

ES1A - ES1J

SURFACE MOUNT SUPER FAST RECTIFIERS

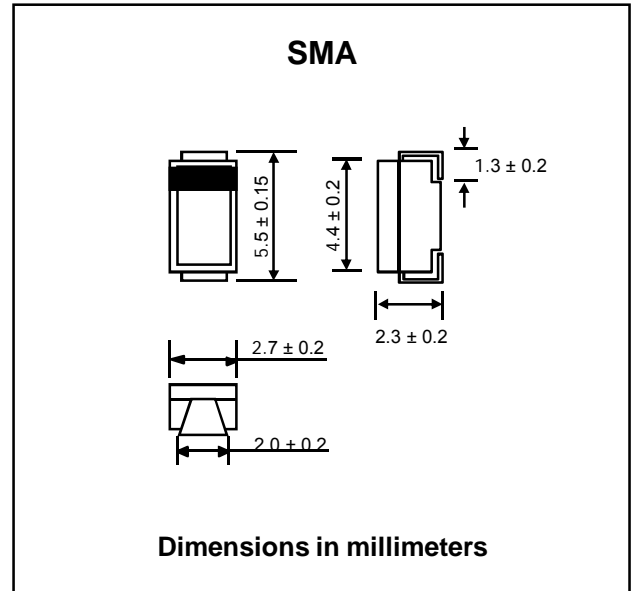
PRV : 50 - 600 Volts
Io : 1.0 Ampere

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-0 rate flame retardant
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.060 gram (Approximately)



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 $T_L = 120\text{ }^\circ\text{C}$	$I_{F(AV)}$	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	0.98			1.25		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	5.0							μA
	$I_{R(H)}$	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 mm^2 (0.013 mm thick) land areas.

RATING AND CHARACTERISTIC CURVES (ES1A - ES1J)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

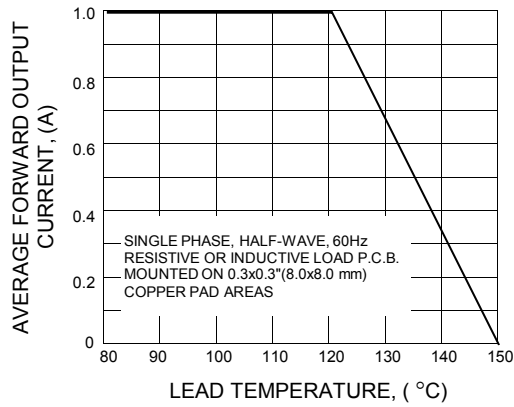


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

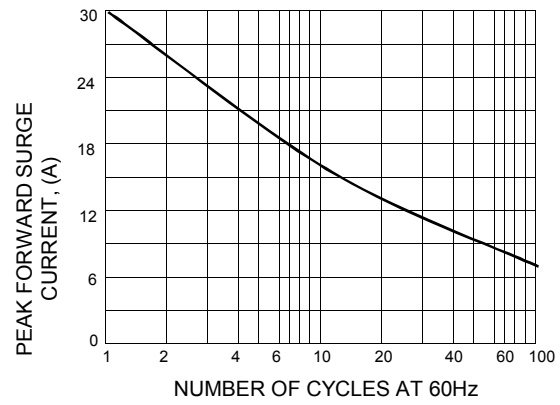


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

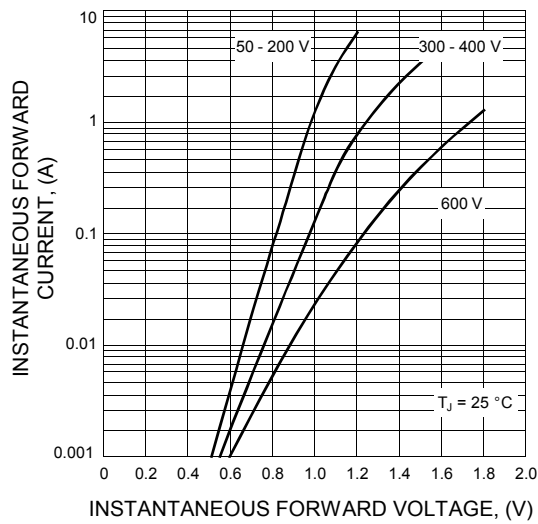


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

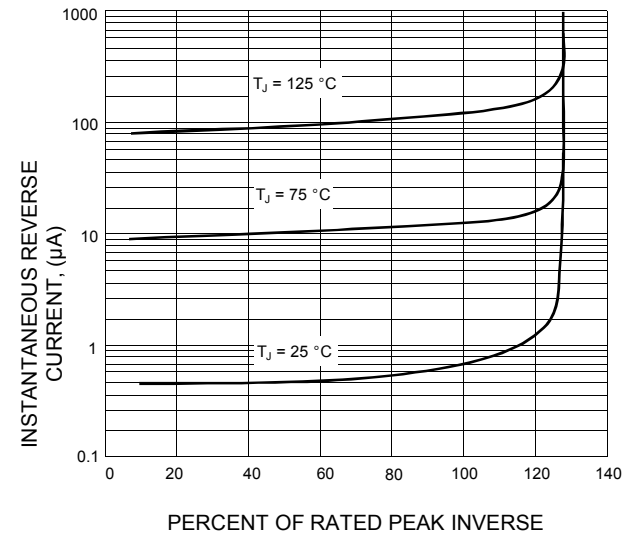


FIG.5 - TYPICAL JUNCTION CAPACITANCE

