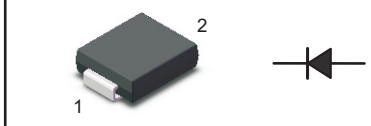
Surface Mount Super Fast Recovery Rectifier
Reverse Voltage – 800 V
Forward Current –5 A

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Marking Code: ES5K
Simplified outline SMC and symbol

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

Absolute Maximum Ratings and Characteristics

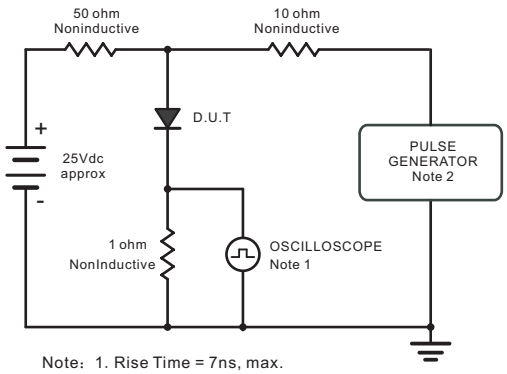
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	ES5KC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	800	V
Maximum RMS voltage	V_{RMS}	560	V
Maximum DC Blocking Voltage	V_{DC}	800	V
Maximum Average Forward Rectified Current at T_c = 125 °C	$I_{F(AV)}$	5	A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	100	A
Maximum Forward Voltage at 5 A	V_F	1.7	V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage 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}	35	ns
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	40 15	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

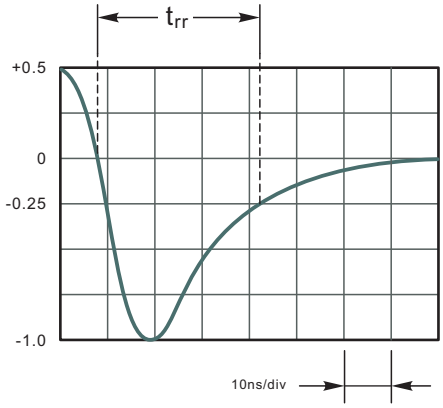
(1) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

(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. Ries Time =10ns, max.
Source Impedance = 50 ohms.



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

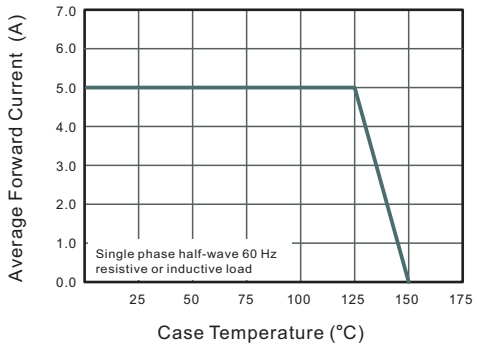


Fig.3 Typical Reverse Characteristics

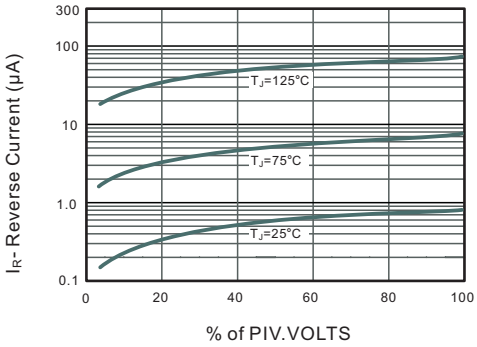


Fig.4 Typical Forward Characteristics

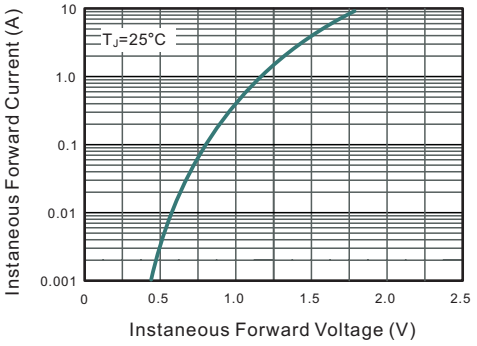


Fig.5 Typical Junction Capacitance

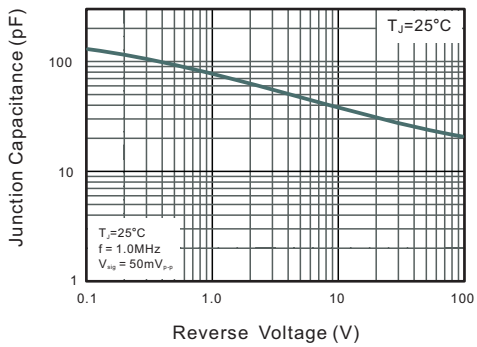
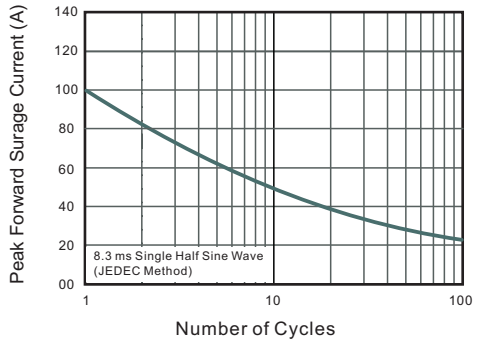
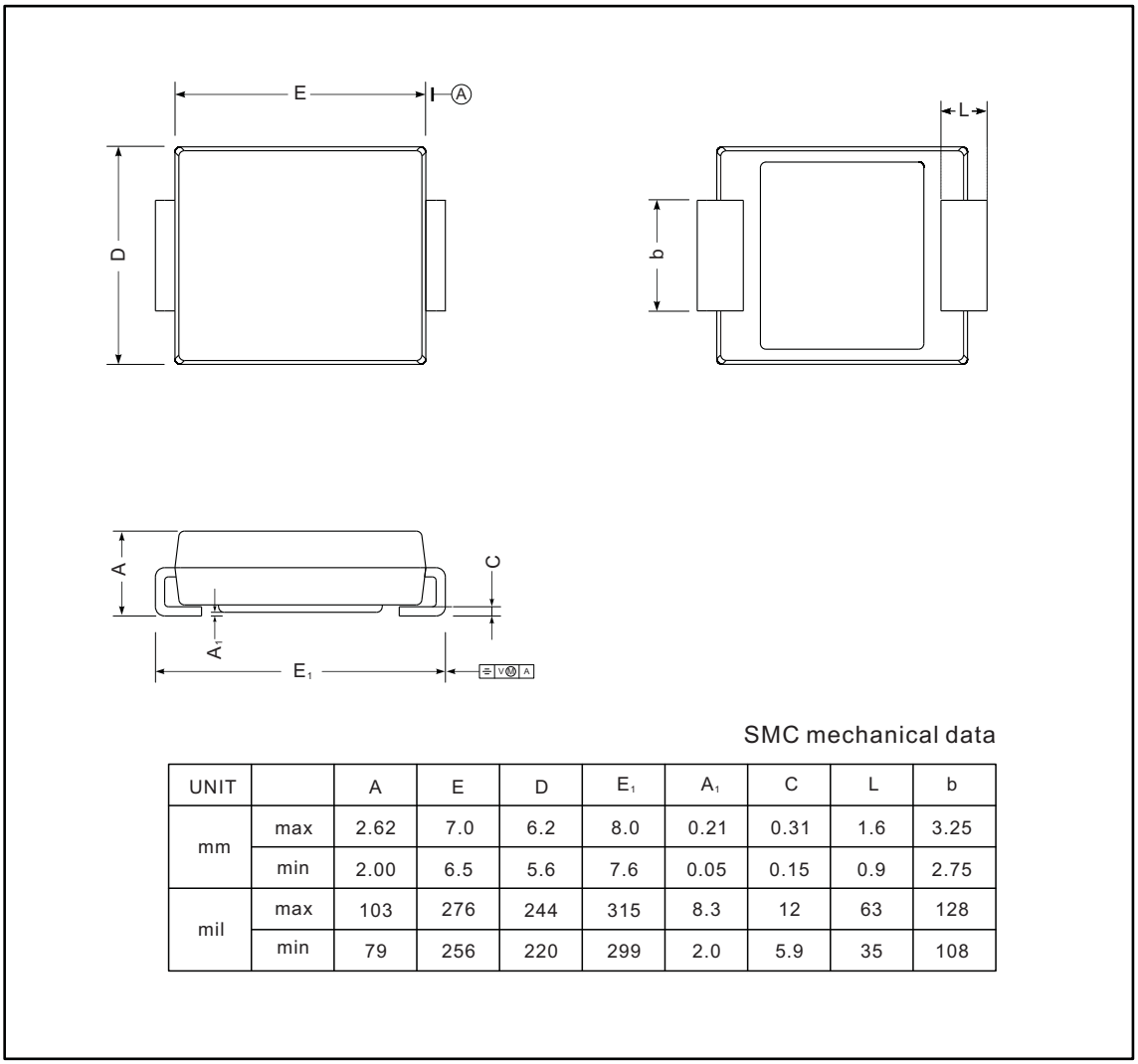


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current



PACKAGE OUTLINE

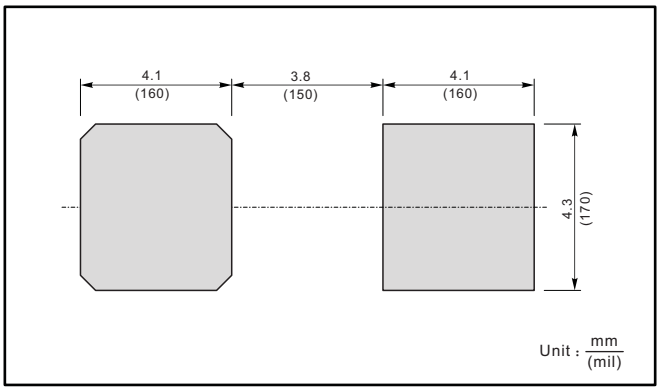
Plastic surface mounted package; 2 leads SMC



SMC mechanical data

UNIT		A	E	D	E_1	A_1	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

The recommended mounting pad size



Marking

Type number	Marking code
ES5KC	ES5K