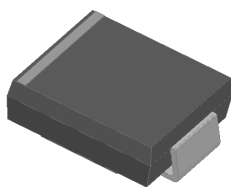


Surface Mount Fast Recovery Rectifier

SMC ES5EC



Cathode  Anode

Features

- Low forward voltage drop
- Low leakage
- High current capability
- Super fast switching speed
- High forward surge capability
- High reliability.

Mechanical Data

- Epoxy: UL 94V-O rate flame retardant
- Lead: lead solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end

■Maximum Ratings (T_a=25°C Unless otherwise specified)

Parameter	Symbols	ES5EC	Units
Maximum Repetitive Peak Reverse Voltage	VRRM	300	V
Maximum RMS voltage	VRMS	210	V
Maximum DC Blocking Voltage	VDC	300	V
Maximum Average Forward Rectified Current	I(AV)	5.0	A
Reverse Recovery Time. IF=0.5A, IR=1A, IRR=0.25A	Trr	35	ns
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	IFSM	130	A
I ² t rating for fusing (1ms< t < 8.3ms)	I ² t	70.1	A ² S
Maximum Forward Voltage at 5.0A and 25°C	VF	1.0	V
Maximum DC Reverse Current @TA=25 °C at Rated DC Blocking Voltage @TA=100 °C	IR	5 100	μA
Typical Junction Capacitance (Note1)	Cj	50	pF
Operating and Storage Temperature Range	Tj, Tstg	-55 ~ +150	°C
Typical thermal resistance (Note 2)	RθJ-A RθJ-C	35 13	°C/W

Note: 1. Measured at 1MHz and applied reverse voltage of 4 VDC.

2. Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

Fig.1 Maximum Average Forward Current Rating

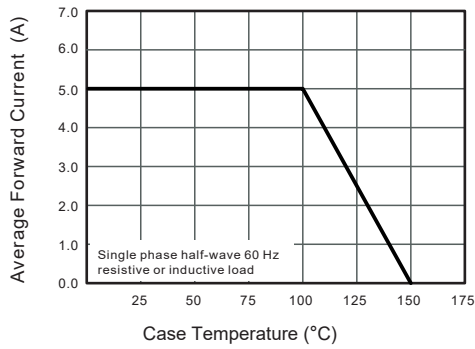


Fig.2 Typical Reverse Characteristics

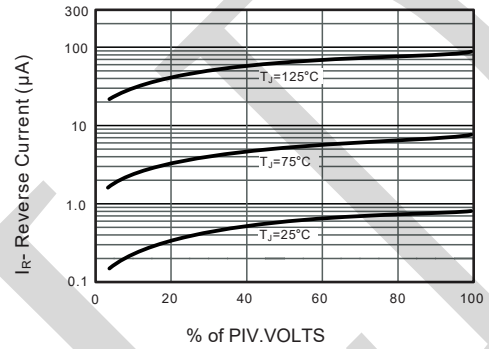


Fig.3 Typical Forward Characteristics

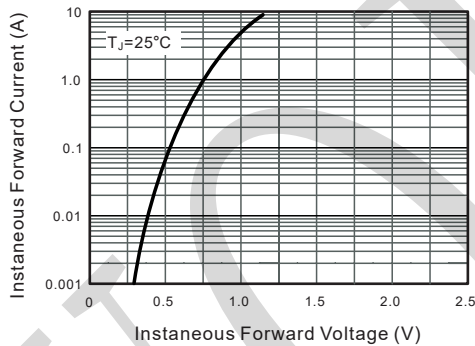
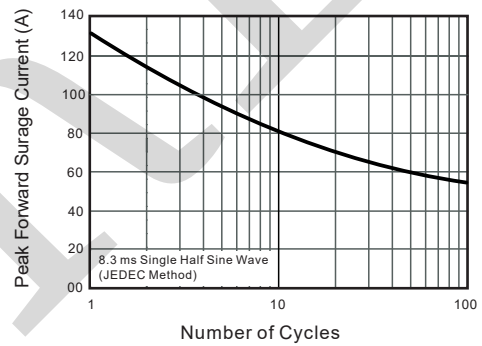
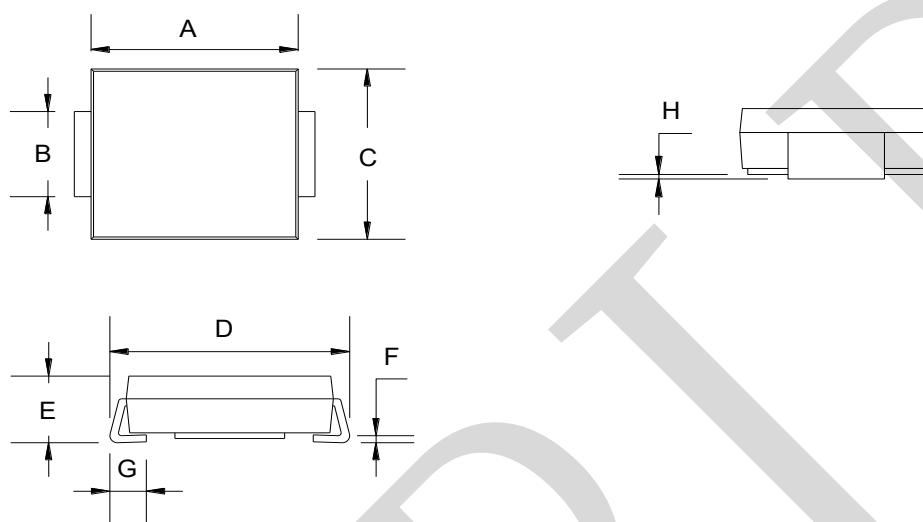


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

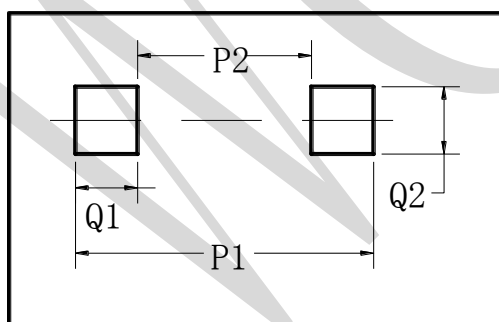
SMC



SMC Mechanical Data

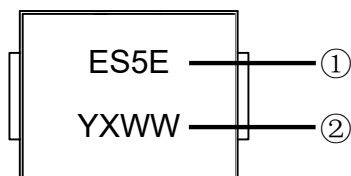
UNIT		A	B	C	D	E	F	G	H
mm	max	7.1	3.3	6.25	8.1	2.6	0.30	1.5	0.2
	min	6.6	2.8	5.6	7.7	2.0	0.15	0.75	0.1
mil	max	279.5	129.9	246.1	318.9	102.3	11.8	59.1	7.87
	min	259.8	110.2	220.5	303.1	78.7	5.90	29.5	3.93

SMC Suggested Pad Layout



UNIT		P1	P2	Q1	Q2
mm	Typ	9.9	3.85	3.0	3.8
mil	Typ	389.7	151.5	118.1	149.6

Marking Information



①Product model : ES5E

②PDC information:

Y X WW

WW:Week code(01 to 53)

X:Internal identification code

Y:Year code(ex:0=2020)