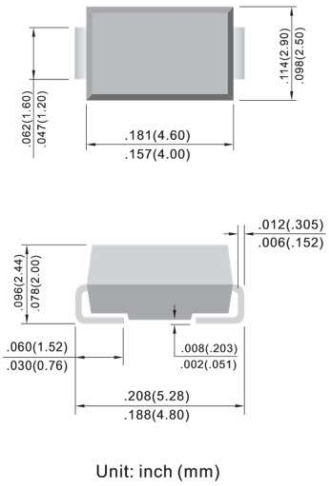
M1 THRU M7
Surface Mount General Purpose Silicon Rectifier

General description
Surface Mount General Purpose Silicon Rectifier

FEATURES
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA
- Case: SMA
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g / 0.002oz

SMA/DO-214AC



Unit: inch (mm)

Absolute Maximum Ratings(Ta=25℃ unless otherwise specified)

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

Parameter	Symbols	M1	M2	M3	M4	M5	M6	M7	Units
Marking Code	Mark	M1	M2	M3	M4	M5	M6	M7	N/A
Maximum Repetitive 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	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.1							V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a =125 °C	I_R	5 50							μA
Maximum Reverse Recovery Time(Note 1) TJ=25°C	Trr	2							uS
Typical Junction Capacitance (Note 2)	C_j	12							pF
Maximum Thermal Resistance(Note 3) RθJA	$R_{\theta JA}$	30							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

NOTES: 1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, Irr=0.25A
2. Measured at 1 MHz and applied Vr = 4.0 volts.
3. 8.0 mm2 (.013mm thick) land areas.

Typical Characteristics

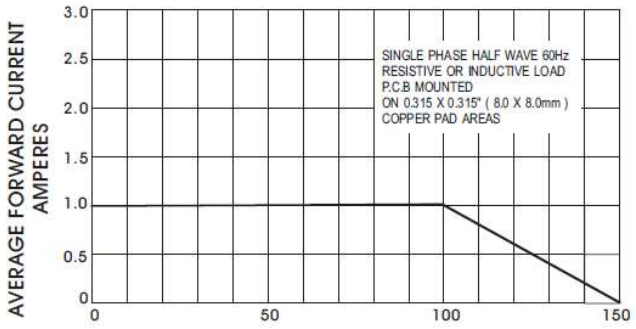


Fig. 1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

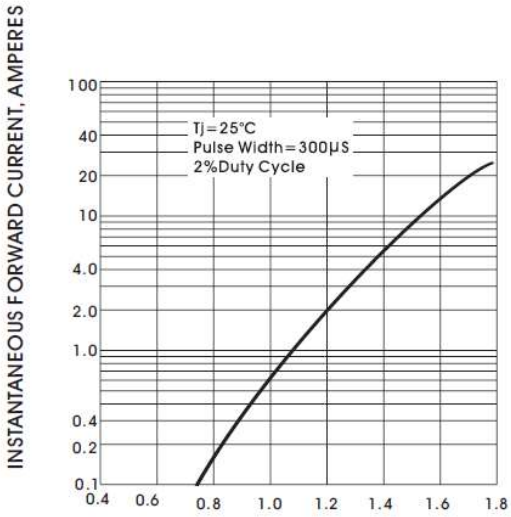


Fig. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISITCS PER ELEMENT

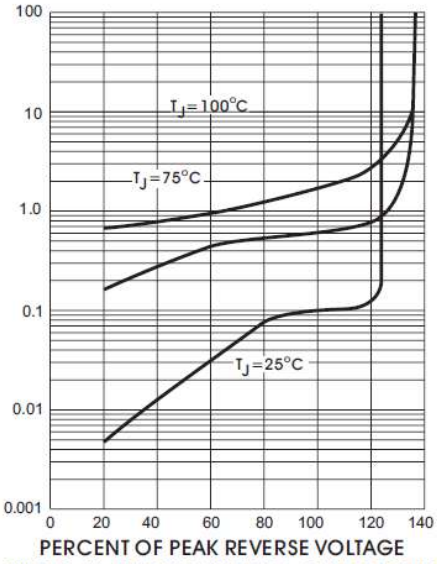


Fig. 3- TYPICAL REAK REVERSE CHARACTERISTICS

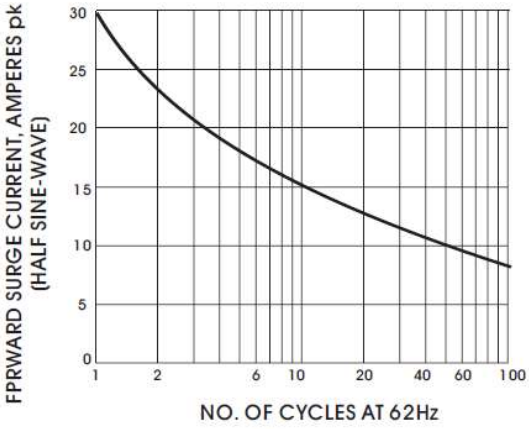


Fig. 4- MAXIMUM NON-REPETITEVE PEAK FORWARD SURGE CURRENT

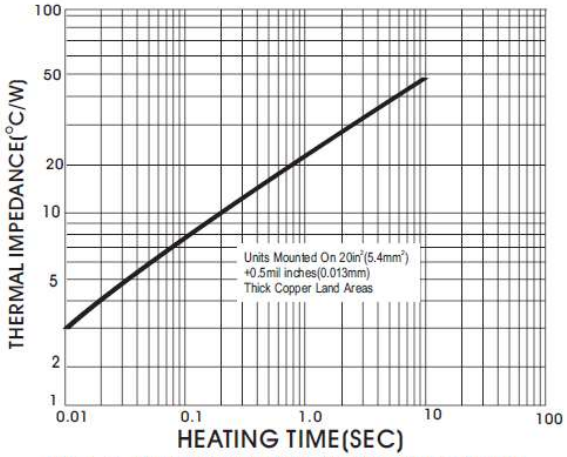


Fig. 5- TRANSIENT THERMAL IMPEDANCE

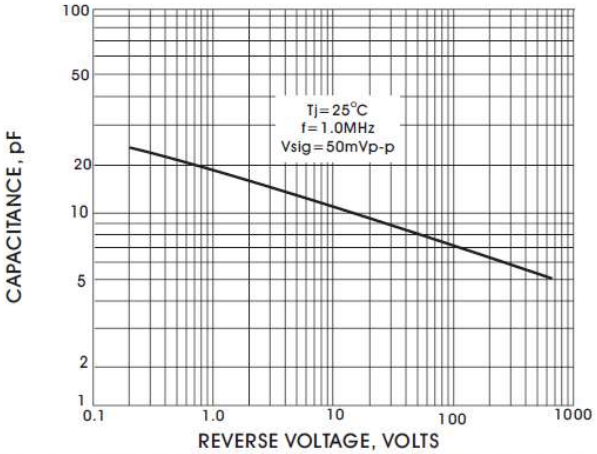
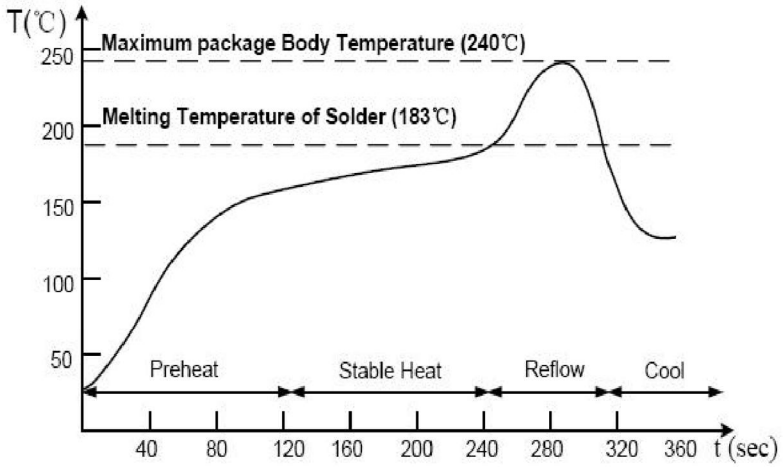


Fig. 6- TYPICL JUNCTION CAPACITANCE PER ELEMENT

Suggested Soldering Temperature Profile

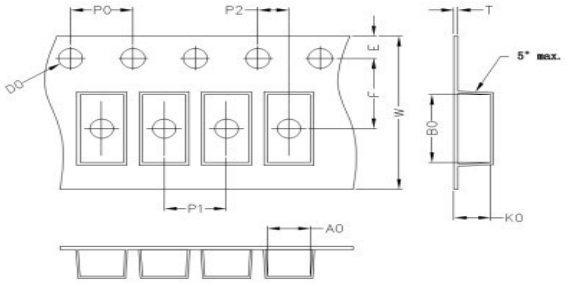


Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
2.80	5.30	2.36	1.55	1.75	5.50
P0	**P1**	**P2**	**T**	**W**	**Tolerance**
4.0	4.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMA	7'	178	2	180*180*73	8	380*200*200	80
	11'	280	5	288*288*38	10	355*310*310	80

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