

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIERS

FEATURES

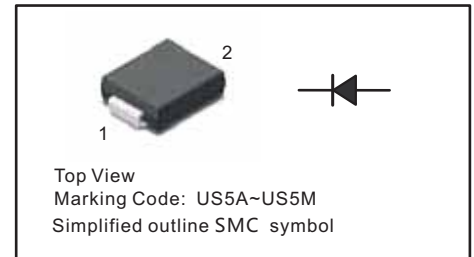
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.22g / 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	US5A	US5B	US5D	US5G	US5J	US5K	US5M	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 $T_c = 100\text{ }^\circ\text{C}$	$I_{F(AV)}$	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	150							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 $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	I_R	5 100							μA
Typical Junction Capacitance at $V_R = 4\text{V}$, $f = 1\text{MHz}$	C_j	50							pF
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	50				75			ns
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$

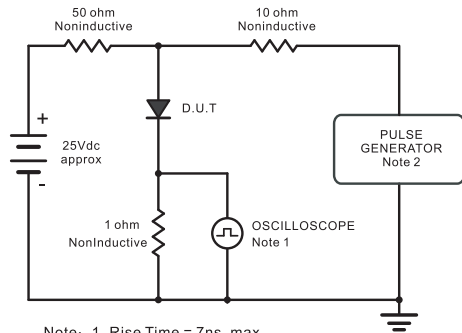
Notes:

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.

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RATINGS AND CHARACTERISTIC CURVES US5A - US5M

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

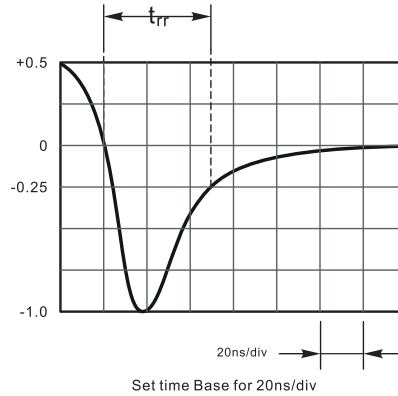


Fig.2 Maximum Average Forward Current Rating

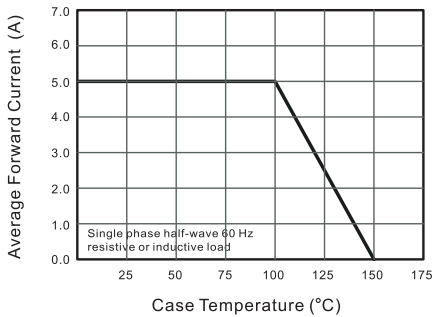


Fig.3 Typical Reverse Characteristics

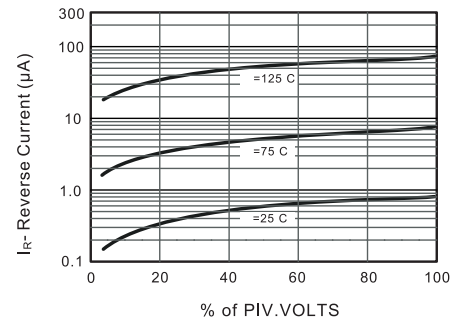


Fig.4 Typical Forward Characteristics

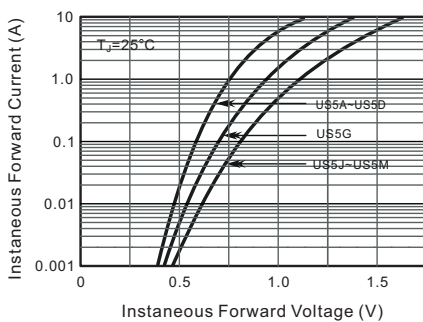


Fig.5 Typical Junction Capacitance

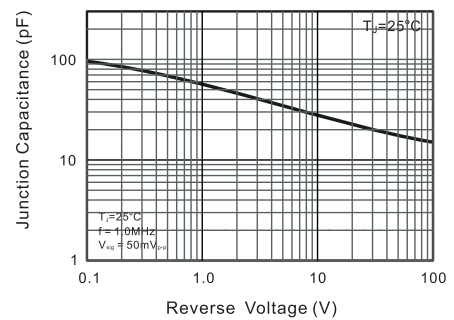
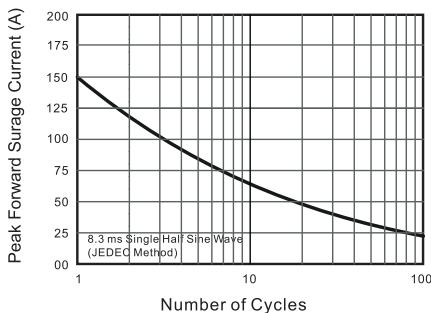


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

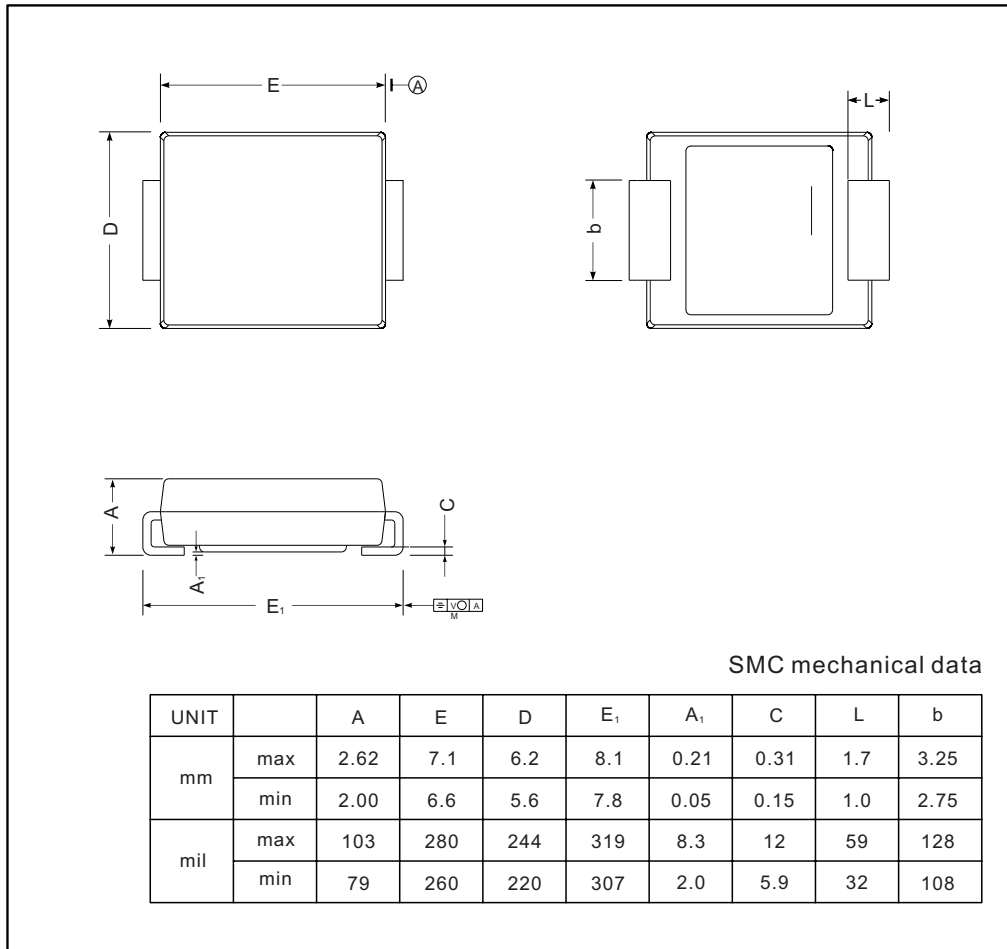


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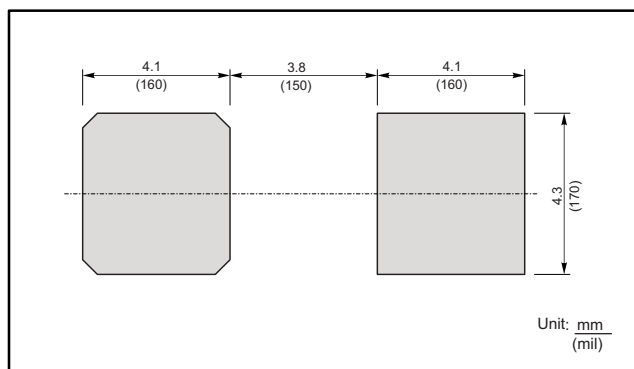
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMC



The recommended mounting pad size



Marking

Type number	Marking code
US5A	US5A
US5B	US5B
US5D	US5D
US5G	US5G
US5J	US5J
US5K	US5K
US5M	US5M

Disclaimer

All product, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.