



Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50~1000 V

Forward Current – 5 A

FEATURES

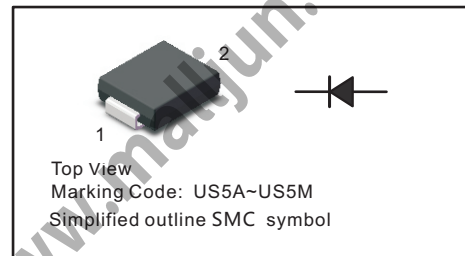
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 217mg / 0.0077oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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 %.

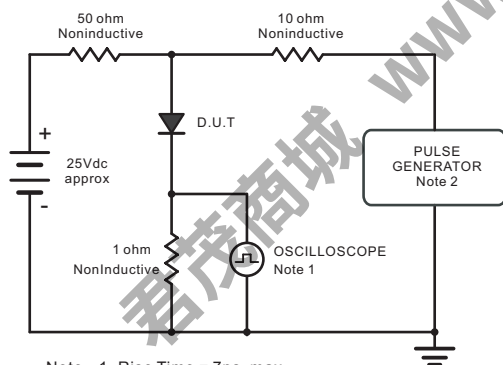
Parameter	Symbols	US5AC	US5BC	US5DC	US5GC	US5JC	US5KC	US5MC	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _c = 100 °C	I _{F(AV)}	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I _{FSM}	120							A
Maximum Instantaneous Forward Voltage at 5 A	V _F	1.0			1.3	1.65			V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _a = 25 °C T _a = 125 °C	I _R	5 100							μA
Typical Junction Capacitance at V _R =4V, f=1MHz	C _j	50							pF
Maximum Reverse Recovery Time ⁽¹⁾	t _{rr}	50				75			ns
Typical Thermal Resistance ⁽²⁾	R _{θJA}	35							°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 ~ +150							°C

(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

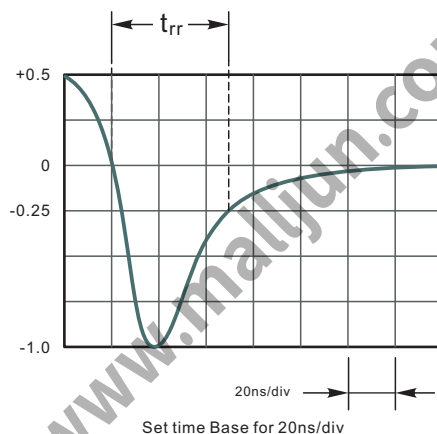


Fig.2 Maximum Average Forward Current Rating

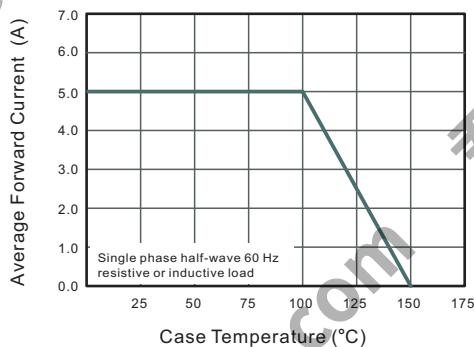


Fig.3 Typical Reverse Characteristics

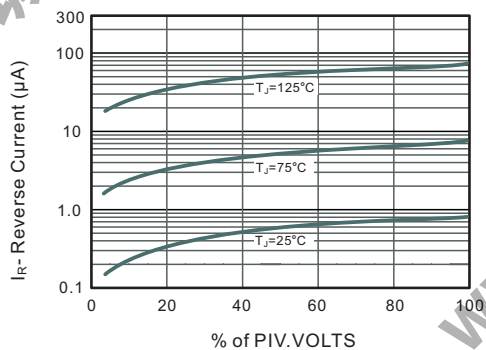


Fig.4 Typical Forward Characteristics

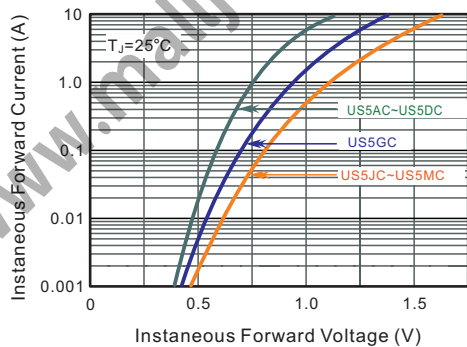


Fig.5 Typical Junction Capacitance

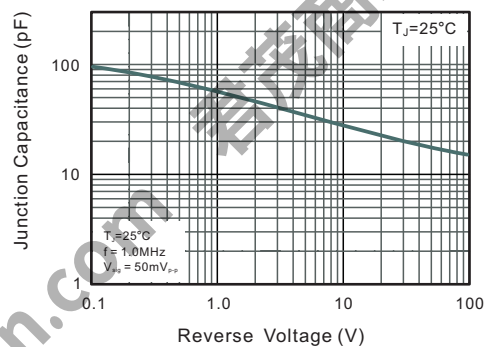
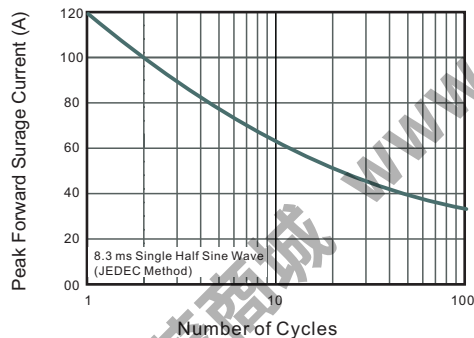


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

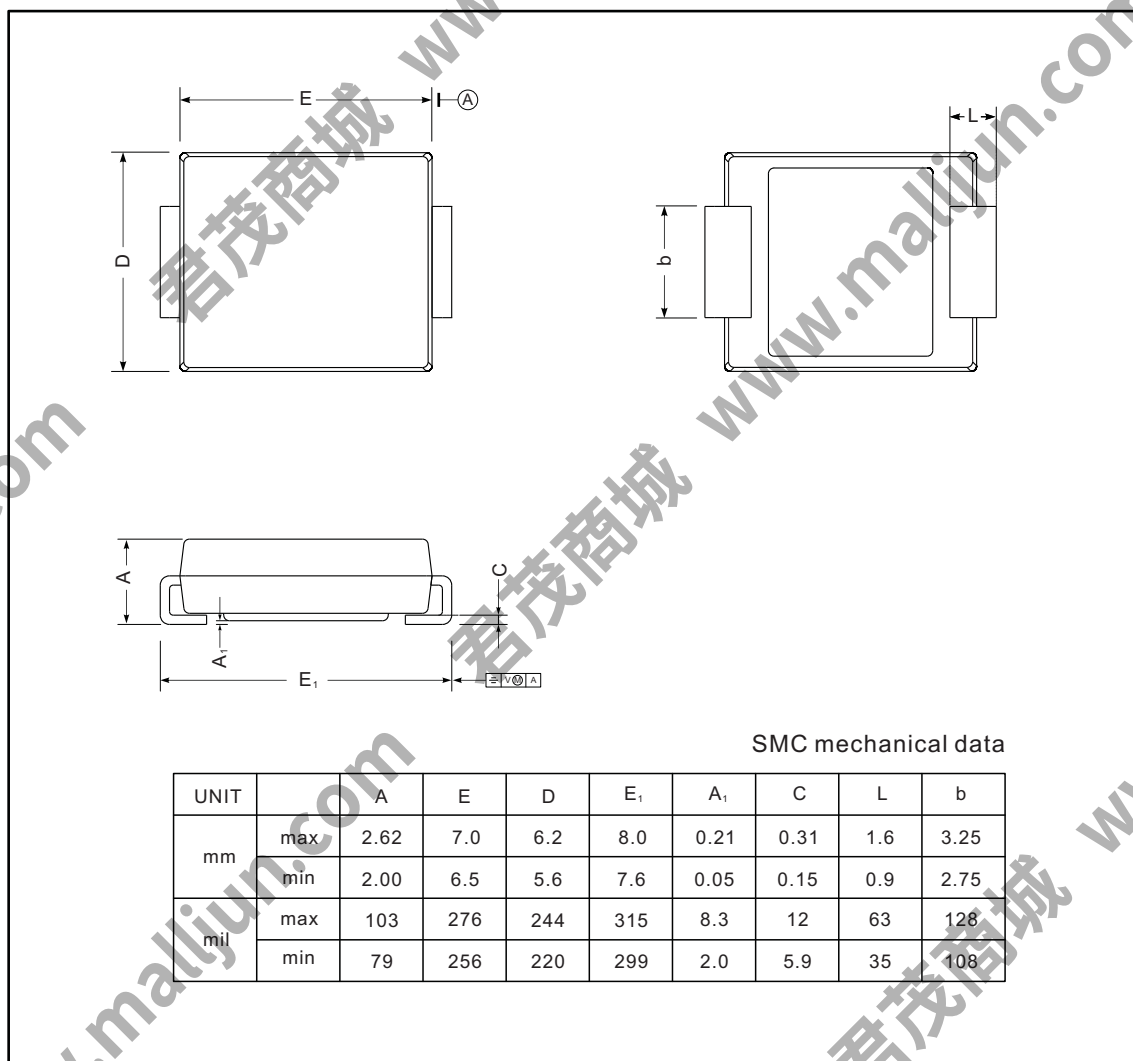




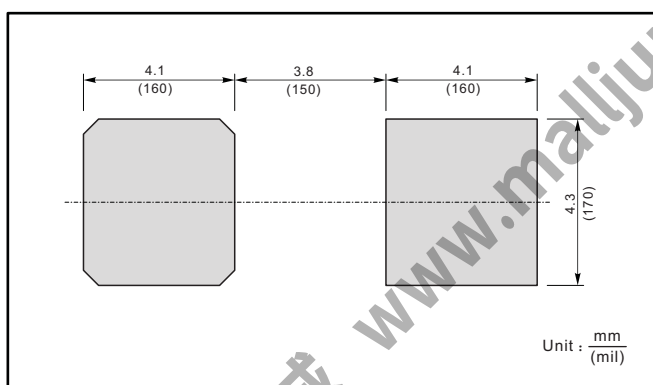
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMC



The recommended mounting pad size



Marking

Type number	Marking code
US5AC	US5A
US5BC	US5B
US5DC	US5D
US5GC	US5G
US5JC	US5J
US5KC	US5K
US5MC	US5M