

# ES1A - ES1J

**PRV : 50 - 600 Volts**  
**Io : 1.0 Ampere**

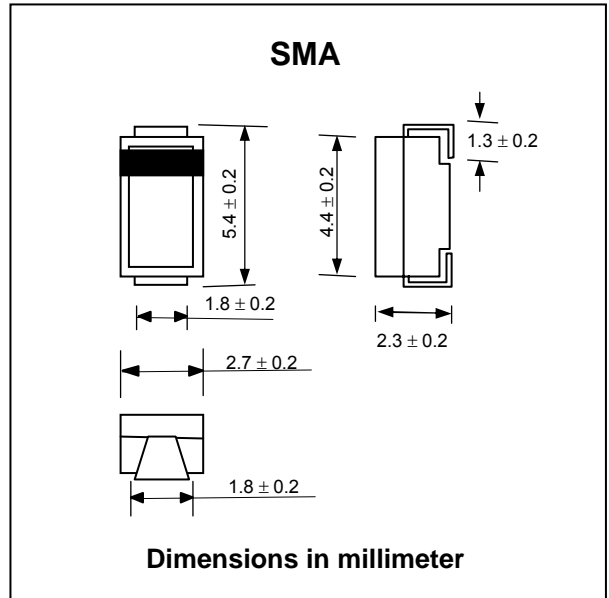
## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low power loss
- \* Low forward voltage drop
- \* Super fast recovery time for high efficiency
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : SMA Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.060 gram (Approximately)

## SURFACE MOUNT SUPER FAST RECTIFIERS



## 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%.

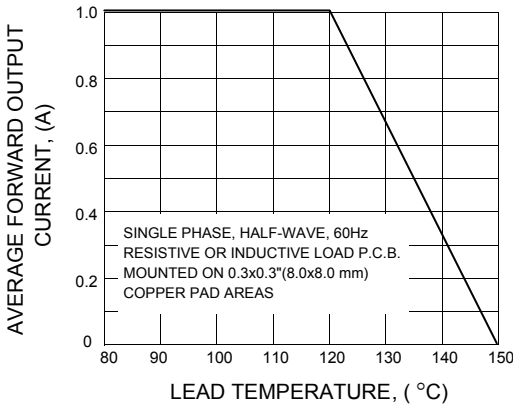
RATING	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum Average Forward Current, 0.375 (9.5mm) lead length at $T_L = 120^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Maximum Peak Forward Surge Current, 8.3 ms. Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Maximum Peak Forward Voltage at $I_F = 1.0\text{ A}$	$V_F$	0.95			1.25		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	5.0							$\mu\text{A}$
	$I_{R(H)}$	150							
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35							ns
Typical Junction Capacitance (Note 2)	$C_J$	7.0							pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JL}$	35							$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-50 to + 150							$^\circ\text{C}$

### Notes :

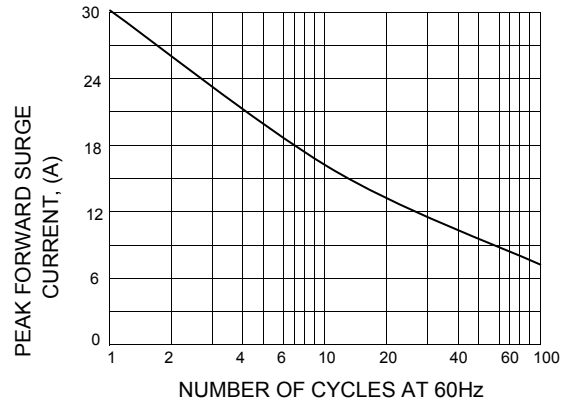
- (1) Reverse Recovery Test Condition :  $I_F = 0.5\text{ A}$ ,  $I_R = 1.0\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
- (3)  $8.0\text{ mm}^2$  (0.013 mm thick) land areas.

## RATING AND CHARACTERISTIC CURVES ( ES1A - ES1J )

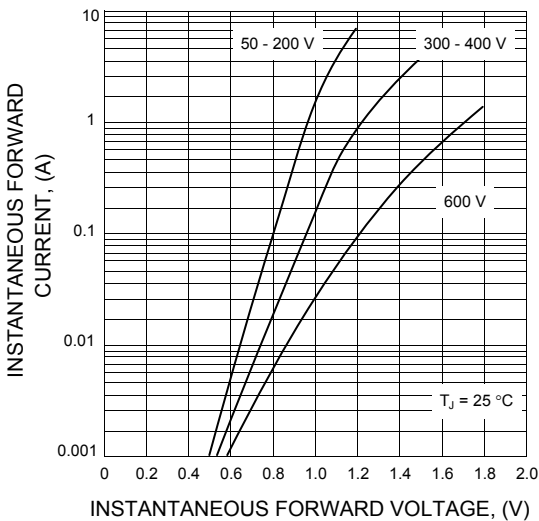
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



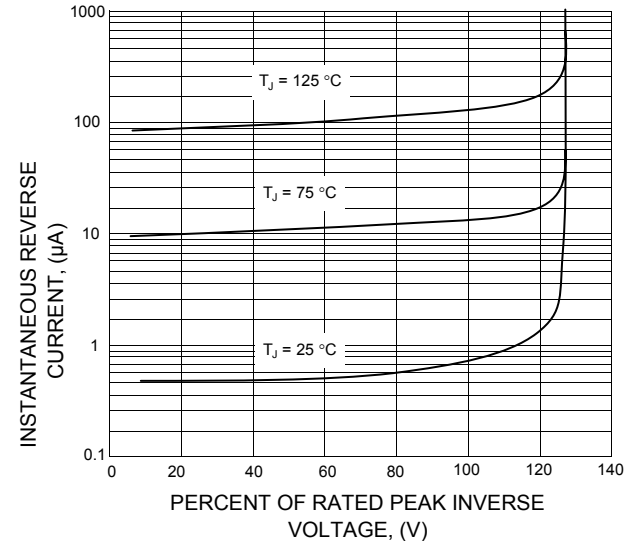
**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 - TYPICAL JUNCTION CAPACITANCE**

