



MASTER INSTRUMENT CORPORATION

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

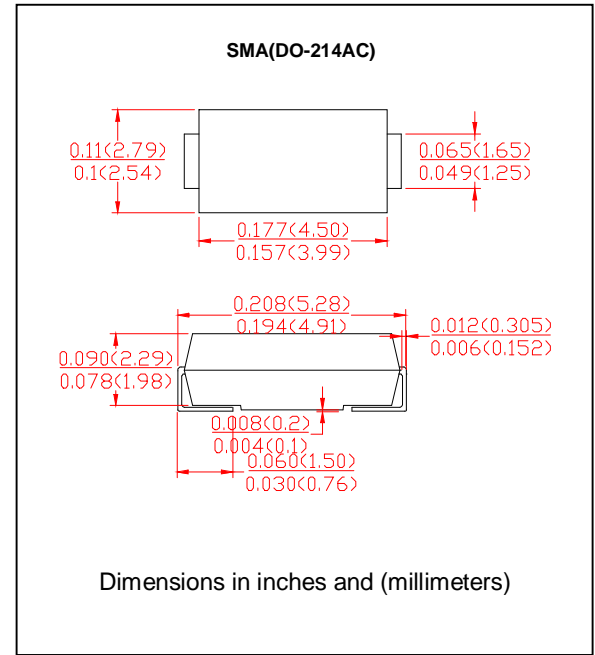
**VOLTAGE RANGE 20 to 40 Volts
Forward Current 1.0 Amperes**

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 8.0mm² (.013cm thick) copper pad areas



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RATING AND CHARACTERISTIC CURVES

SSL12 THRU SSL14

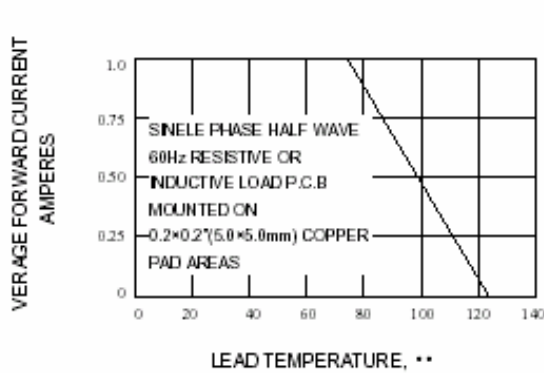


Fig. 1-FORWARD CURRENT DERATING CURVE

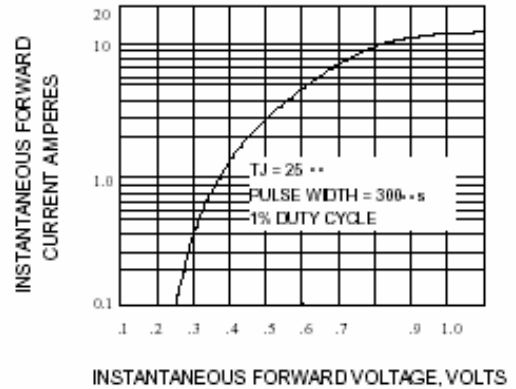


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

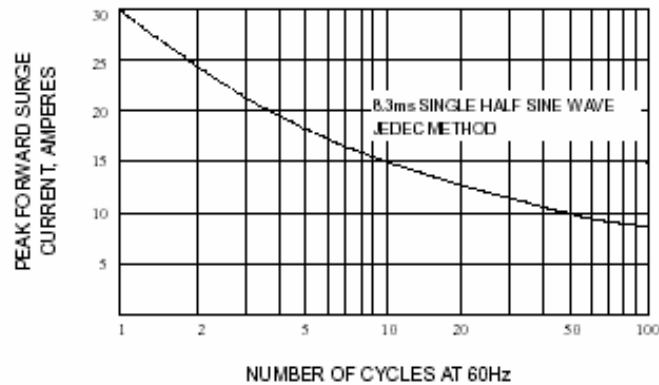


Fig. 3-MAXIMUM NON-REPETITIVE SURGE CURRENT

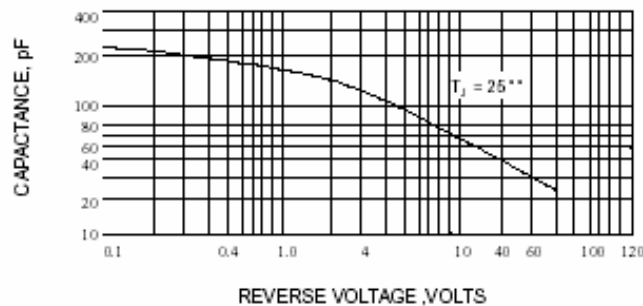


Fig. 4-TYPICAL JUNCTION CAPACITANCE



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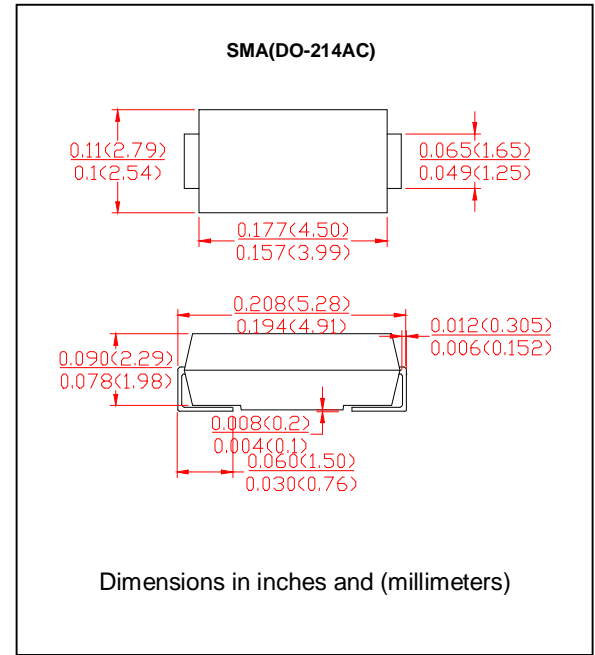
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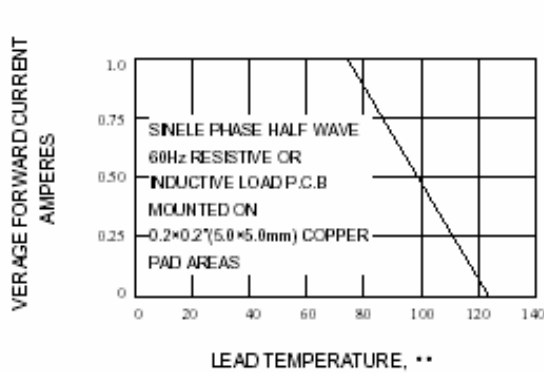


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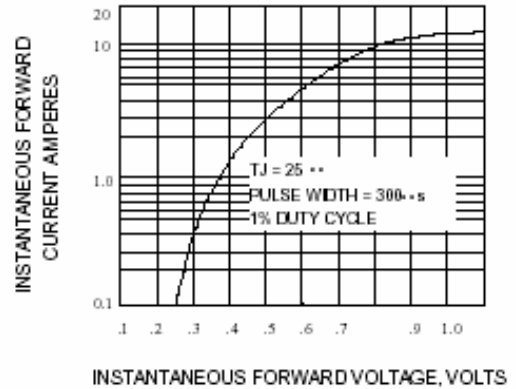


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

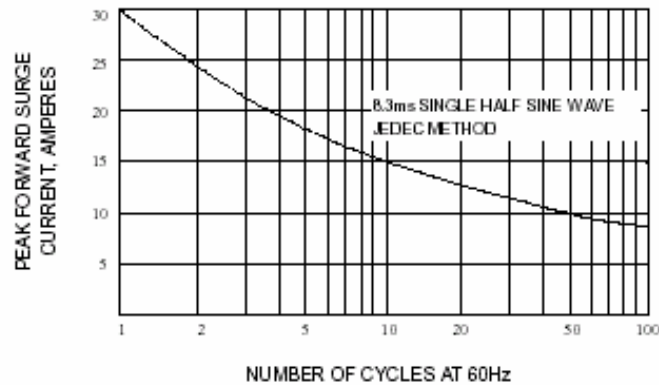


Fig. 3-MAXIMUM NON-REPETITIVE SURGE CURRENT

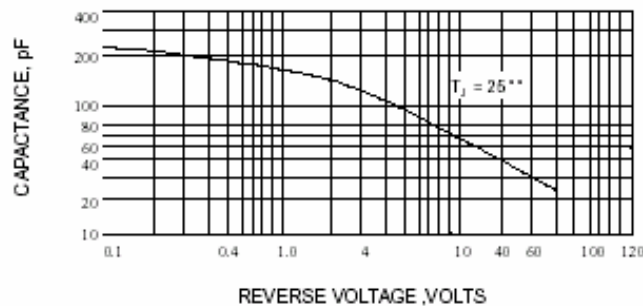


Fig. 4-TYPICAL JUNCTION CAPACITANCE



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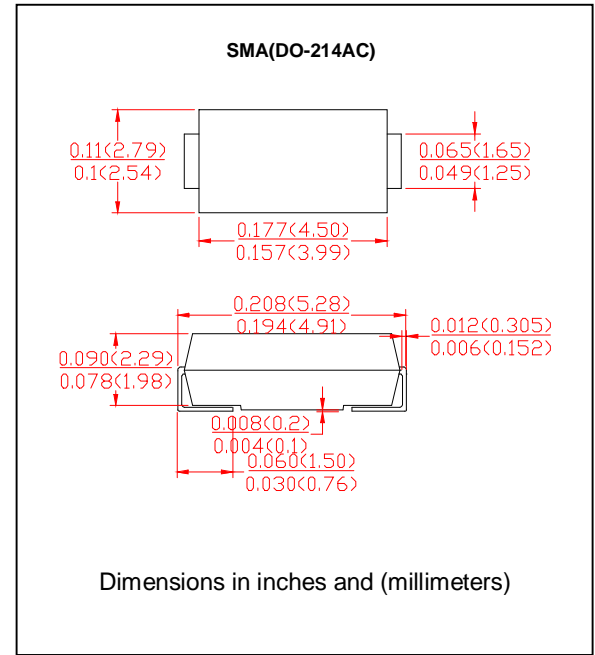
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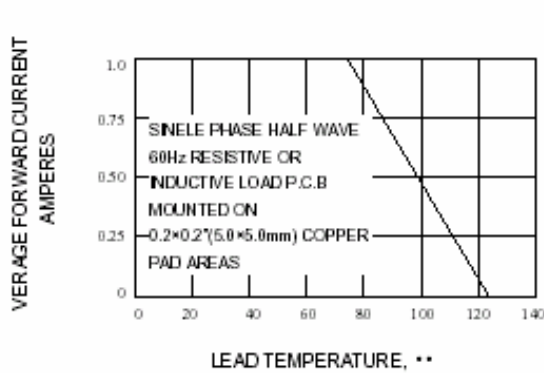


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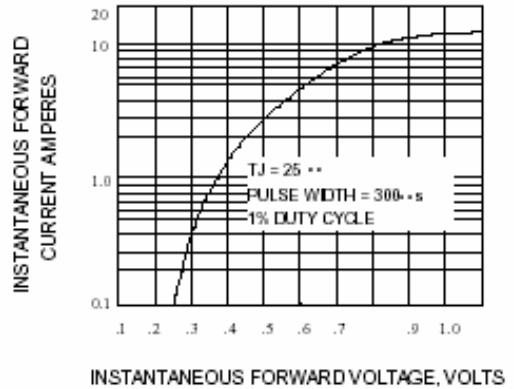


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

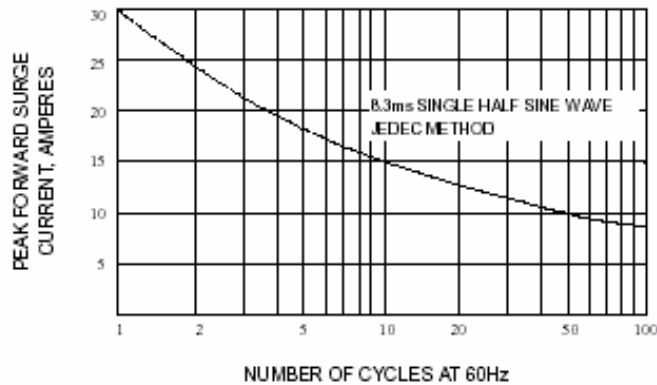


Fig. 3-MAXIMUM NON-REPETITIVE SURGE CURRENT

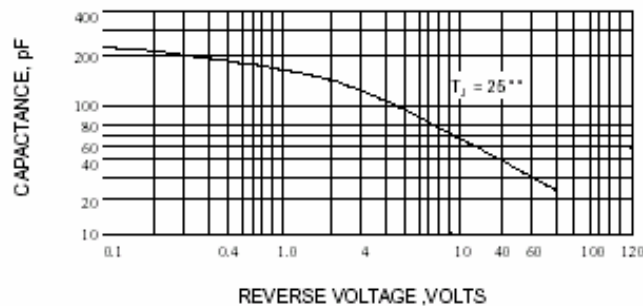


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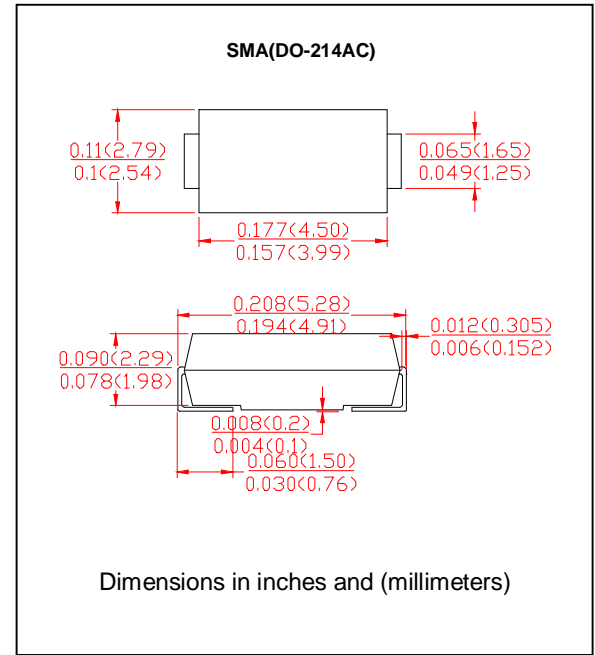
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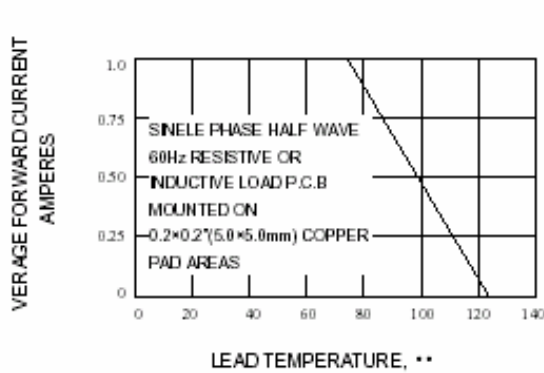


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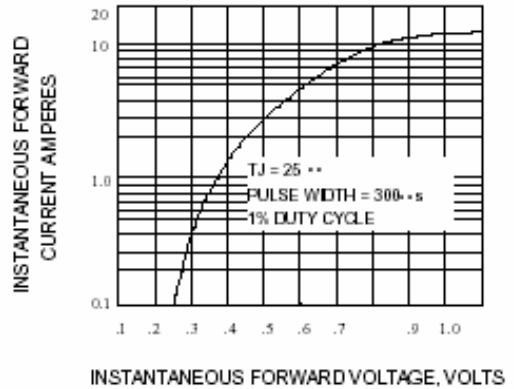


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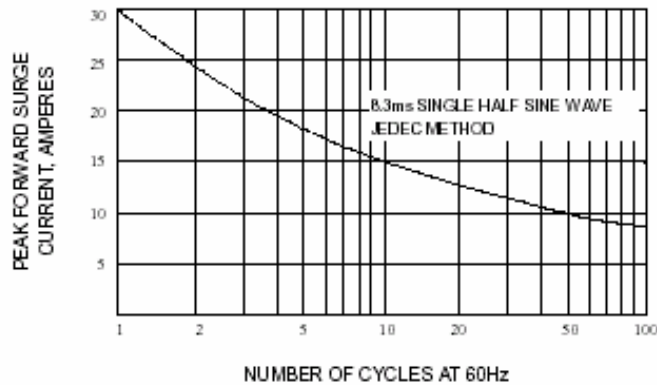


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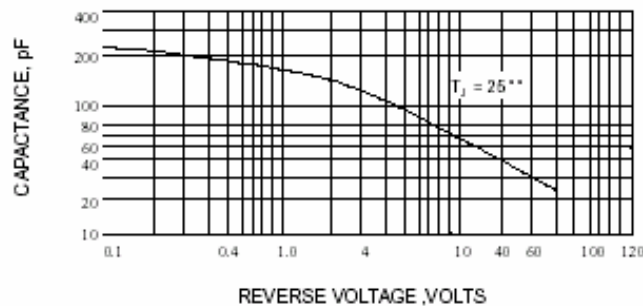


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