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ES1A - ES1J

SURFACE MOUNT SUPER FAST RECTIFIERS

PRV : 50 - 600 Volts
Io : 1.0 Ampere

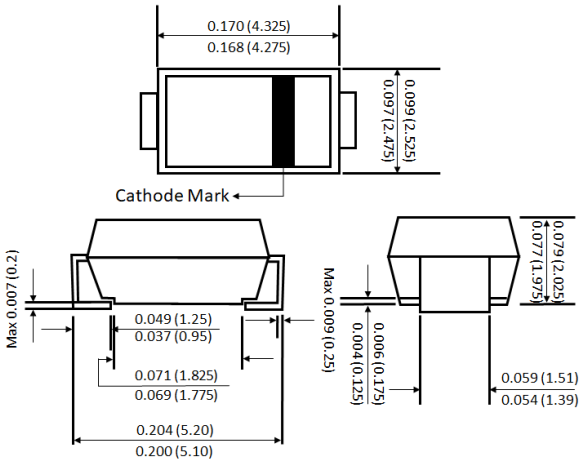
FEATURES :

* 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)

SMA (DO-214AC)



Dimensions in millimeters (Inches)

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 °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 A	V_F	0.98				1.25		1.7	V
Maximum DC Reverse Current Ta = 25 °C	I_R	5.0							μA
at Rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	150							μA
Maximum Reverse Recovery Time (Note 1)	Trr	35							ns
Typical Junction Capacitance (Note 2)	C_J	7.0							pF
Maximum Thermal Resistance (Note 3)	$R_{\Theta JL}$	35							°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-50 to + 150							°C

Notes :

(1) Reverse Recovery Test Condition : I_F = 0.5 A, I_R = 1.0 A, Irr = 0.25 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

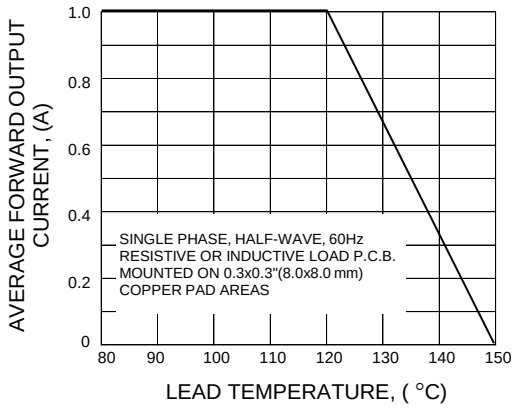


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

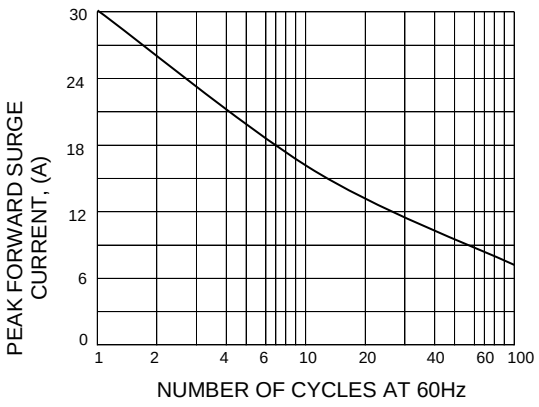


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

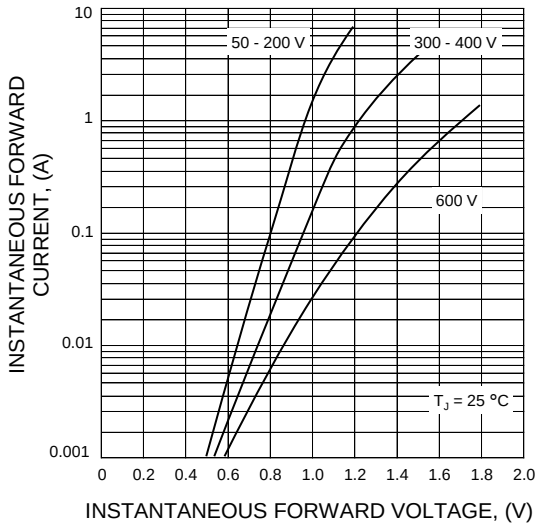


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

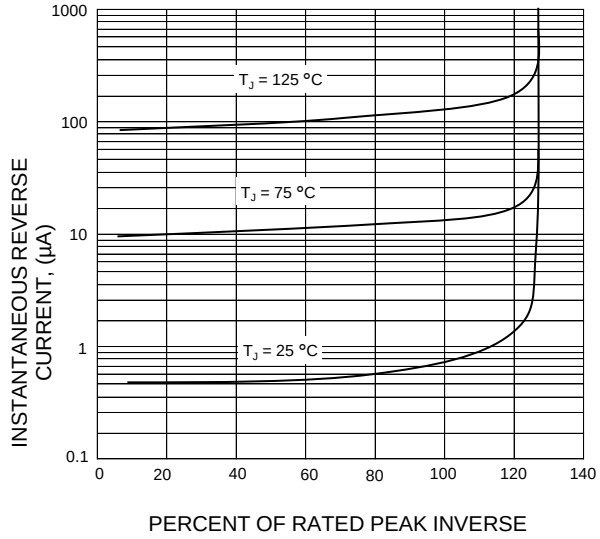


FIG.5 - TYPICAL JUNCTION CAPACITANCE