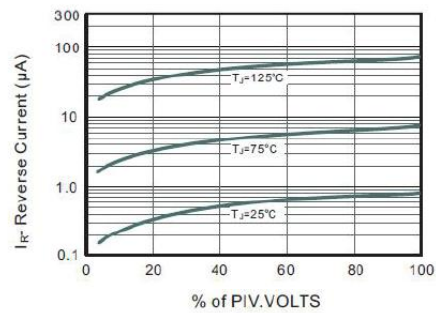
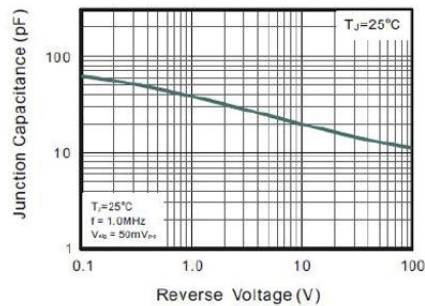


Fig.5 Typical Junction Capacitance



Note: Specifications are subject to change without notice.