

Kingtronics®

ES1A THRU ES1J

SURFACE MOUNT SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 600 Volts **CURRENT** 1.0 Ampere

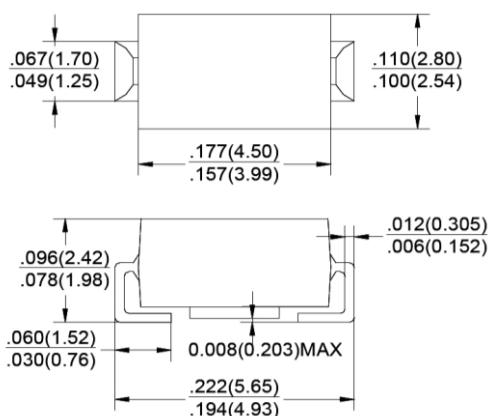
FEATURES

- Plastic package has underwrites laboratory flammability Classification 94V-0
- Built-in strain relief
- Super Fast switching speed for high efficiency
- High temperature soldering guaranteed 250°C/10 seconds

MECHANICAL DATA

- Case:** Transfer molded plastic
- Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity:** Color band denotes cathode end
- Weight:** 0.002ounce, 0.064 gram

SMA - J (DO-214AC)



Dimensions in inches and (millimeters)

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%

PARAMETER	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	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 At $T_A = 55^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on	I_{FSM}	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	0.95			1.25		1.7		Volts
Maximum DC Reverse Current at rated DC blocking voltage at	$T_A = 25^\circ\text{C}$	5.0							μA
	$T_A = 125^\circ\text{C}$	100							
Maximum Reverse Recovery Time Test conditions $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$	t_{rr}	35							nS
Typical Junction Capacitance	C_J	10			8				pF
Typical Thermal Resistance (NOTE 1)	$R_{\theta JA}$	88							$^\circ\text{C/W}$
	$R_{\theta JL}$	28							
Operating Junction Temperature	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

Notes: Thermal resistance from Junction to ambient and from junction to lead mounted on PCB. with 0.2x0.2"(5.0 x 5.0mm) copper pad areas.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

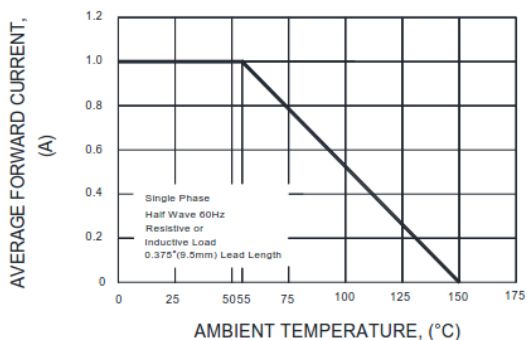


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

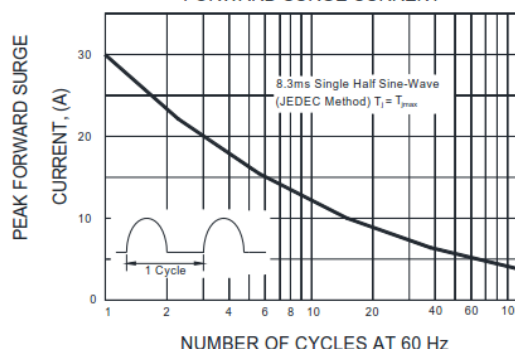


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

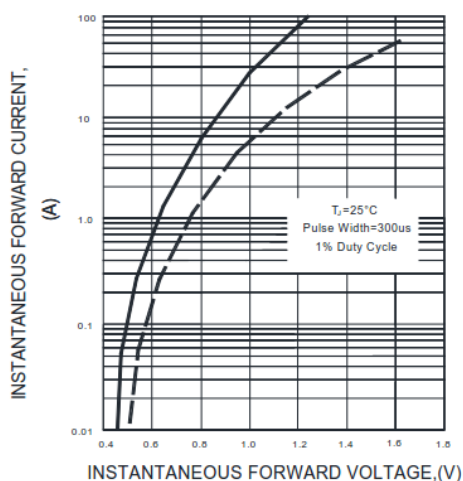


FIG.4-TYPICAL REVERSE CHARACTERISTICS

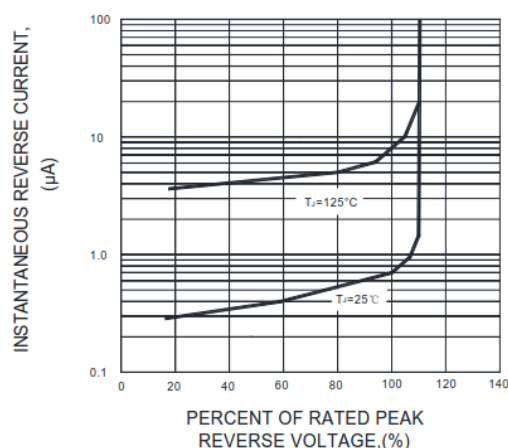


FIG.5-TYPICAL JUNCTION CAPACITANCE

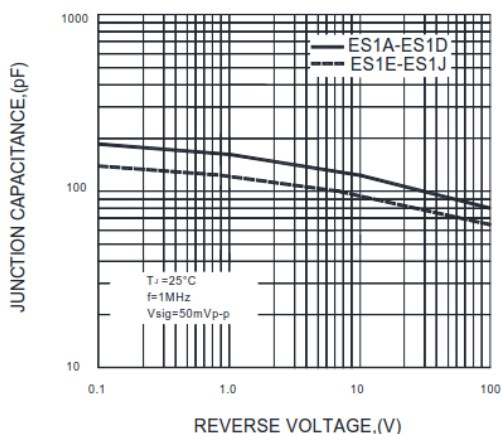
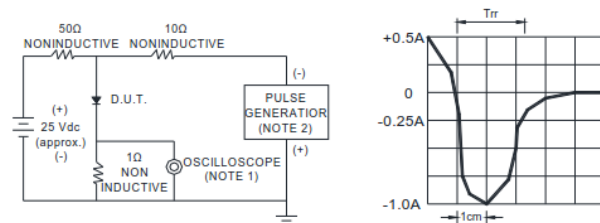


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time=7ns max. Input Impedance= 1 magohm. 22pF
2. Rise time=10ns max. Source Impedance= 50 ohms

Note: Specifications are subject to change without notice.