

**SURFACE MOUNT SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere**

**FEATURES**

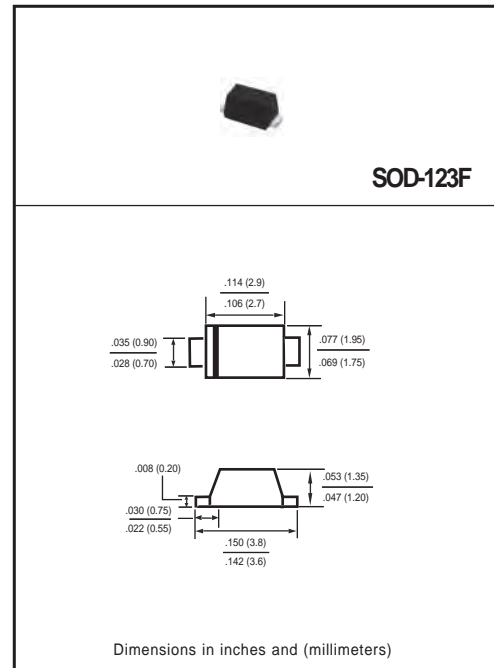
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.016 gram
- \* P/N suffix V means AEC-Q101 qualified, e.g:SA7V
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-0

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

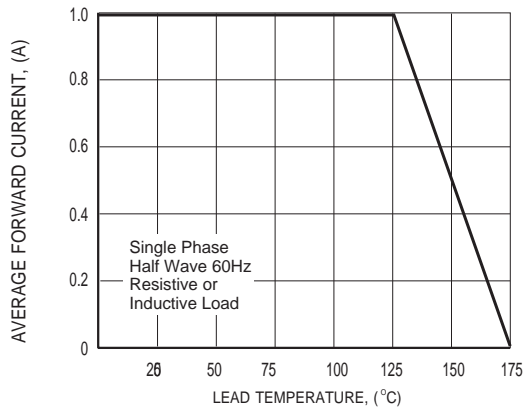
RATINGS	SYMBOL	SA1	SA2	SA3	SA4	SA5	SA6	SA7	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T <sub>L</sub> = 125 °C	I <sub>O</sub>	1.0							Amps
Peak Forward Surge Current I <sub>FM</sub> (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							Amps
Current Squarad Time	I <sup>2</sup> t	2.5							A <sup>2</sup> Sec
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	85							°C/W
	R <sub>θJL</sub>	25					30		
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	8							pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 175							°C

**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

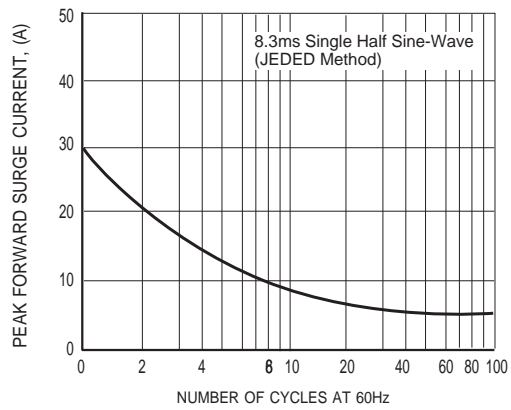
CHARACTERISTICS	SYMBOL	SA1	SA2	SA3	SA4	SA5	SA6	SA7	UNITS
Maximum Forward Voltage at 1.0A DC	V <sub>F</sub>	1.0							Volts
Maximum DC Average Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	1.0							uAmps
		200							uAmps

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
 2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
 3. Thermal Resistance: Mounted on PCB.  
 4. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

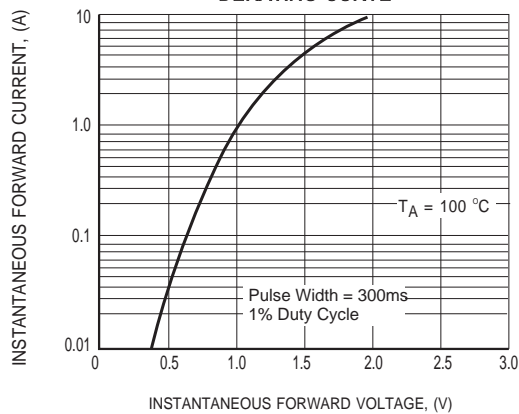
# RATING AND CHARACTERISTICS CURVES (SA1V THRU SA7V)



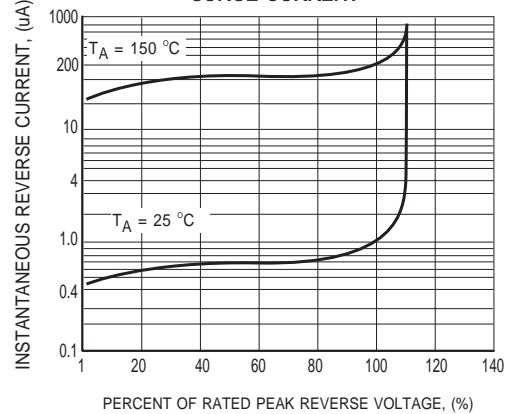
**FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE**



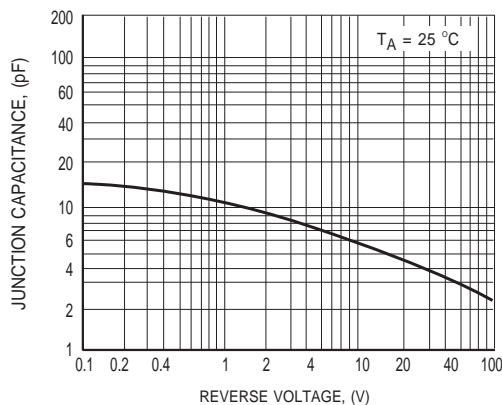
**FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**

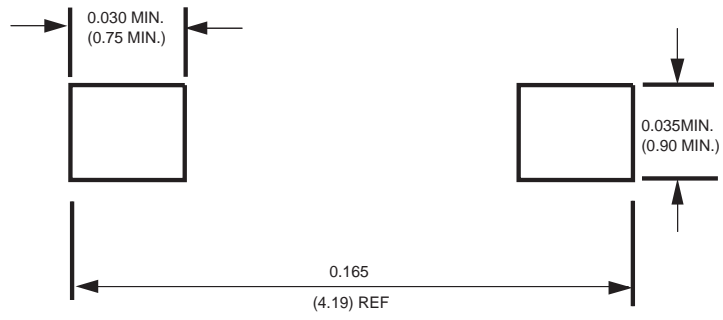


**FIG.4 MAXIMUM REVERSE CHARACTERISTICS**



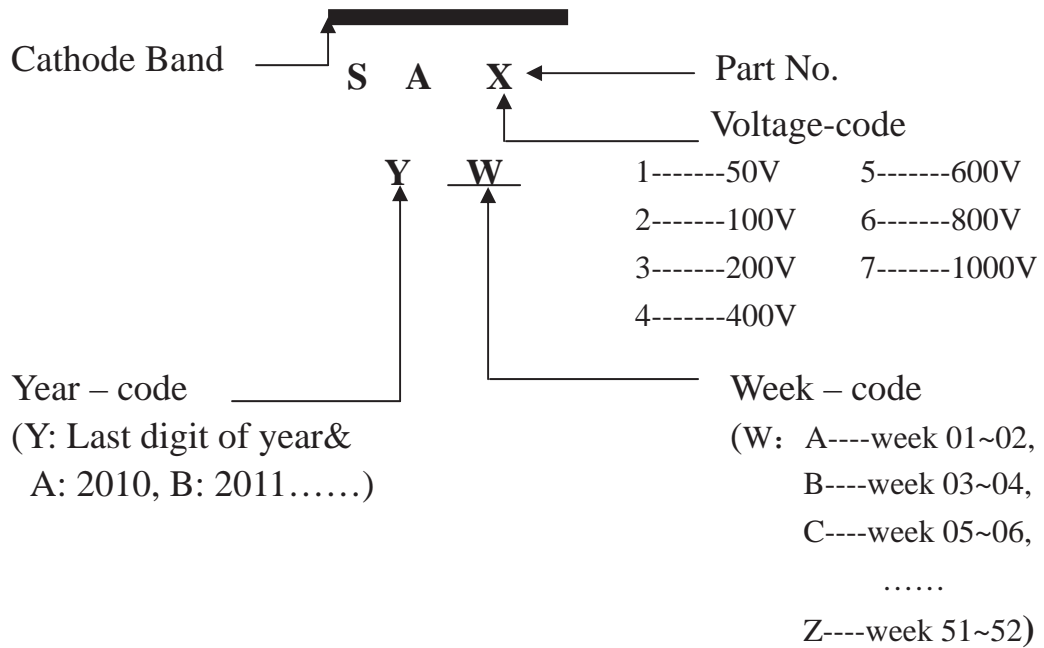
**FIG.5 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## Marking Description



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123F/ SOD-123FL	-W	3,000	15,000	---	---	178	390*205*31	120,000	6.964

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