



## MASTER INSTRUMENT CORPORATION

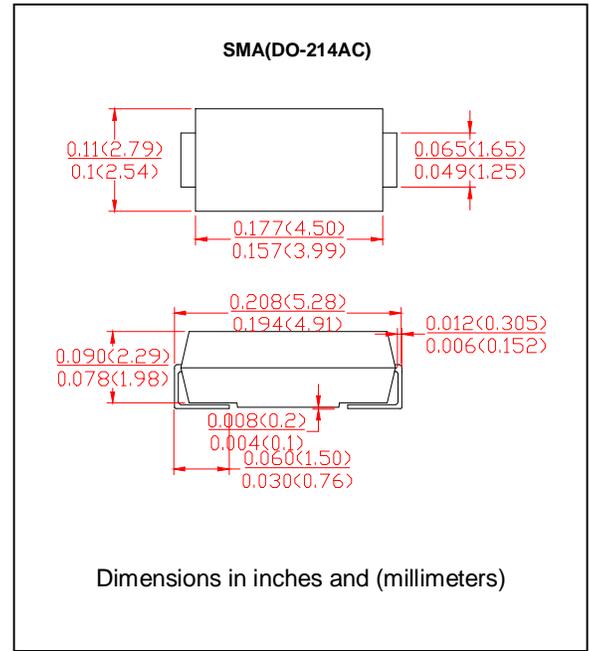
<b>SURFACE MOUNT Low VF SCHOTTKY BARRIER RECTIFIER</b> <b>SSL12 THRU SSL14</b>	<b>VOLTAGE RANGE 20 to 40 Volts</b> <b>Forward Current 1.0 Amperes</b>
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### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Built-in strain relieved
- Metal to silicon rectifier majority carrier conduction
- Low power loss, High efficiency
- High current capability, low  $V_F$
- High surge capacity
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C/10 seconds at terminals

### MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode
- Weight: 0.002ounce, 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	SSL12	SSL13	SSL14	UNIT
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 $T_J$ see figure 1	$I_{(AV)}$	1.0			Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30.0			Amps
Maximum Instantaneous Forward Voltage @ 1.0A (Note 1)	$V_F$	0.38		0.45	Volts
Maximum DC Reverse Current at Rated $T_A = 25^\circ\text{C}$ (Note 1)	$I_R$	0.5			mA
DC Blocking Voltage per element $T_A = 100^\circ\text{C}$		20.0			
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	88			°C/W
	$R_{\theta JL}$	28			
Operating Junction Temperature	$T_J$	-50 to +125			°C
Storage Temperature Rang	$T_{STG}$	-50 to +150			°C

### Notes:

1. Pulse test: 300µS pulse width, 1% duty cycle
2. Mounted on P.C. Board with 8.0mm<sup>2</sup> (.013cm thick) copper pad areas



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**SURFACE MOUNT Low VF SCHOTTKY BARRIER  
RECTIFIER  
SSL12 THRU SSL14**

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

## RATING AND CHARACTERISTIC CURVES

SSL12 THRU SSL14

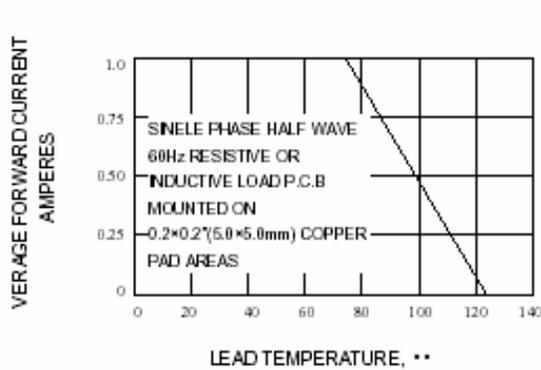


Fig. 1-FORWARD CURRENT DERATING CURVE

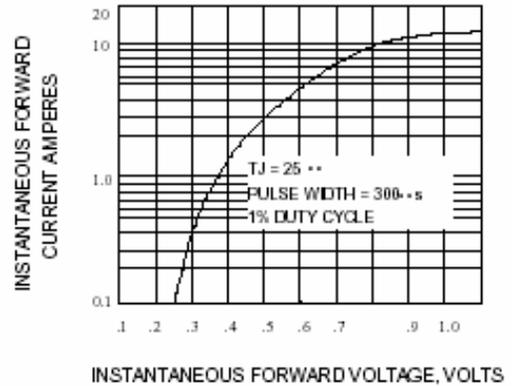


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

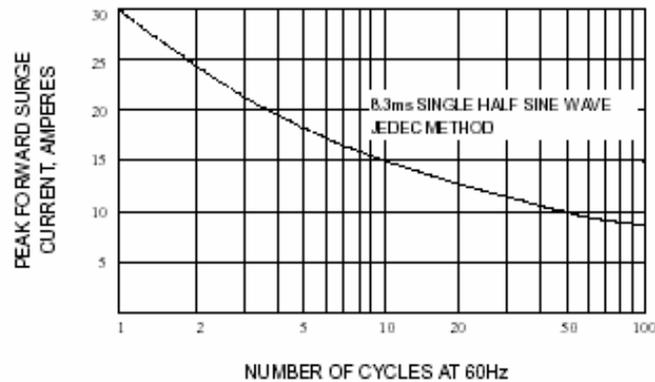


Fig. 3-MAXIMUM NON-REPETITIVE SURGE CURRENT

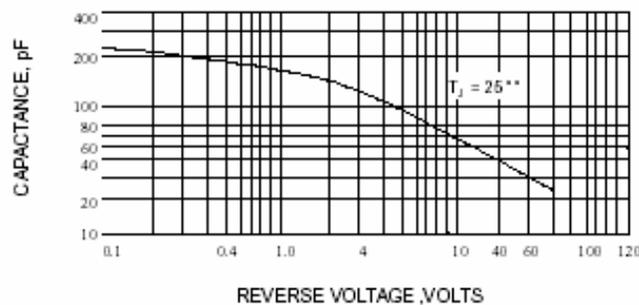


Fig. 4-TYPICAL JUNCTION CAPACITANCE