

SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIERS

Forward Current-1.0A

Reverse Voltage-50V to 1000V

FEATURES

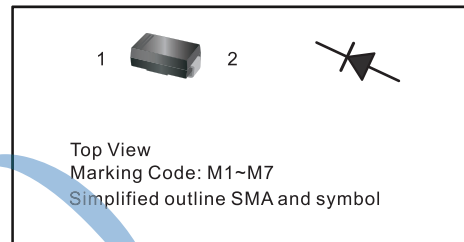
- ◆ For surface mount applications
- ◆ Glass passivated chip junction
- ◆ Low profile package
- ◆ ESD (HBM) > 4KV
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

MECHANICAL DATA

- ◆ Case: SMA molded plastic body
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Weight: Approximated 0.055 grams



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 current derating by 20 %.

PARAMETER	SYMBOL	M1	M2	M3	M4	M5	M6	M7	UNIT
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	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current (Note1)	I_{FSM}	30							A
Maximum Forward Voltage at 1.0 A	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	5 50							μA
Typical Junction Capacitance (Note2)	C_J	15							pF
Typical Thermal Resistance (Note3)	$R_{\theta JA}$	75							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method).

2. Measured at 1MHz and applied reverse voltage of 4 V D.C.

3. P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.



RATINGS AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

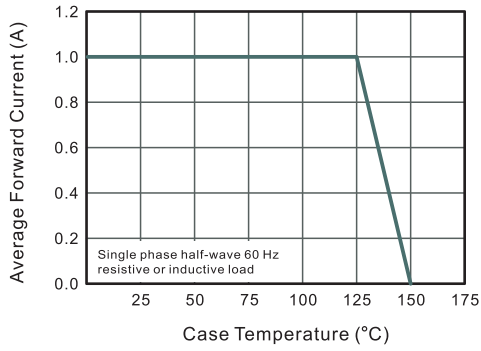


Fig.2 Typical Instantaneous Reverse Characteristics

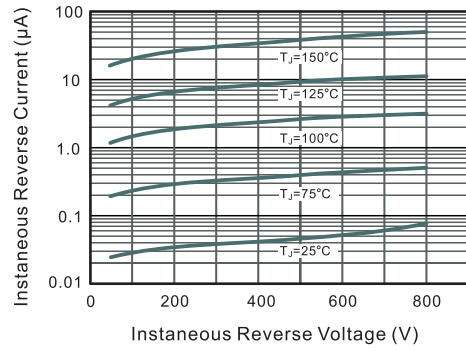


Fig.3 Typical Forward Characteristic

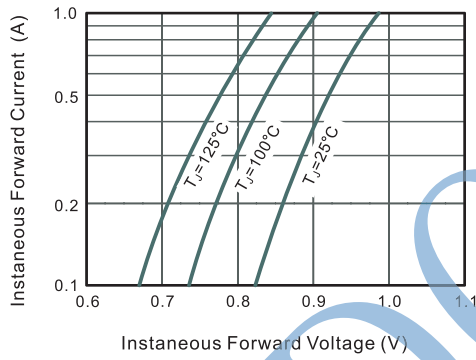


Fig.4 Typical Junction Capacitance

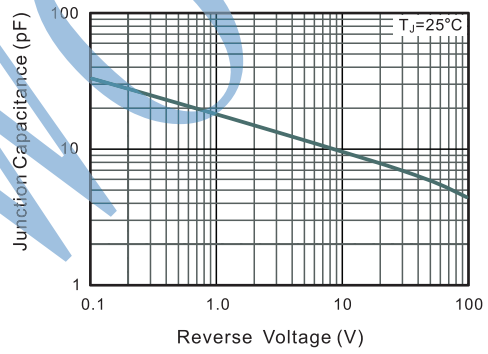
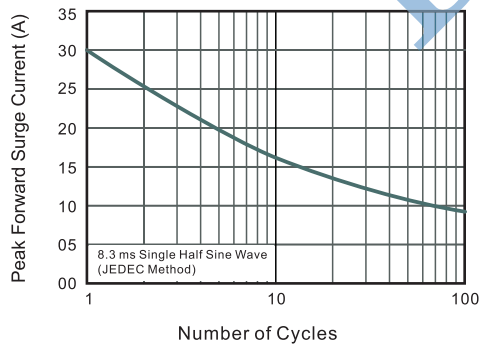


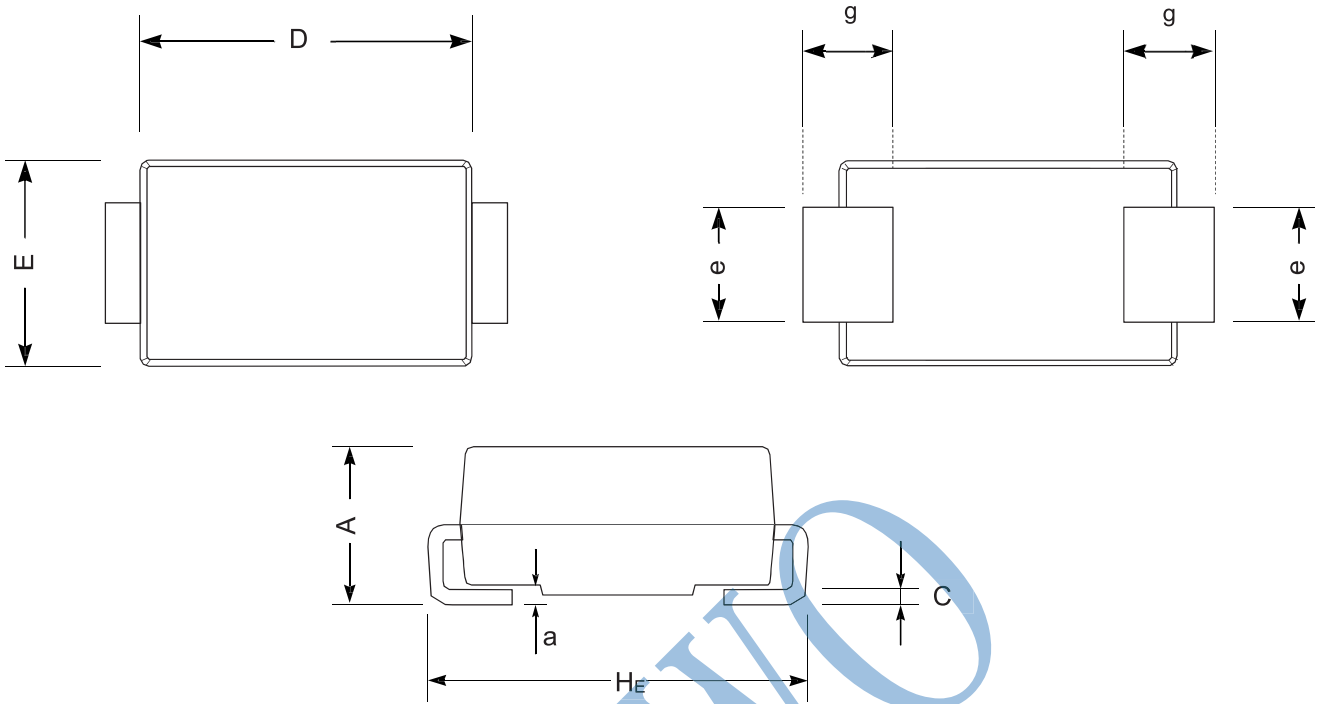
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current





PACKAGE OUTLINE

SMA



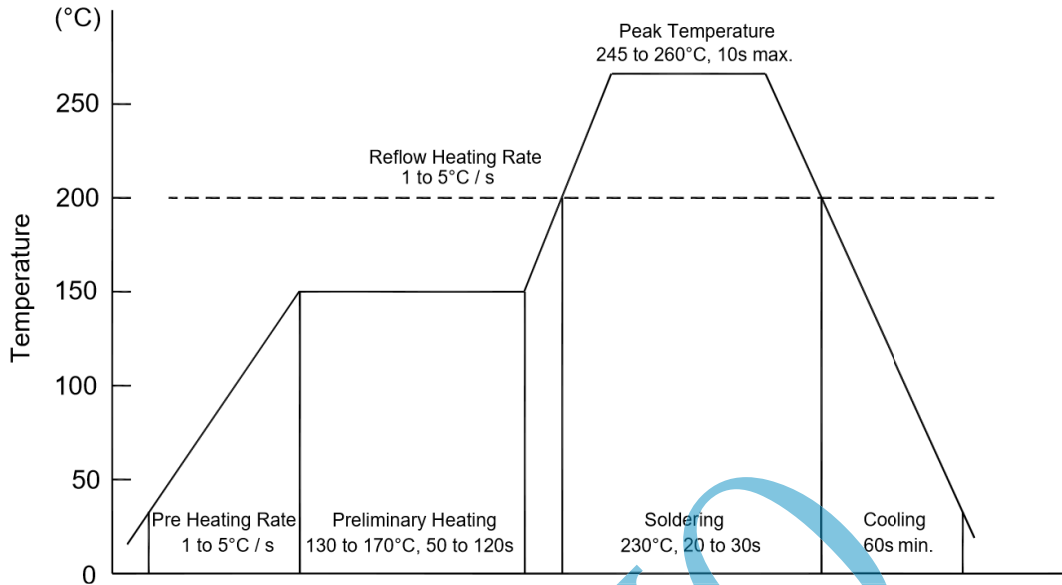
UNIT		A	D	E	HE	C	e	g	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	
mil	max	87	181	106	205	12	63	59	12
	min	75	157	91	185	6	51	35	

ORDERING INFORMATION

Device	Package	Shipping
M1 thru M7	SMA	5,000/Tape & Reel (13 inches)

CONDITIONS OF SOLDERING AND STORAGE

RECOMMENDED CONDITIONS OF REFLOW SOLDERING



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

Condition of hand soldering

- Temperature: 370 °C
- Time: 3s max.
- Times: one time

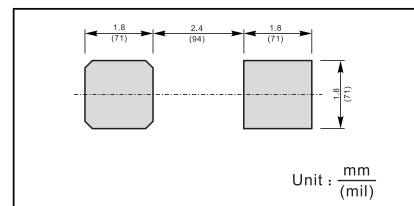
Marking

Type number	Marking code
M1	M1
M2	M2
M3	M3
M4	M4
M5	M5
M6	M6
M7	M7

STORAGE CONDITIONS

- ◆ **Temperature**
5 to 40 °C
- ◆ **Humidity**
30 to 80% RH
- ◆ **Recommended period** One
yaer after manufacturing

Pad size



MSL

- ◆ 1 Level