



SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

US1A THRU US1M

VOLTAGE RANGE
CURRENT

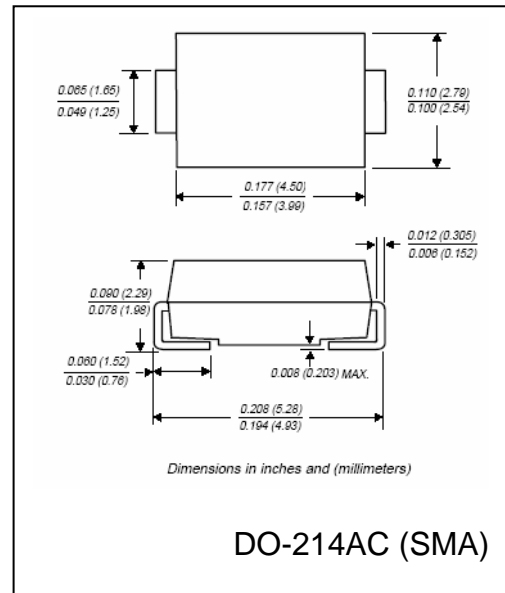
50 to 1000 Volts
1.0 Ampere

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Built-in strain relief, ideal for automated placement
- Glass passivated chip junction
- Fast switching for high efficiency
- High Temperature Soldering: 260 °C / 10 seconds

MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic over glass passivated chip
- Terminals: Solder plated, solderable per MIL-STD 750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.002 ounce, 0.064 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	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 $T_A = 55^\circ C$	$I_{(AV)}$	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 @ 1.0A	V_F	1.0		1.30		1.70		Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	I_R	5.0							μA
$T_A = 25^\circ C$ $T_A = 125^\circ C$		100							
Maximum Reverse Recovery Time Test conditions $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$	t_{rr}	50				75			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							$^\circ C/W$
	$R_{\theta JL}$	28							
Operating Junction Temperature	T_J	(-55 to +150)							$^\circ C$
Storage Temperature Rang	T_{STG}	(-55 to +150)							$^\circ C$

Notes:

1. Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.2" x 0.2" (5.0 x 5.0mm) copper pad areas.



RATINGS AND CHARACTERISTIC CURVES US1A THRU US1M

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

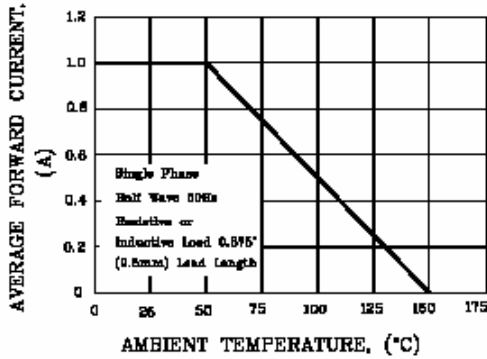


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

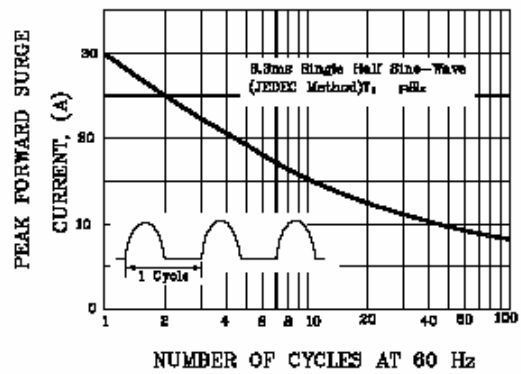


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

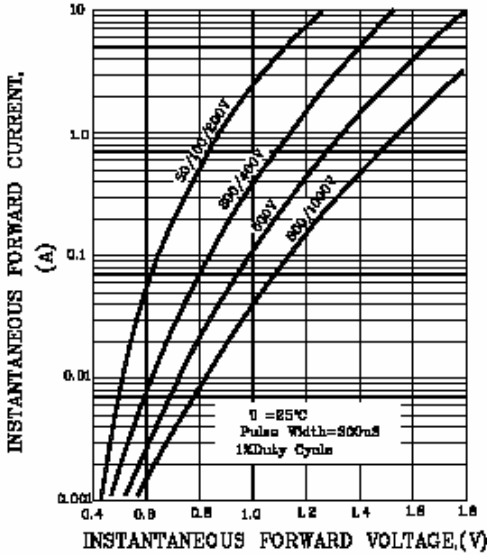


FIG.4-TYPICAL REVERSE CHARACTERISTICS

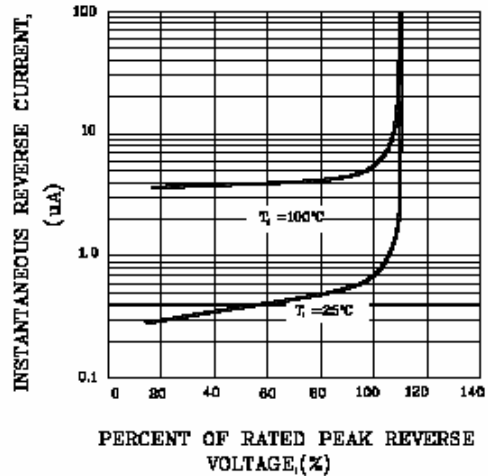


FIG.5-TYPICAL JUNCTION CAPACITANCE

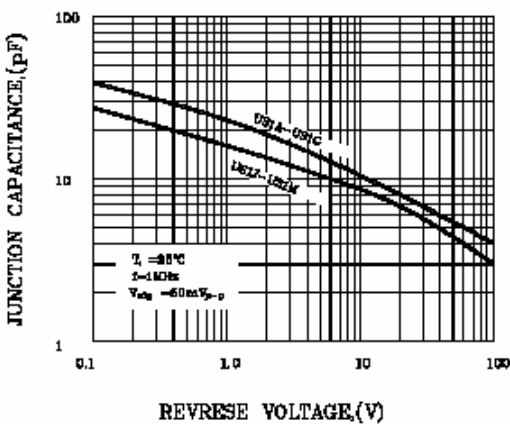
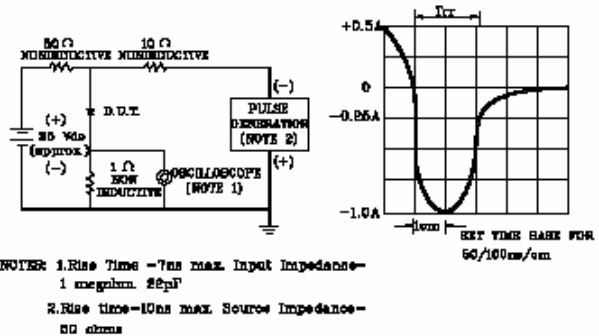


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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