

Kingtronics®**US1A THRU US1M****SURFACE MOUNT HIGH EFFICIENCY RECTIFIER****REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 1.0 Ampere****FEATURES**

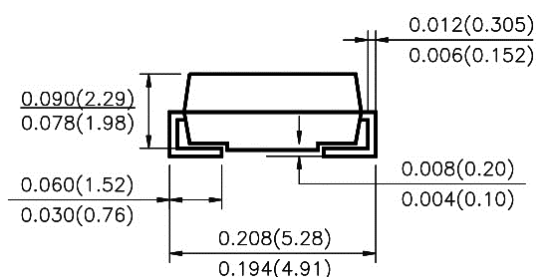
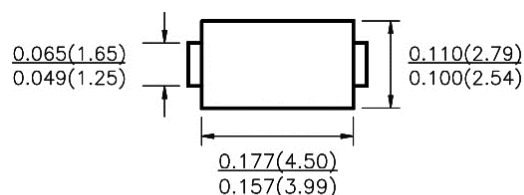
Plastic package has underwrites laboratory flammability Classification 94V-0
 Built-in strain relief, ideal for automated placement
 Glass Passivated chip junction
 Fast switching speed for high efficiency
 High temperature soldering guaranteed:
 260°C/10 second

MECHANICAL DATA

Case: JEDED DO-214AC molded plastic over glass passivated chip
 Terminals: Solder plated, Solderable per MIL-STD-750, Method 2026
 Polarity: Color band denotes cathode end

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%

DO-214AC (SMA)**Dimensions in inches and (millimeters)**

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 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	1.0		1.30		1.70		VOLTS	
Maximum DC Reverse Current at Rated DC blocking voltage	I_R	5.0							uA
		100							
Maximum Reverse Recovery Time Test conditions $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$	t_{rr}	50				100		nS	
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	20				15		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 × 5.0mm) copper pad areas.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

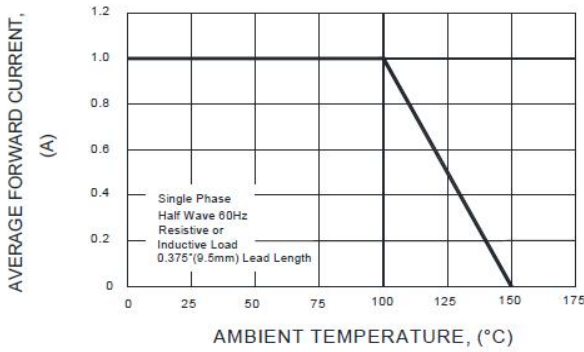


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

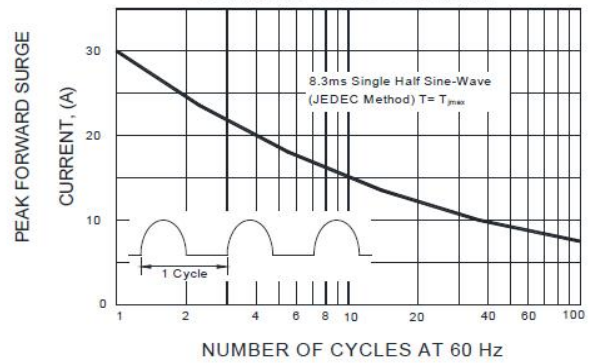


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

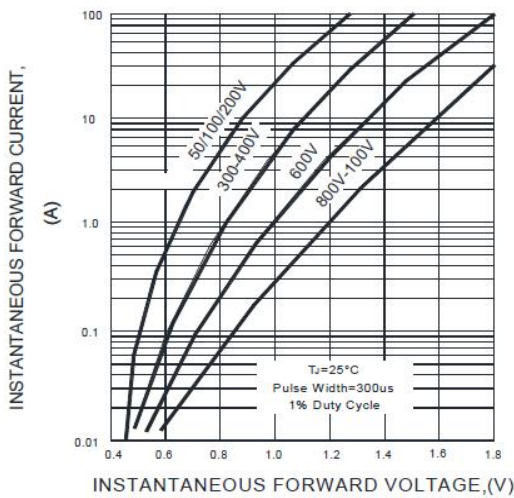


FIG.4-TYPICAL REVERSE CHARACTERISTICS

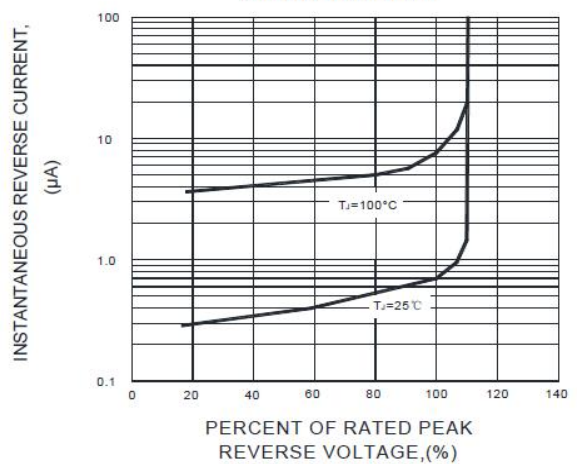


FIG.5-TYPICAL JUNCTION CAPACITANCE

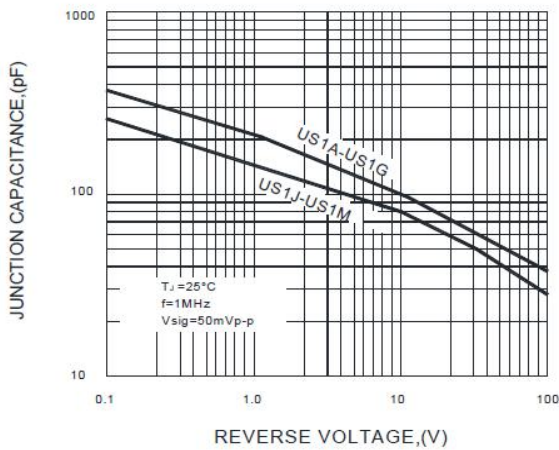
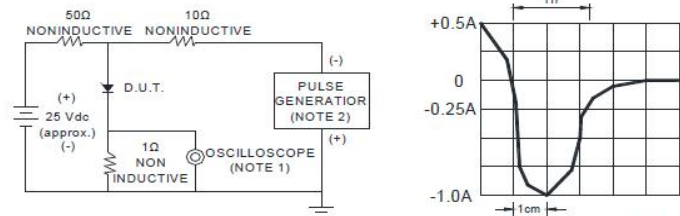


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 50/100ns/cm

Note: Specifications are subject to change without notice.