

Kingtronics®**US2A THRU US2M**

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER
REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 2.0 Ampere

FEATURES

Plastic package has UL flammability
 Classification 94V-0
 Glass Passivated chip junction
 Built in strain relief
 Fast switching speed for high efficiency
 High temperature soldering guaranteed:
 250°C/10 seconds

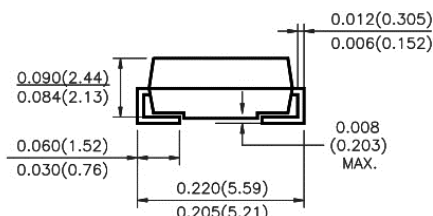
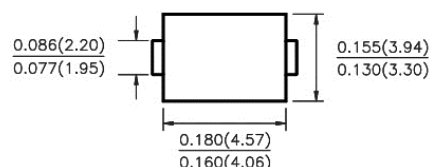
MECHANICAL DATA

Case: JEDED DO-214AA transfer molded plastic
 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%

Dimensions in inches and (millimeters)



PARAMETER	SYMBOL	US2A	US2B	US2D	US2G	US2J	US2K	US2M	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 $T_L = 105^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$	2.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50							Amps
Maximum instantaneous forward voltage at 2.0A	V_F	1.0		1.3		1.7			VOLTS
Maximum DC Reverse Current at Rated DC blocking voltage	I_R	$T_A = 25^\circ\text{C}$							uA
		5.0							
Maximum Reverse Recovery Time Test conditions $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$	t_{rr}	50			100				ns
		$T_A = 125^\circ\text{C}$							
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	50			30				pF
Typical Thermal Resistance (NOTE 1)	$R_{\theta JA}$	75							°C/W
	$R_{\theta JL}$	17							
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 $0.3 \times 0.3''$ ($8.0 \times 8.0\text{mm}$) copper pad areas

Kingtronics® International Company

RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

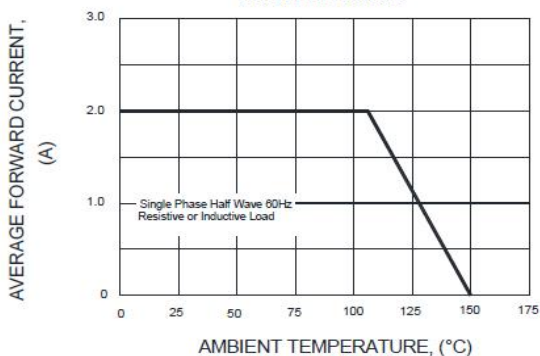


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

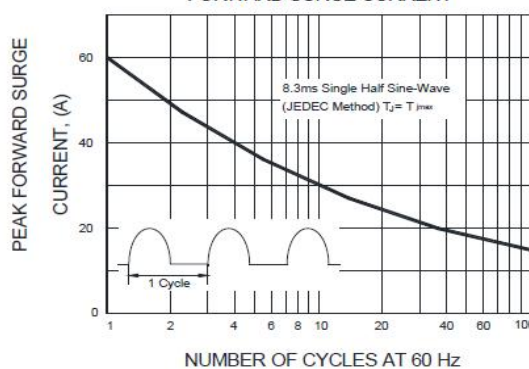


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

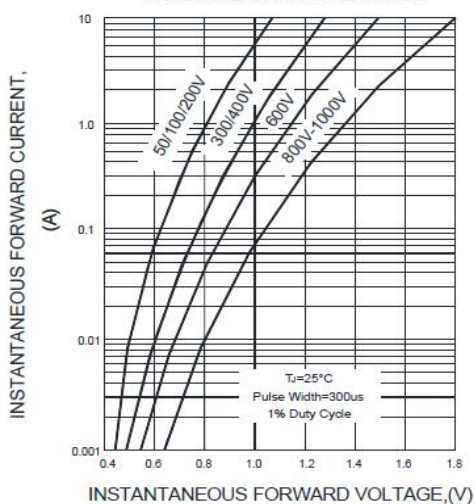


FIG.4-TYPICAL REVERSE CHARACTERISTICS

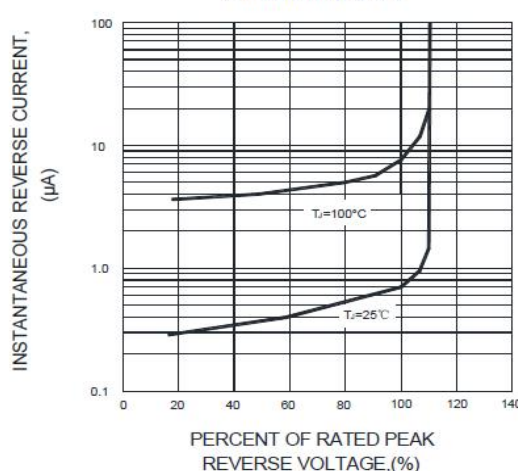


FIG.5-TYPICAL JUNCTION CAPACITANCE

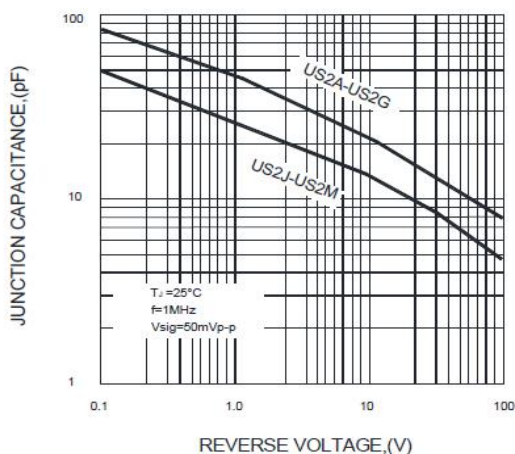
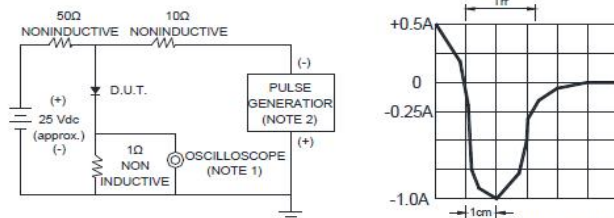


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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.