

### PLASTIC SILICON RECTIFIER

VOLTAGE RANGE: 50 --- 1000 V  
CURRENT: 1.0A

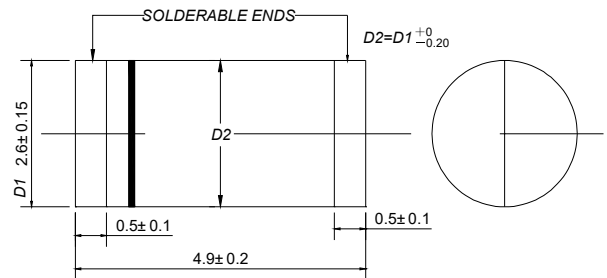
#### FEATURES

- ◇ Metal-semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-213AB, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.046 ounces, 0.116 grams
- ◇ Mounting position: Any

#### DO - 213AB



Dimensions in millimeters

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		SM 4001	SM 4002	SM 4003	SM 4004	SM 4005	SM 4006	SM 4007	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							A
Maximum forward voltage at 1.0A	$V_F$	1.1							V
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 50							$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_j$	15							pF
Typical thermal resistance (NOTE 2)	$R_{j\theta L}$	20							$^\circ\text{C}/\text{W}$
Typical thermal resistance (NOTE 3)	$R_{j\theta A}$	50							$^\circ\text{C}/\text{W}$
Operating temperature range	$T_j$	- 55 --- + 175							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 --- + 175							$^\circ\text{C}$

NOTE: 1. Pulse test: 300us pulse width, 1% duty cycle.

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance junction to ambient

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FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

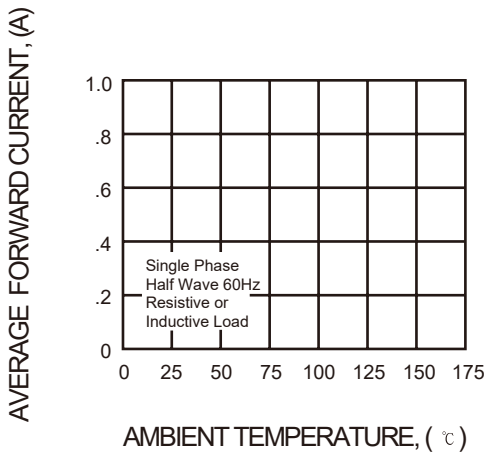


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

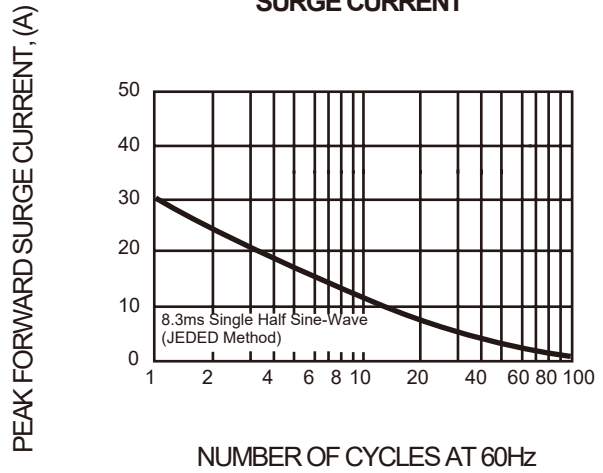


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

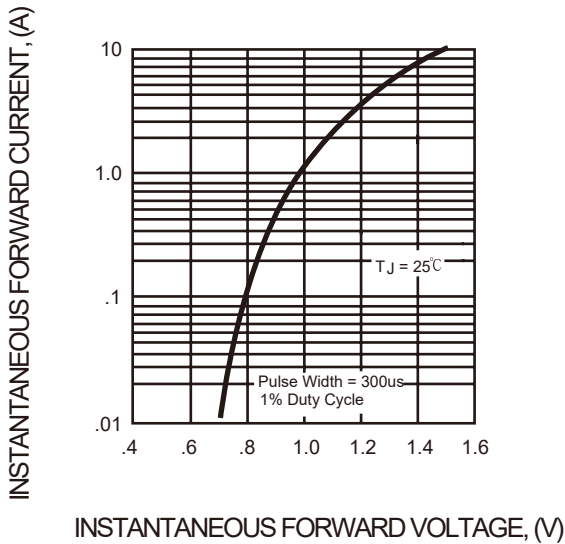


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

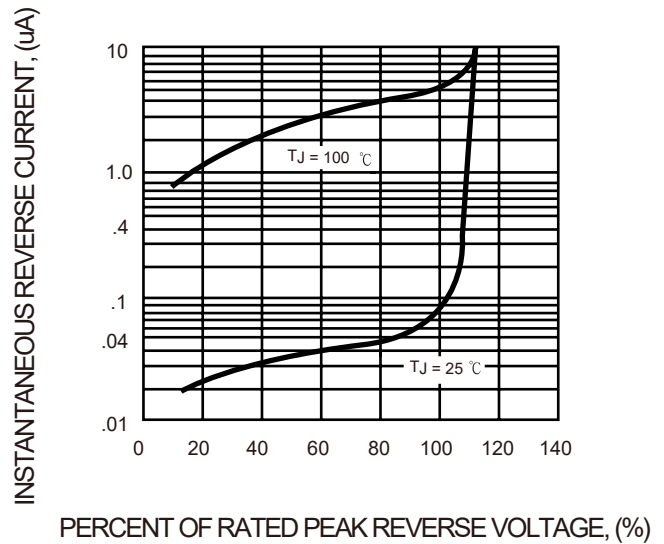


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

