

US5A THRU US5M

SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 5.0 Ampere

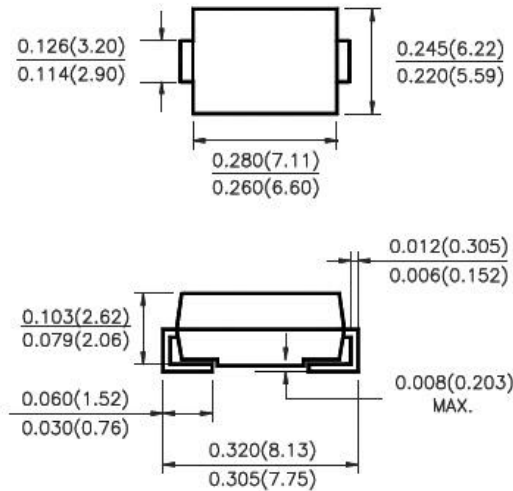
FEATURES

- ◆ Plastic package has UL flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Glass Passivated chip junction
- ◆ High temperature soldering guaranteed: 250°C/10 second at terminals

Mechanical Data

- ◆ Case: JEDED DO-214AA molded plastic over glass passivated chip
- ◆ Terminals: Solder plated, Solderable per MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: 0.007 ounce, 0.25 gram

DO-214AB (SMC)



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	US5A	US5B	US5D	US5G	US5J	US5K	US5M	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)	$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150							Amps
Maximum instantaneous forward voltage at 5.0A	V_F	1.0		1.3		1.7		VOLTS	
Maximum DC Reverse Current at Rated DC blocking voltage at	I_R	$T_A = 25^\circ\text{C}$							uA
		$T_A = 125^\circ\text{C}$							
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	80				50			pF
Typical Thermal Resistance (NOTE 1)	$R_{\theta JA}$	47							°C/W
	$R_{\theta JL}$	13							
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 $0.3 \times 0.3''$ ($8.0 \times 8.0\text{mm}$) copper pad areas

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RATING AND CHARACTERISTIC CURVES US5A THRU US5M

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

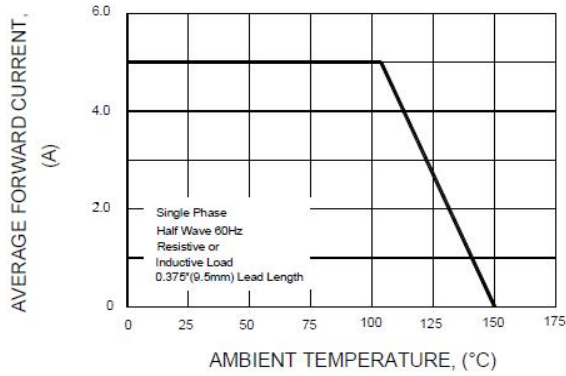


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

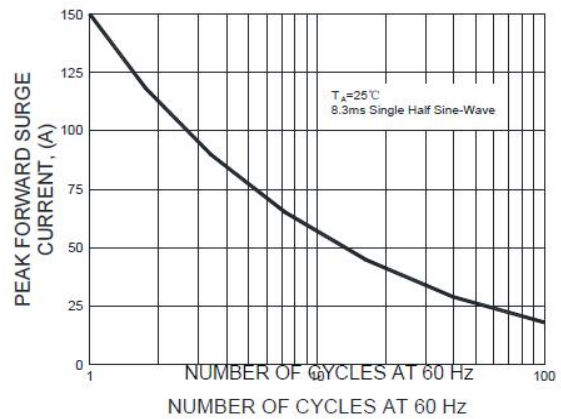


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

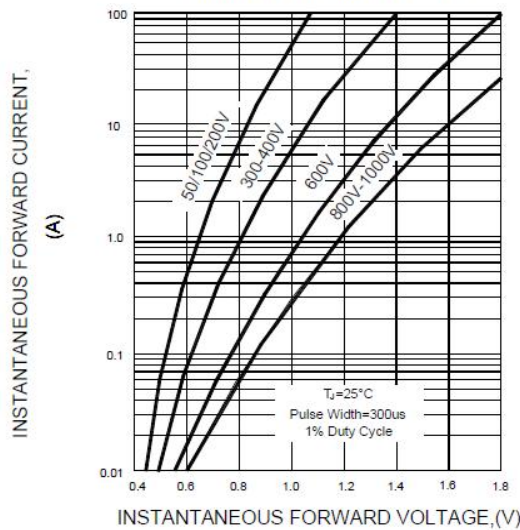


FIG.4-TYPICAL REVERSE CHARACTERISTICS

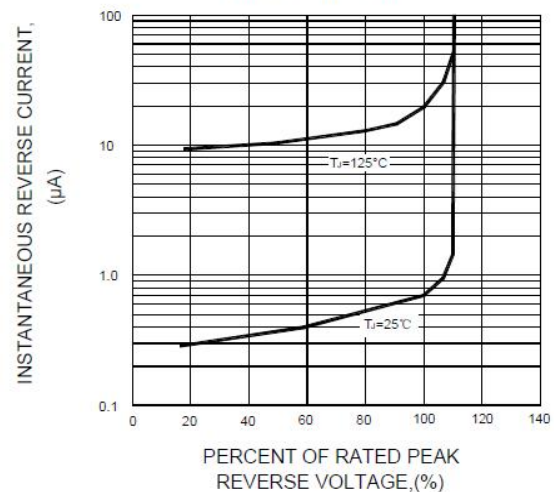


FIG.5-TYPICAL JUNCTION CAPACITANCE

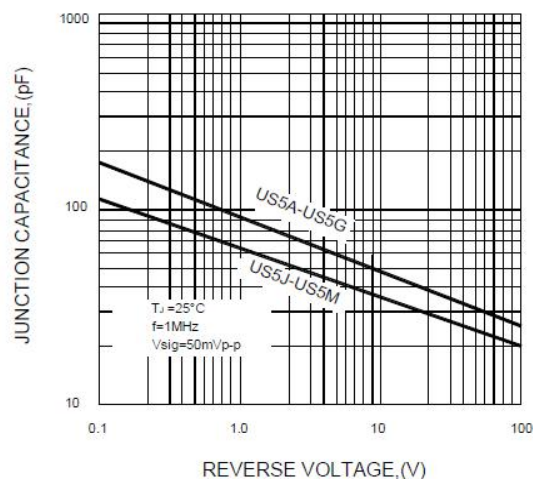
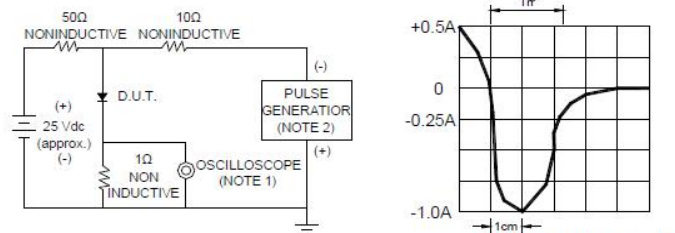


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

Note: Specifications are subject to change without notice. For more detail and update, please visit our website.