



DC COMPONENTS CO., LTD.
RECTIFIER SPECIALISTS

**M1
THRU
M7**

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts

CURRENT 1.0 Ampere

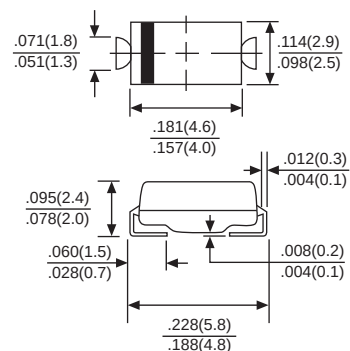
FEATURES

- * Ideal for surface mounted applications
- * Low leakage current
- * Low profile package
- * Low power loss, high efficiency
- * High surge capability

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per
MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.064 gram

SMA-L



Dimensions in inches and (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 current by 20%.

		SYMBOL	M1	M2	M3	M4	M5	M6	M7	UNITS
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		V _{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T _A = 55°C		I _O	1.0							Amps
Peak Forward Surge Current I _{FM} (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		I _{FSM}	30							Amps
Maximum Forward Voltage at 1.0A DC		V _F	1.1							Volts
Maximum DC Reverse Current at	@ T _A = 25°C	I _R	5.0							uAmps
Rated DC Blocking Voltage	@ T _A = 125°C		50							
Maximum Reverse Recovery Time (Note 3)		t _{rr}	2.5							uSec
Typical Thermal Resistance (Note 2)		R _{θJL}	30							°C/W
Typical Junction Capacitance (Note 1)		C _J	15							pF
Operating and Storage Temperature Range		T _J , T _{STG}	-65 to + 175							°C

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC
2. Thermal Resistance (Junction to Ambient), .24in² (6.0mm²) copper pads to each terminal.
3. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.

RATING AND CHARACTERISTIC CURVES (M1 THRU M7)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

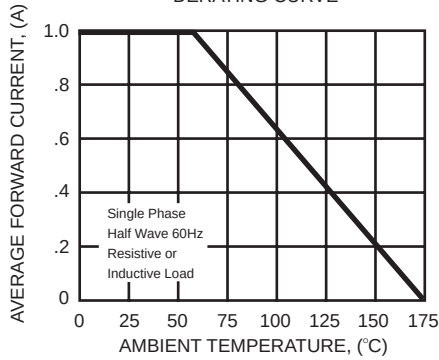


FIG. 2 - MAXIMUM NON-REPETITIVE FOREARD SURGE CURRENT

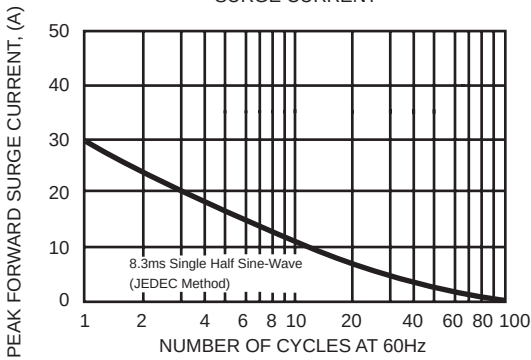


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

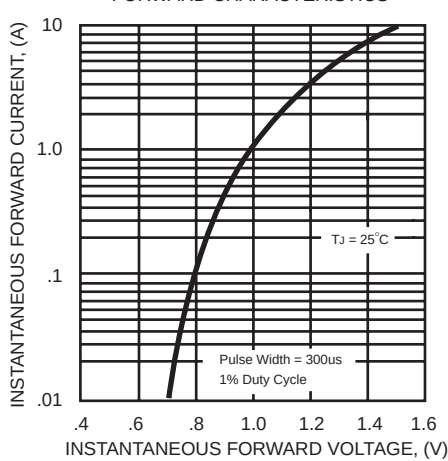


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

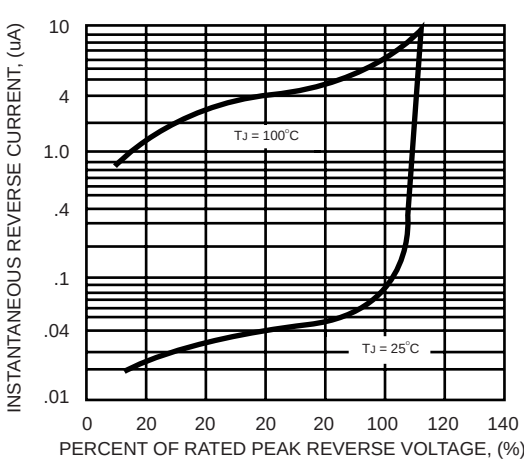
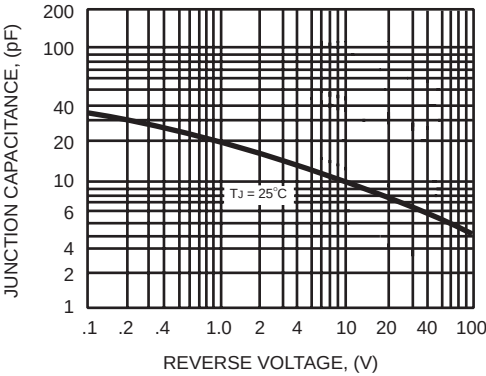


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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