

Kingtronics®

ER1A THRU ER1J

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

REVERSE VOLTAGE 50 to 600 Volts FORWARD CURRENT 1.0 Ampere

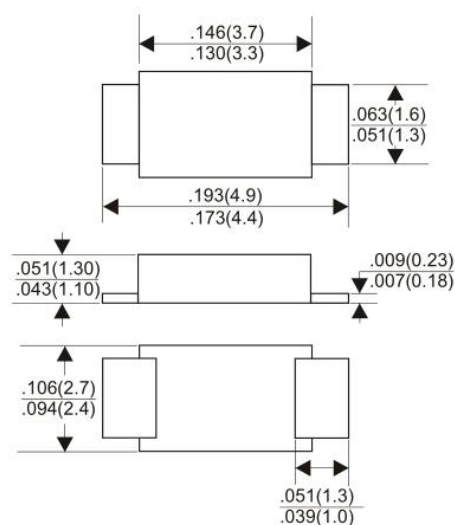
FEATURES

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



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%

Dimensions in inches and (millimeters)

PARAMETER	SYMBOL	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1J	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 $T_A = 55^\circ\text{C}$	$I_{(AV)}$	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	I_R	$T_A = 25^\circ\text{C}$ 5.0							uA
		$T_A = 125^\circ\text{C}$ 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							°C/W
	$R_{\theta JL}$	28							
Operating Junction Temperature	T_J	-55 to +150							°C
Storage Temperature Rang	T_{STG}	-55 to +150							°C

1- Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with $0.2 \times 0.2''$ ($5.0 \times 5.0\text{mm}$) copper pad areas.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

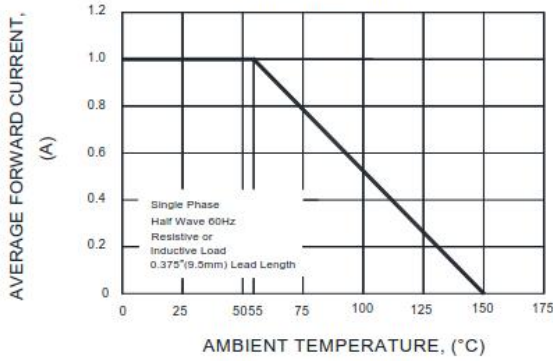


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

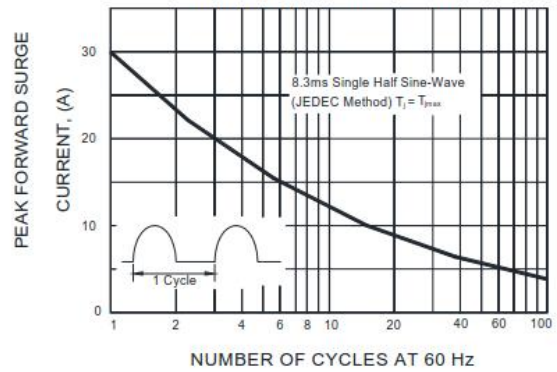


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

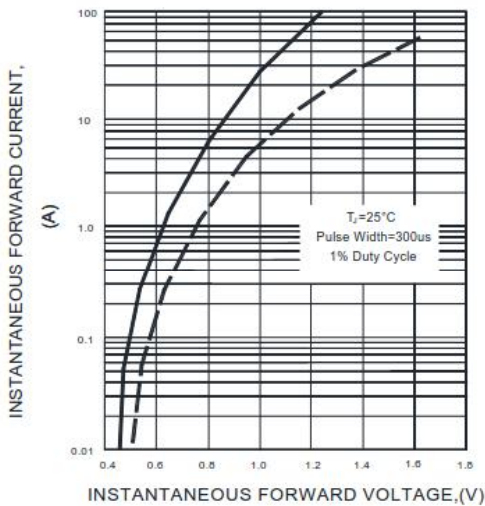


FIG.4-TYPICAL REVERSE CHARACTERISTICS

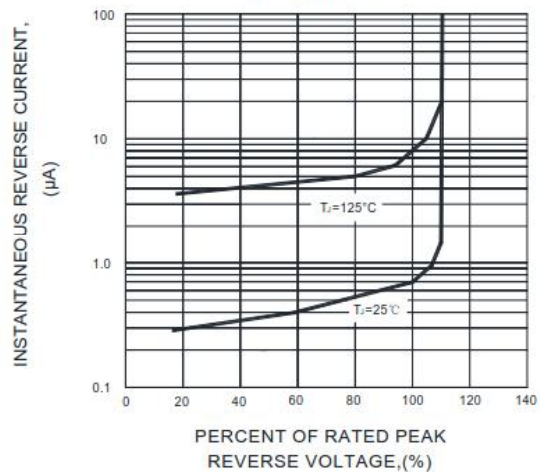


FIG.5-TYPICAL JUNCTION CAPACITANCE

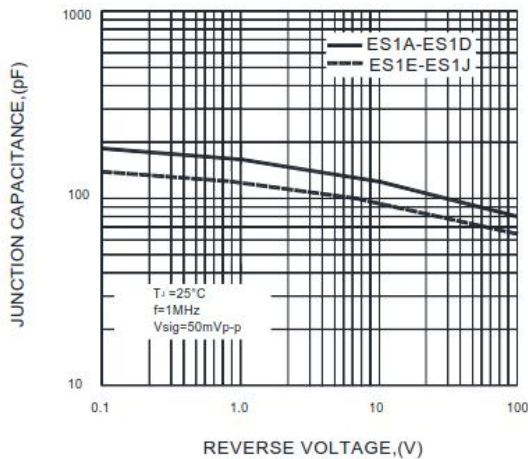
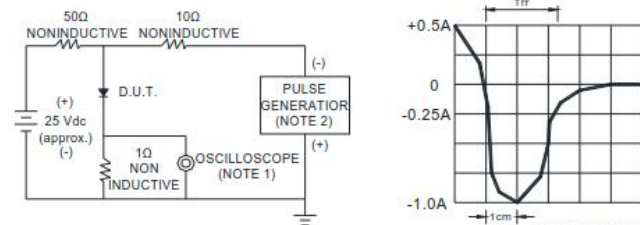


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 50/100ns/cm

Note: Specifications are subject to change without notice.