

Kingtronics®

US1A THRU US1M

SURFACE MOUNT HIGH EFFICIENCY RECTIFIERS

REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 1.0 Ampere

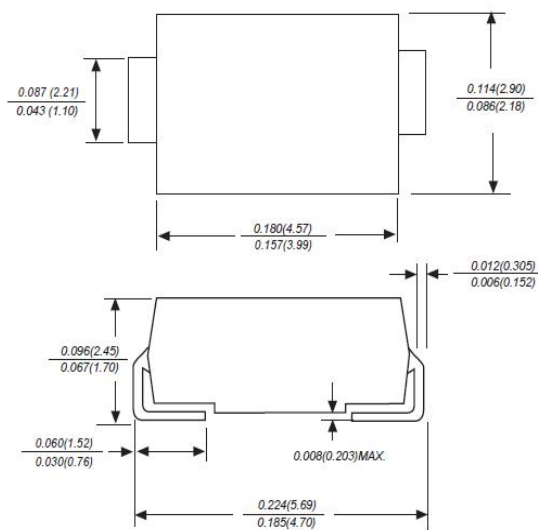
FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Ultra fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals

MECHANICAL DATA

- Case: JEDEC SMA-J molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any

SMA-J



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	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	VOLTS
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	VOLTS
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current 0.375"(9.5mm) lead length(see fig.1)	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.0		1.3		1.7			VOLTS
Maximum DC Reverse Current $T_A=25^\circ C$ at Rated DC blocking voltage $T_A=100^\circ C$	I_R	5.0 50.0							μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	50				75			ns
Typical Junction Capacitance (Note 2)	C_J	15.0							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	50.0							$^\circ C/W$
Operating junction and Storage temperature range	T_J, T_{STG}	-65 to +150							$^\circ C$

1- Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

2-Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3- P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

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RATINGS AND CHARACTERISTIC CURVES

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE

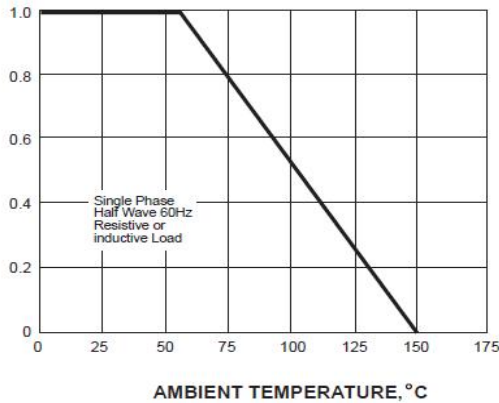


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

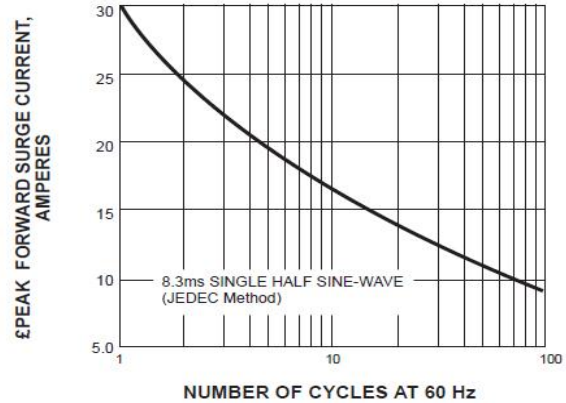


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

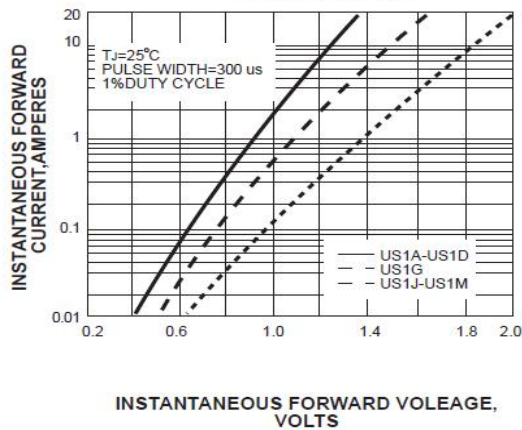


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

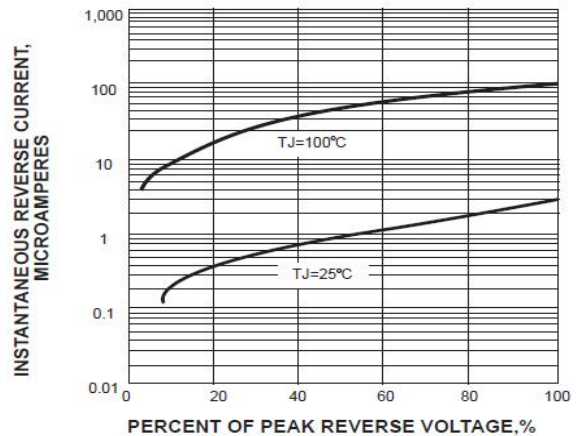


FIG. 5-TYPICAL JUNCTION CAPACITANCE

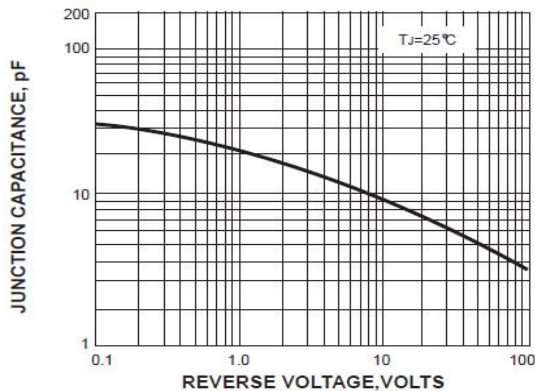
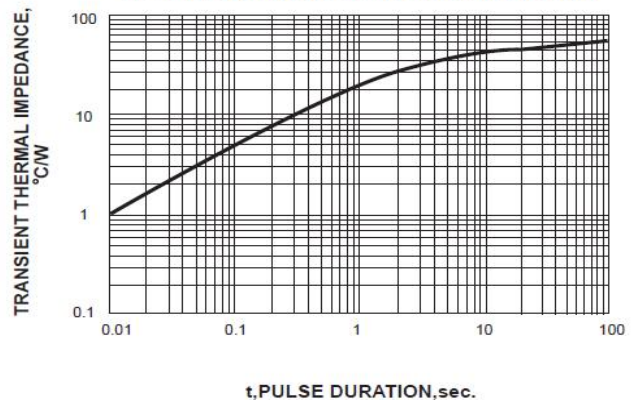


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Note: Specifications are subject to change without notice.