

US1A THRU US1M

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

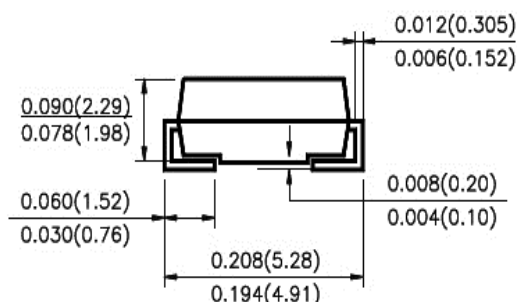
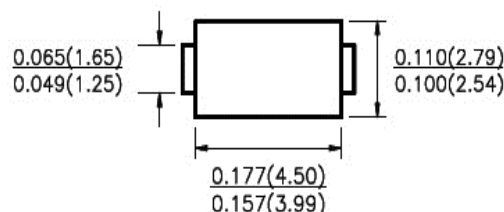
FEATURES

- ◆ 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

DO-214AC (SMA)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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 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	$T_A = 25^\circ\text{C}$	5.0						uA
		$T_A = 125^\circ\text{C}$	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				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

Note: 1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with $0.2 \times 0.2''$ ($5.0 \times 5.0\text{mm}$) copper pad areas.

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RATING AND CHARACTERISTIC CURVES US1A THRU US1M

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

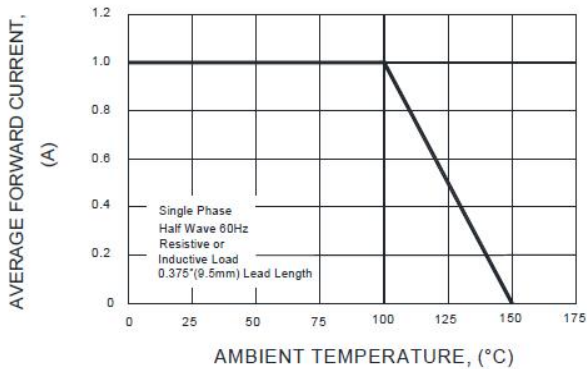


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

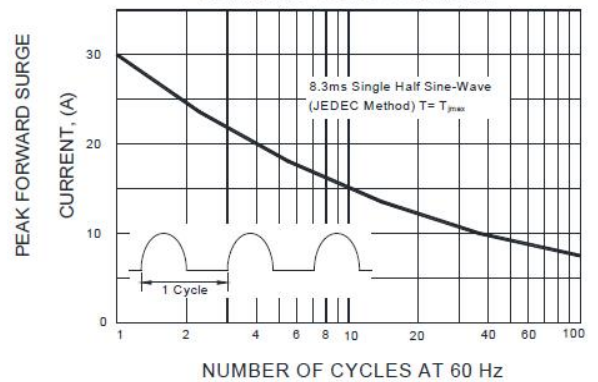


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

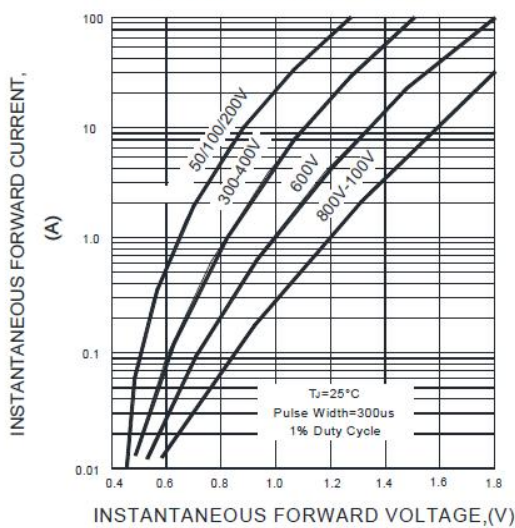


FIG.4-TYPICAL REVERSE CHARACTERISTICS

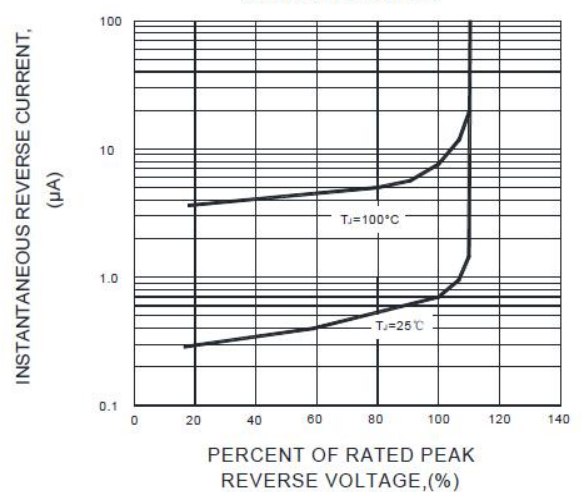


FIG.5-TYPICAL JUNCTION CAPACITANCE

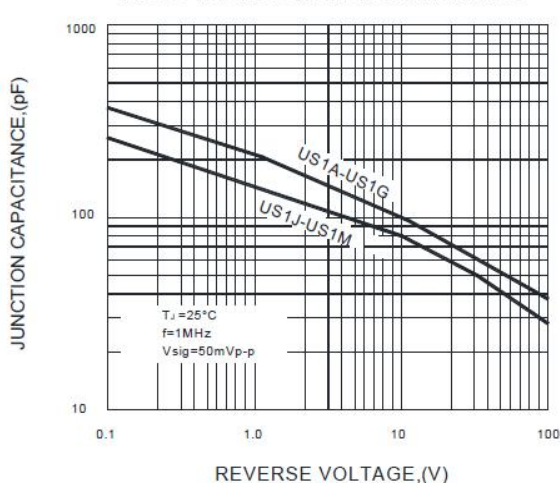
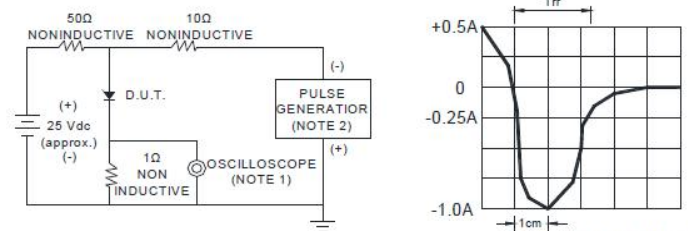


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- 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. For more detail and update, please visit our website.