Surface Mount General Purpose Silicon Rectifiers

### Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code: M1~M7
Simplified outline SMA and symbol
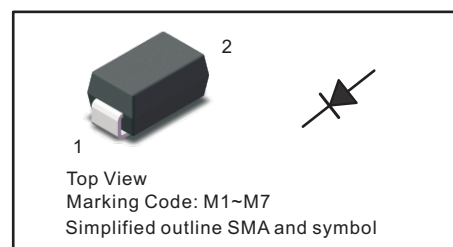
Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	M1	M2	M3	M4	M5	M6	M7	Units
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
Typical Junction Capacitance [1]	C_j	15							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	75							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	−55 ~ +150							°C

（1）Measured at 1 MHz and applied reverse voltage of 4 V D.C
（2）P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.
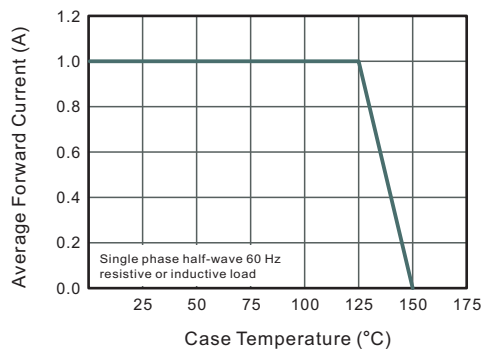
Fig.1 Forward Current Derating Curve

Average Forward Current (A) vs Case Temperature (°C)

Single phase half-wave 60 Hz resistive or inductive load

Fig.2 Typical Instaneous Reverse Characteristics

Instaneous Reverse Current (μA) vs Instaneous Reverse Voltage (V)

$T_J=150°C$
$T_J=125°C$
$T_J=100°C$
$T_J=75°C$
$T_J=25°C$
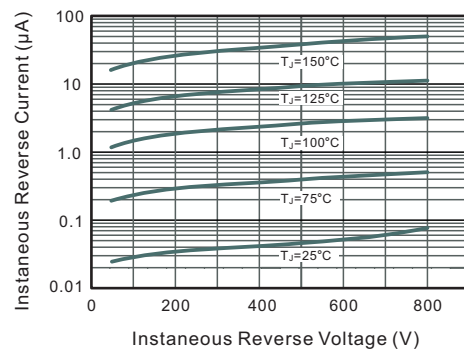
Fig.3 Typical Forward Characteristic

Instaneous Forward Current (A) vs Instaneous Forward Voltage (V)

$T_J=125°C$
$T_J=100°C$
$T_J=25°C$

Fig.4 Typical Junction Capacitance
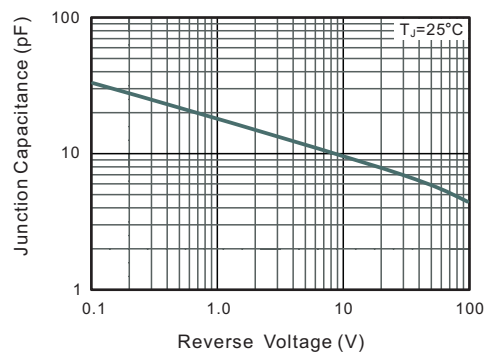
Junction Capacitance (pF) vs Reverse Voltage (V)

$T_J=25°C$
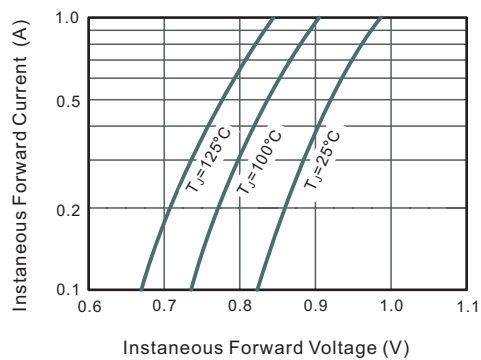
Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

Peak Forward Surage Current (A) vs Number of Cycles

8.3 ms Single Half Sine Wave
(JEDEC Method)

PACKAGE OUTLINE
Plastic surface mounted package; 2 leads

SMA

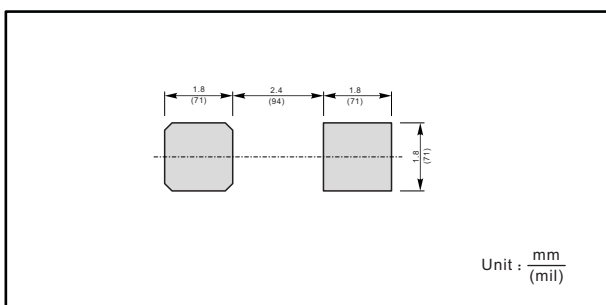| UNIT		A	D	E	H_E	c	e	g	b	a
mm	max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	0.2	0.3
	min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	0.05	
mil	max	87	181	106	205	12	63	59	7.9	12
	min	75	157	91	185	6	51	35	2	
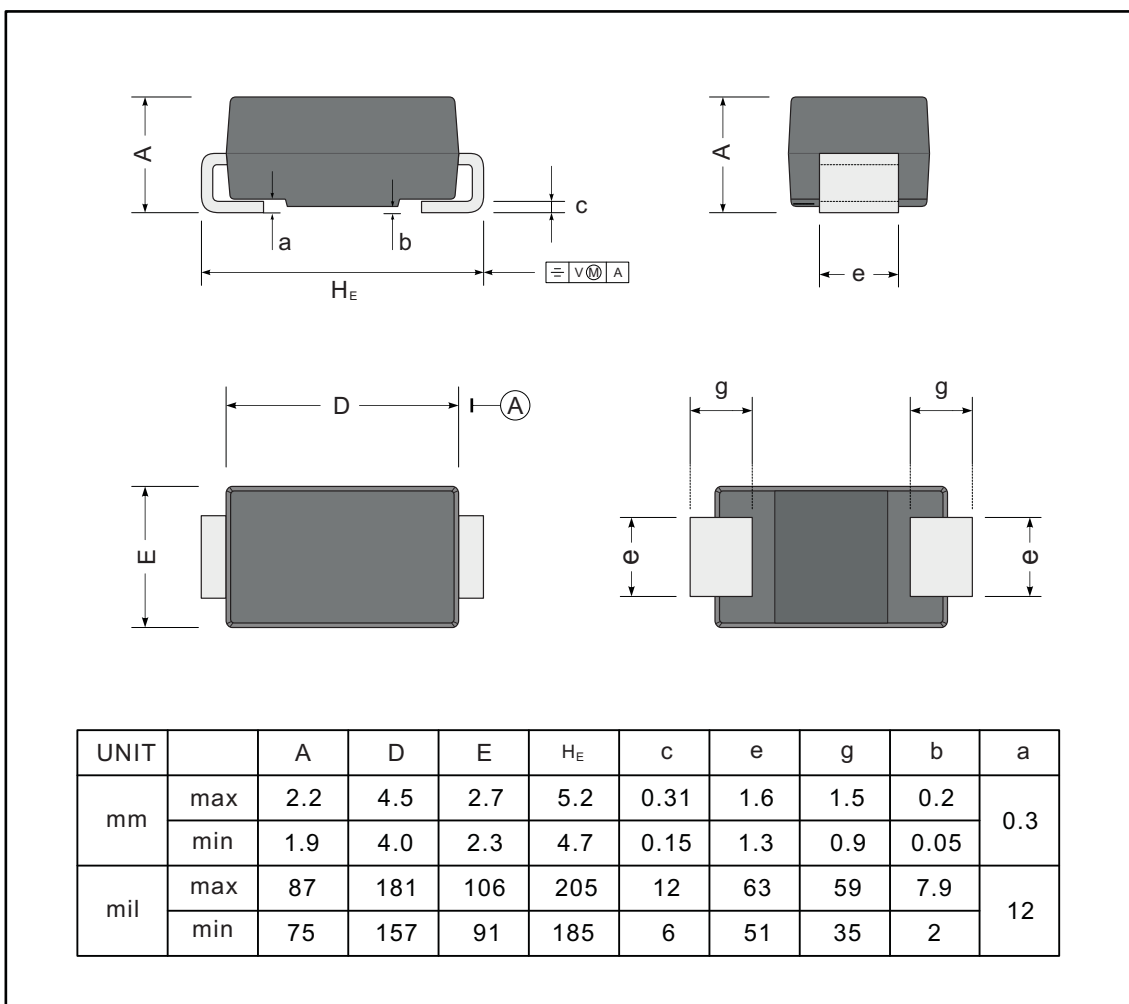
The recommended mounting pad size

1.8 (71)   2.4 (94)   1.8 (71)

1.8 (71)

Unit : $\frac{mm}{(mil)}$

Marking

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