

Surface Mount Superfast Recovery Rectifier

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Reverse Voltage 850 to 600 V

Forward Current 85 A

FEATURES

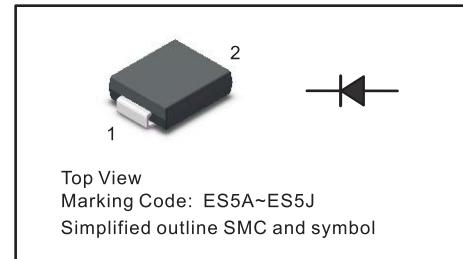
- "For surface mounted applications
- " Low profile package
- " Glass Passivated Chip Junction
- " Superfast reverse recovery time
- " Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- "Case : SMC
- " Terminals: Solderable per MIL-STD-750, Method 2026
- "A pprox. Weight : 0.22g / 0.0077oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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	ES5AC	ES5BC	ES5CC	ES5DC	ES5EC	ES5GC	ES5JC	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _a = 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 Forward Voltage at 5 A	V _F			1		1.25	1.68		V
Maximum DC Reverse Current T _a = 25 °C at Rated DC Blocking Voltage T _a = 125 °C	I _R			5	100				%A
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 _{θJA} R _{θJC}			35	13				°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

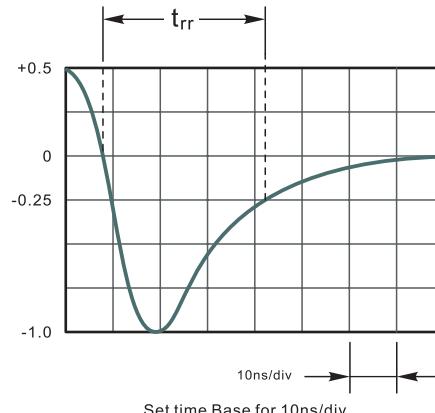
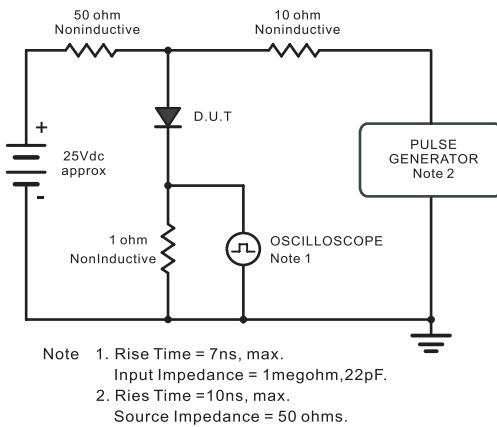


Fig.2 Maximum Average Forward Current Rating

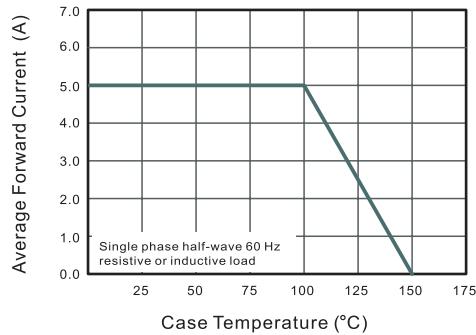


Fig.4 Typical Forward Characteristics

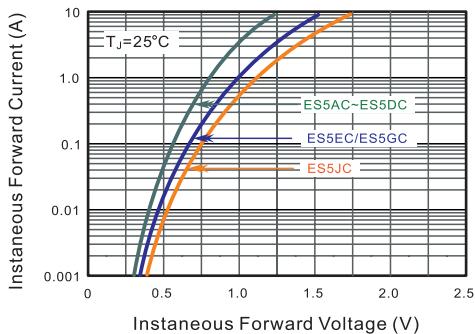


Fig.3 Typical Reverse Characteristics

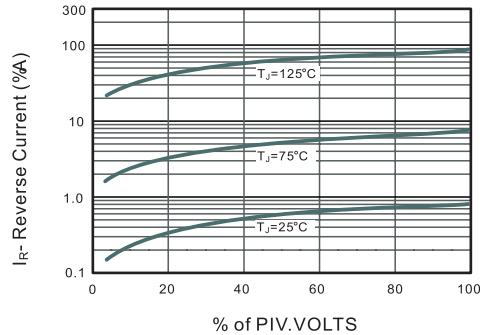


Fig.5 Typical Junction Capacitance

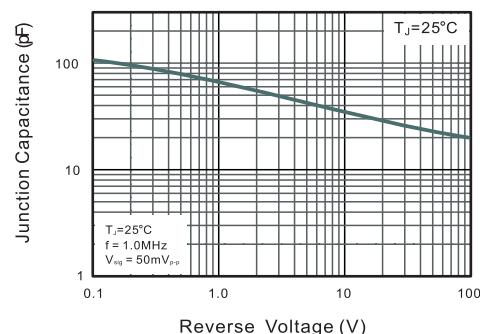
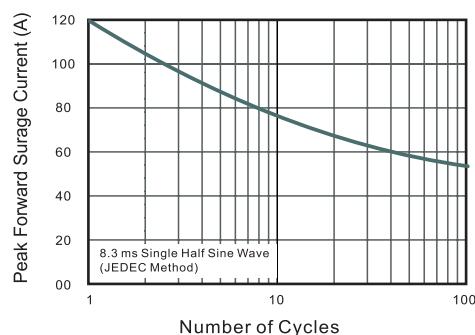


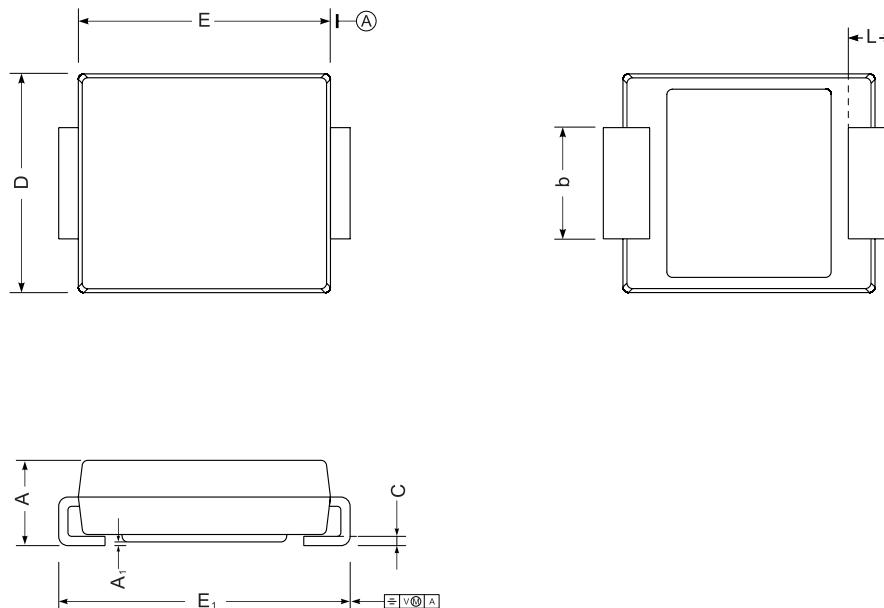
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

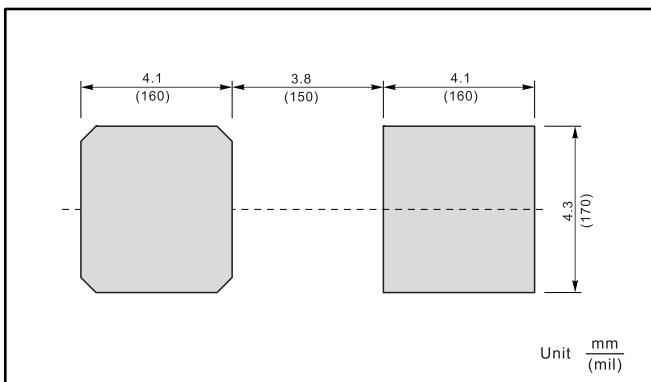
SMC



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
ES5AC	ES5A
ES5BC	ES5B
ES5CC	ES5C
ES5DC	ES5D
ES5EC	ES5E
ES5GC	ES5G
ES5JC	ES5J