



MASTER INSTRUMENT CORPORATION

SURFACE MOUNT RECTIFIER
M1 - M7

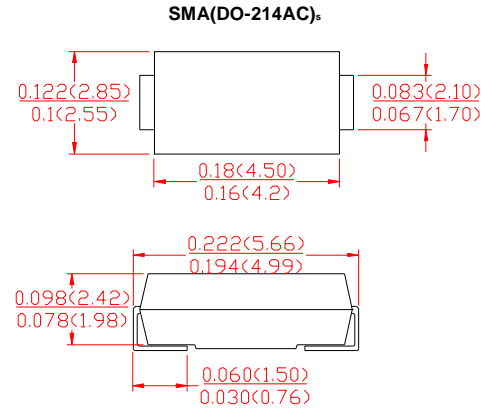
VOLTAGE RANGE 50 to 1000 Volts
Forward Current 1.0 Amperes

FEATURES

- l For surface mounted applications in order to optimize board space
- l Low profile package
- l Built –in strain relief , ideal for automated placement
- l Plastic package has underwrites laboratory flammability classification 94v-0
- l High temperature soldering guaranteed:
250°C/10 seconds at terminals

MECHANICAL DATA

- l Case: JEDED SMA(DO-214AC_s) molded plastic
- l Terminals: Plated axial lead solderable per MIL-STD-750, method 2026
- l Polarity: Color band denotes cathode end .
- l Mounting Position: Any.
- l Weight: 0.002 ounce, 0.064 gram



Dimensions in inches and (millimeters)

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	M1	M2	M3	M4	M5	M6	M7	UNITS
Maximum Repetitive 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 _L =110°C	I _(AV)	1							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	25.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V _F	1.1							Volts
Maximum DC Reverse Current at rated DC blocking voltage at	T _A =25°C	1.0					5.0		μA
	T _A =125°C	50							
Maximum Reverse Recovery Time (Note 2)	T _{RR}	1.8							nS
Maximum Thermal Resistance (Note 1)	R _{QJA}	75.0					85.0		°C/W
	R _{QJL}	27.0					30.0		
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150							°C

NOTES:

1. Thermal resistance from junction to ambient and from junction to lead mounted on 0.23 0.2”(5.03 5.0mm) copper pad areas.
2. Reverse recovery test condition, I_F=0.5A I_R=1.0A I_{RR}=0.25A.



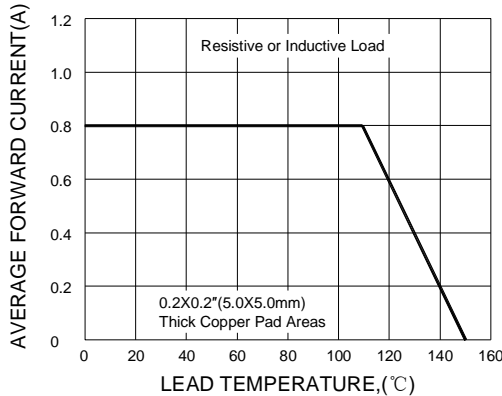
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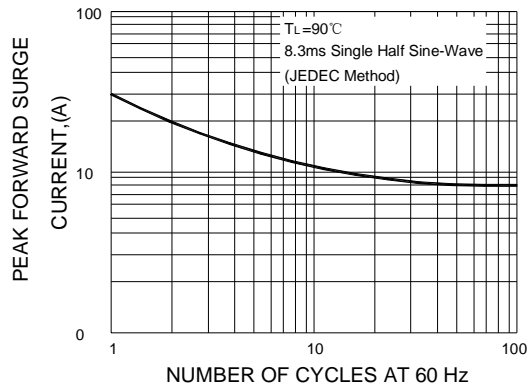
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RATINGS AND CHARACTERISTIC CURVES M1 - M7

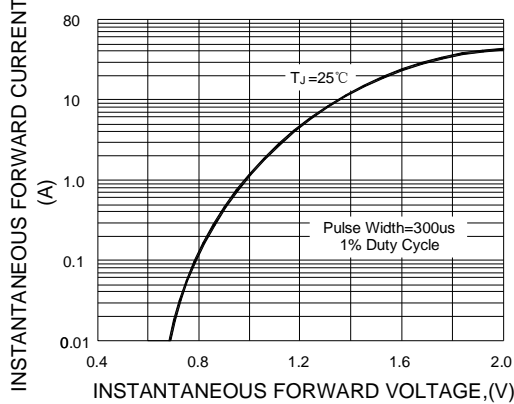
F1G.1-FORWARD CURRENT DERATING CURVE



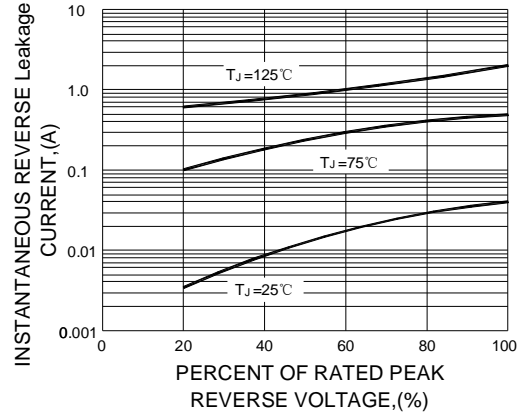
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



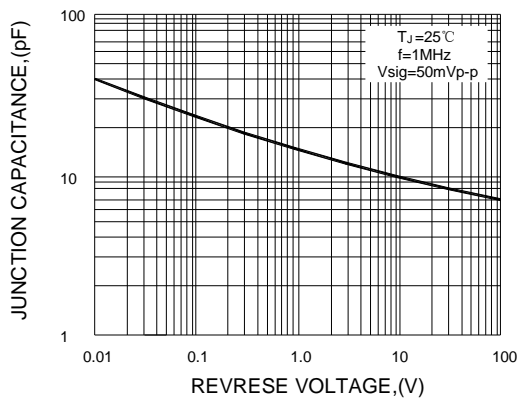
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TRANSIENT THERMAL IMPEDANCE

