Kingtronics®

ES1A THRU ES1J

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

REVERSE VOLTAGE 50 to 600 Volts **FORWARD CURRENT** 1.0 Ampere

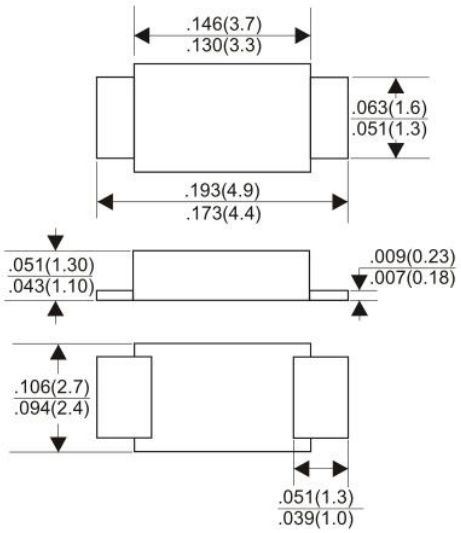
FEATURES

Plastic package has underwrites laboratory flammability Classification 94V-0
Glass passivated chip junction
Built-in strain relief
Super Fast switiching speed for high efficiency
High temperature soldering guaranteed
250℃/10 second

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

SMAF



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ 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℃		$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	30							Amps
Maximum instantaneous forward voltage per at 1.0A		V_F	0.95				1.25		1.7	VOLTS
Maximum DC Reverse Current at Rated DC blocking voltage	T_A=25℃	I_R	5.0							uA
	T_A=125℃		100							
Maximum Reverse Recovery Time Test conditions I_F=0.5A, I_R=1.0A, I_{RR}=0.25A		t_{rr}	35							nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)		C_J	10				8			pF
Typical Thermal Resistance (Note 1)		$R_{\theta JA}$	88							℃/W
		$R_{\theta JL}$	28							
Operating Junction Temperature		T_J	-55 to +150							℃
Storage Temperature Rang		T_{STG}	-55 to +150							℃

1- Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with 0.2 × 0.2″ (5.0 × 5.0mm) copper pad areas.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

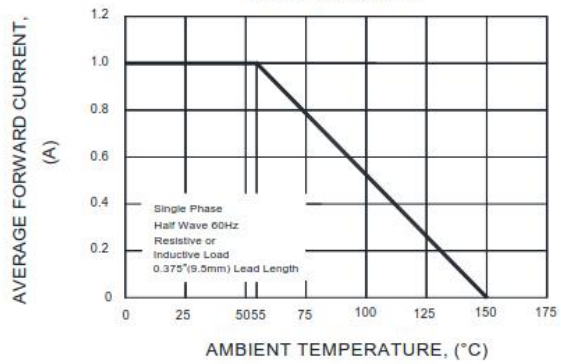


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

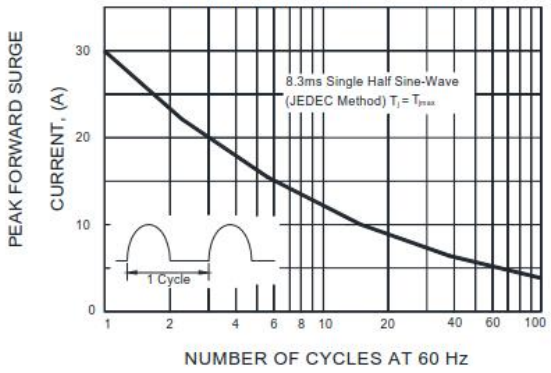


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

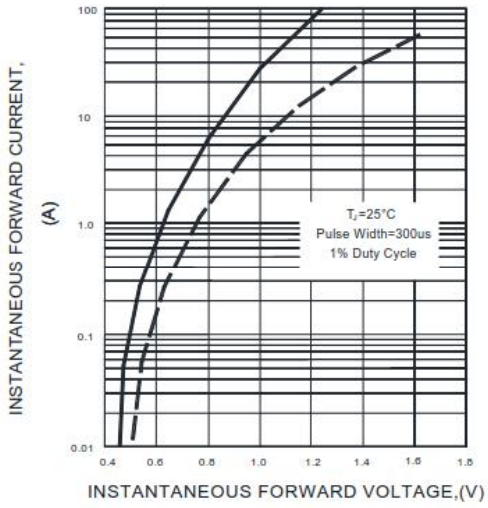


FIG.4-TYPICAL REVERSE CHARACTERISTICS

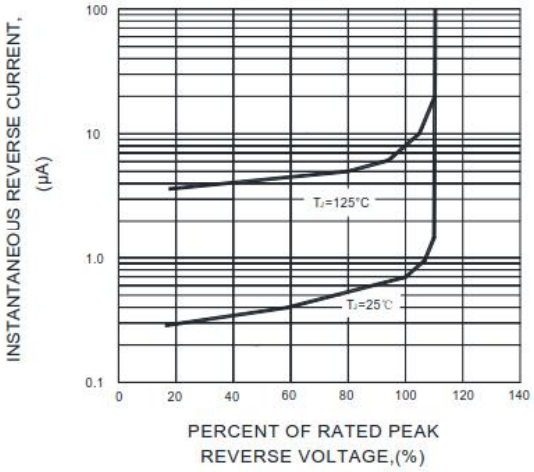
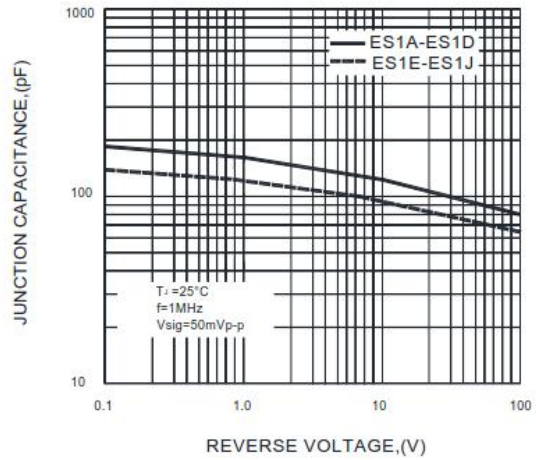
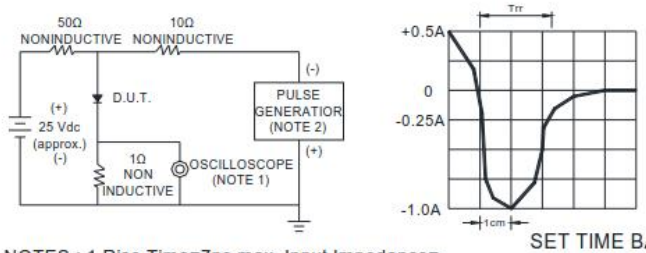


FIG.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



SET TIME BASE FOR 50/100ns/cm

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.