

# MASTER INSTRUMENT CORPORATION

**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER  
S5817 THRU S5819**

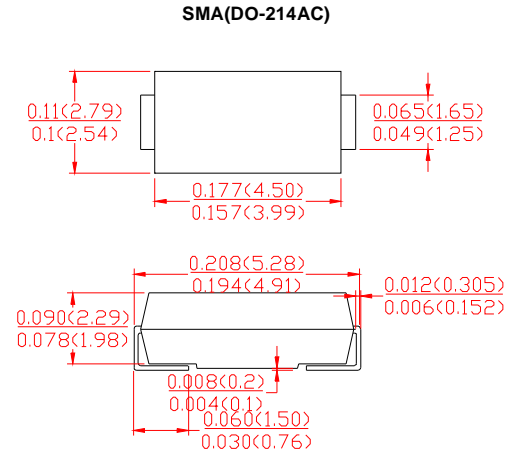
**VOLTAGE RANGE 20 to 40 Volts  
Forward Current 1.0 Amperes**

## FEATURES

- I Plastic package has Unerwrites Laboratory Flammability Classification 94V-0
- I For surface mount applications
- I Metal to silicon rectifier. Majority carrier conduction
- I Low power loss, high efficiency
- I High current capability, Low forward Voltage drop
- I High surge capability
- I For use in low voltage, high frequency inverters, Free wheeling, and polarity protection applications
- I High temperature soldering guaranteed: 260 °C/10 seconds at terminals

## MECHANICAL DATA

- I Case: JEDED DO-214AC molded plastic.
- I Terminal: Solder Plated solder able per MIL-STD-750,method 2026
- I Polarity: Color band denotes cathode end
- I Weight: 0.002 ounce. 0.064gram



All Dimension in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
Resistive or inductive load.

	Symbols	S5817	S5818	S5819	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	Volts
Maximum RMS Voltage	$V_{RMS}$	14	21	28	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	Volts
Maximum Average Forward Rectified Current at $T_L=110^\circ\text{C}$	$I_{(AV)}$	1.0			Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25			Amps
Maximum Forward Voltage at 1.0A D.C. Maximum Forward Voltage at 3.0A D.C.	$V_F$	0.45 0.75	0.55 0.775	0.60 0.90	Volts
Maximum DC Reverse Current(Note 1) at Rated DC blocking voltage	$T_A=25^\circ\text{C}$	0.5			mA
	$T_A=125^\circ\text{C}$	20.0			
Maximum Thermal Resistance (Note 1)	$R_{QJL}$	20			$^\circ\text{C/W}$
Typical Junction Capacitance(Note 2)	$C_J$	65			pF
Operating Junction Temperature Range	$T_J$	-65°C to +125°C			$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65°C to +150°C			$^\circ\text{C}$

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient

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## RATINGS AND CHARACTERISTIC CURVES S5817 THRU S5819

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

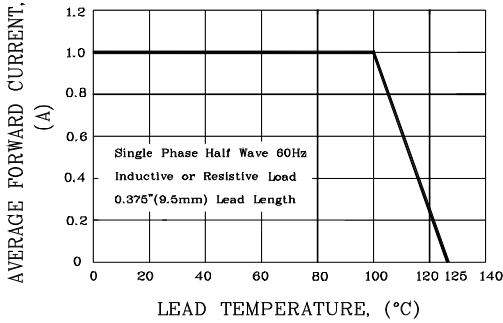


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

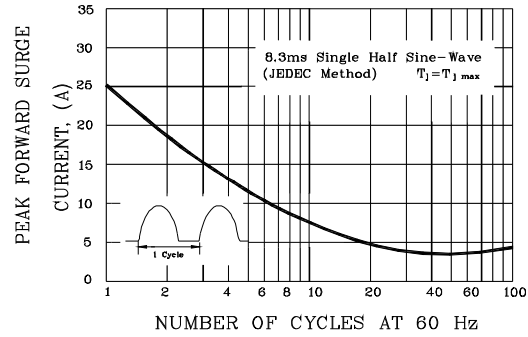


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

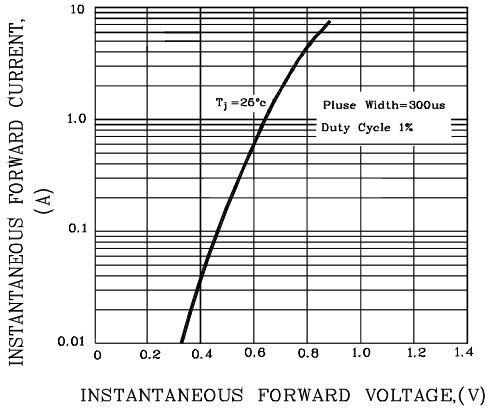


FIG.4-TYPICAL REVERSE CHARACTERISTICS

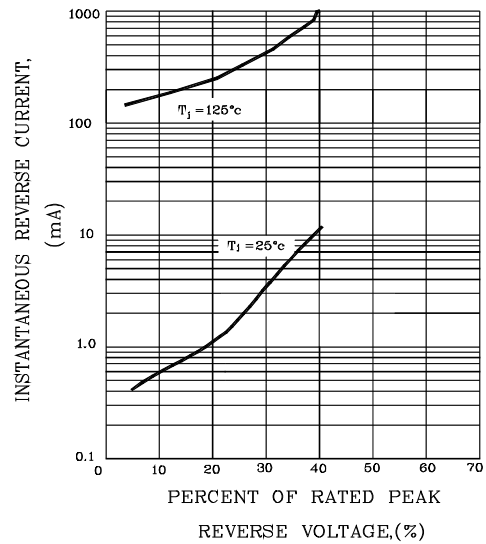


FIG.5-TYPICAL JUNCTION CAPACITANCE

