



SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

US2A THRU US2M

VOLTAGE RANGE
CURRENT

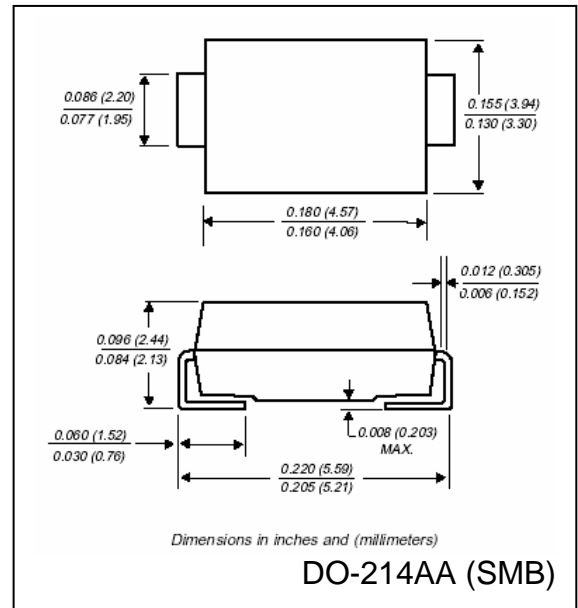
50 to 1000 Volts
2.0 Ampere

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: JEDEC DO-214AA transfer molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.003 ounce, 0.093 gram



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%

	SYMBOLS	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 $T_A = 55^\circ\text{C}$ (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 @2.0A	V_F	1.0			1.3	1.7			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	I_R	5.0							μA
		100							
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				75			nS
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							$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	17							
Operating Junction Temperature Range	T_J	(-55 to +150)							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	(-55 to +150)							$^\circ\text{C}$

Notes:

1. Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.3" x 0.3" (8.0mm x 8.0mm) copper pad areas.



RATINGS AND CHARACTERISTIC CURVES US2A THRUUS2M

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

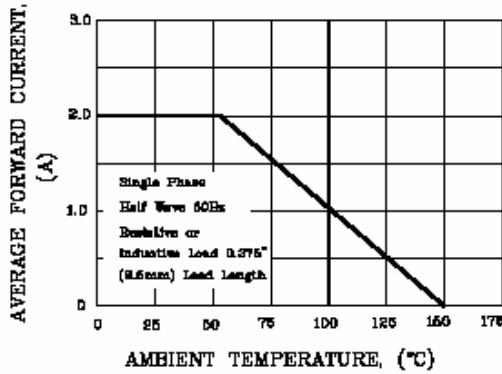


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

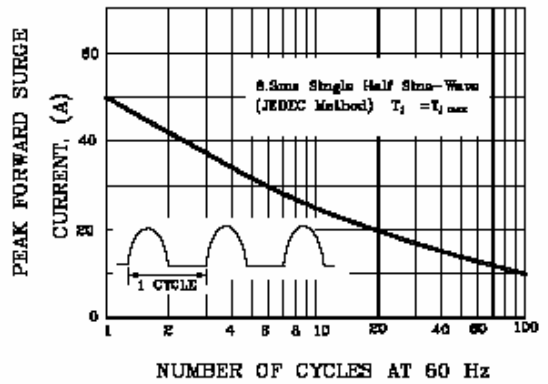


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

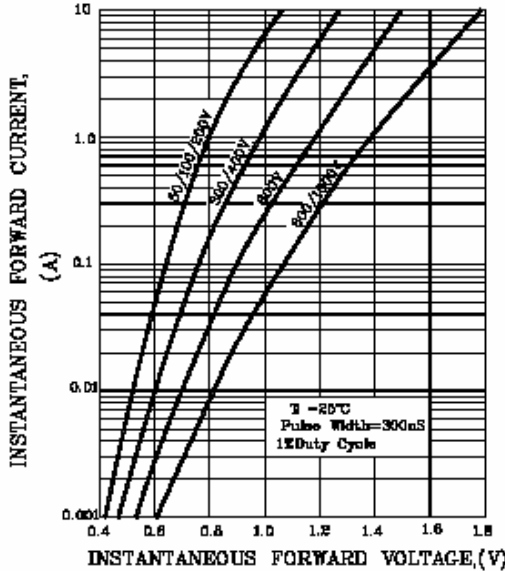


FIG.4-TYPICAL REVERSE CHARACTERISTICS

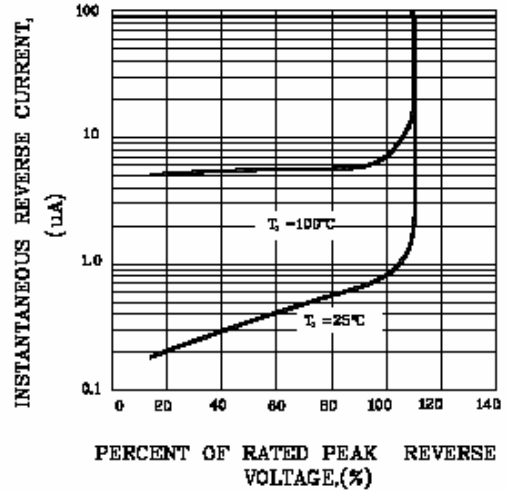


FIG.5-TYPICAL JUNCTION CAPACITANCE

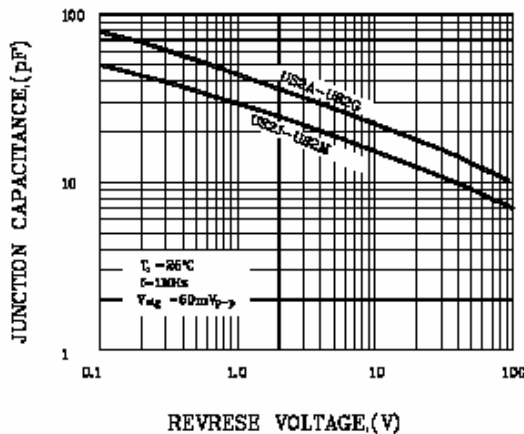
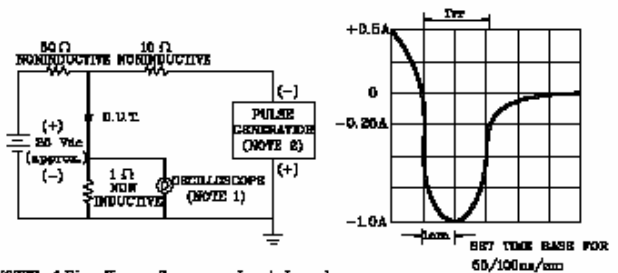


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time - 7ns max. Input Impedance - 1 megohm, 20pF
 2. Rise time - 10ns max. Source Impedance - 50 ohms