



## MASTER INSTRUMENT CORPORATION

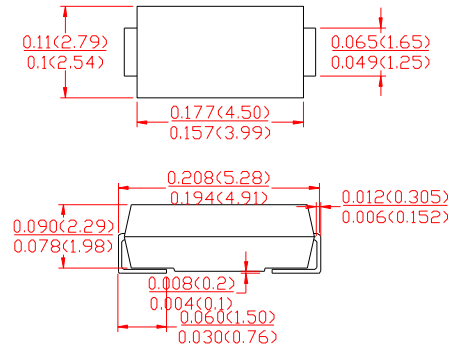
**SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER  
SS12 THRU SS110**

**VOLTAGE RANGE 20 to 100 Volts  
Forward Current 1.0 Amperes**

### FEATURES

- l Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- l Metal silicon junction, majority carrier conduction
- l For surface mount applications
- l Guard ring for over voltage protection
- l Low power loss, high efficiency
- l High current capability, Low forward voltage drop
- l High surge capability
- l For use in low voltage, high frequency inverters, Free wheeling, and polarity protection applications
- l High temperature soldering guaranteed:  
250°C/10 seconds at terminals

SMA(DO-214AC)



Dimensions in inches and (millimeters)

### MECHANICAL DATA

- l Case: JEDED SMA (DO-214AC) molded plastic body
- l Terminals: Solder Plated, solderable per MIL-STD-750 Method 2026
- l Polarity: Color band denotes cathode end
- l 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 by 20%.

	SYMBOLS	SS12	SS13	SS14	SS15	SS16	SS18	SS19	SS110	UNITS		
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	80	90	100	Volts		
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	56	63	70	Volts		
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	80	90	100	Volts		
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length (see Fig.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 of 1.0A (Note 1)	$V_F$	0.55			0.75		0.85			Volts		
Maximum instantaneous Reverse Current at rated DC blocking voltage (Note 1)	$I_R$	$T_A=25^\circ C$								0.5	mA	
		$T_A=125^\circ C$								10		
Typical thermal capacitance (Note 2)	$R_{QIL}$ $R_{QJA}$					28.0						°C/W
						88.0						
Operating and Storage Temperature Range	$T_J$	-65 to +125				-65 to +150				°C		
Storage temperature range	$T_{STG}$	-65 to +150										

#### NOTES:

1. Pulse test: 300µs pulse width, 1% duty cycle.
2. P.C.B. Mounted with 0.2" x 0.2" (5.0 x 5.0mm) copper pads.



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## RATING AND CHARACTERISTIC CURVES SS12 thru SS110

FIG.1-FORWARD CURRENT DERATING CURVE

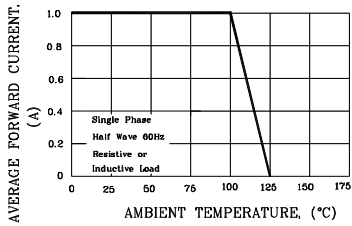


FIG.2-MAXIMUM NON-REPETITIVE SURGE CURRENT

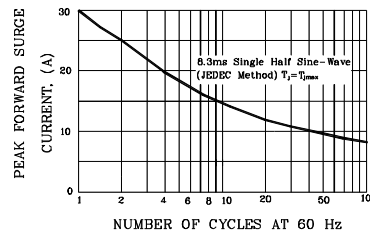


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

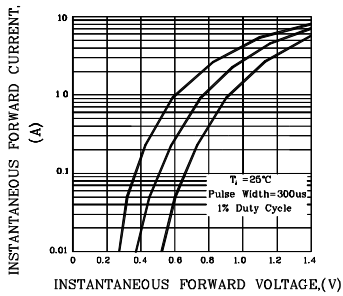


FIG.4-TYPICAL JUNCTION CAPACITANCE

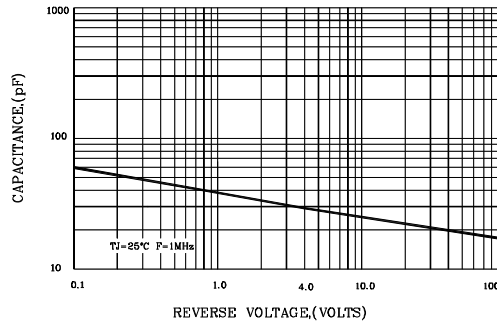


FIG.5-TYPICAL REVERSE CHARACTERISTICS

