DESCRIPTION

The ES3AC_ES3JC are available in SMC Package

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time

MECHANICAL DATA

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

ORDERING INFORMATION

Package Type	Part Number
SMC	ES3AC
	ES3BC
	ES3CC
	ES3DC
	ES3EC
	ES3GC
	ES3JC
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION

PIN #	DESCRIPTION
1	Cathode
2	Anode

ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

@ T_A = 25°C, unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbol	ES3AC	ES3BC	ES3CC	ES3DC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	V
Maximum Average Forward Rectified Current at T_A = 125 °C	$I_{F(AV)}$	3				A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90				A
Maximum Forward Voltage at 3 A	V_F	1				V
Maximum DC Reverse Current T_A = 25℃ at Rated DC Blocking Voltage T_A =125℃	I_R	5 100				μA
Typical Junction Capacitance at V_R=4V, f=1MHz	C_j	40				pF
Maximum Reverse Recovery Time (1)	t_{rr}	35				ns
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	40 16				°C/W
Junction Temperature	T_J	+150				°C
Storage Temperature Range	T_{stg}	-55~+150				°C

(1) Measured with IF = 0.5 A, I_R = 1 A, Irr = 0.25 A.

(2) P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Parameter	Symbol	ES3EC	ES3GC	ES3JC	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	300	400	600	V
Maximum RMS voltage	V_{RMS}	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	300	400	600	V
Maximum Average Forward Rectified Current at T_A = 125 °C	$I_{F(AV)}$	3			A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90			A
Maximum Forward Voltage at 3 A	V_F	1.25		1.68	V
Maximum DC Reverse Current T_A = 25℃ at Rated DC Blocking Voltage T_A =125℃	I_R	5 100			μA
Typical Junction Capacitance at VR=4V, f=1MHz	C_j	40			pF
Maximum Reverse Recovery Time (1)	t_{rr}	35			ns
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	40 16			°C/W
Junction Temperature	T_J	+150			°C
Storage Temperature Range	T_{stg}	-55~+150			°C

(1) Measured with IF = 0.5 A, I_R = 1 A, Irr = 0.25 A.

(2) P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TYPICAL CHARACTERISTICS

Fig 1. Maximum Average Forward Current Rating

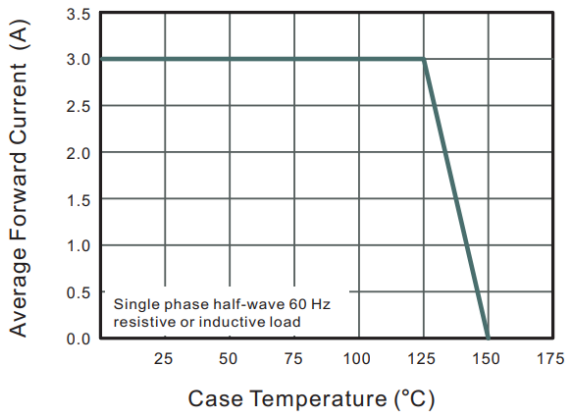


Fig 2. Typical Reverse Characteristics

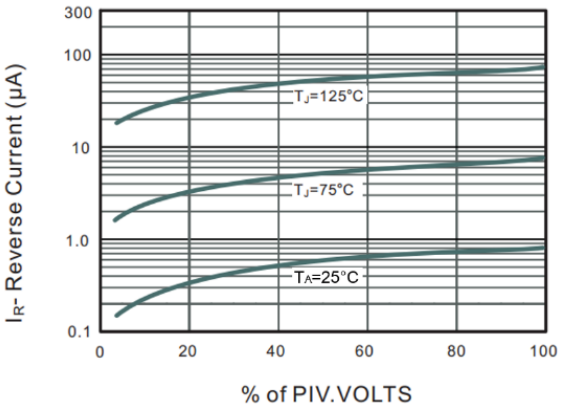


Fig 3. Typical Forward Characteristics

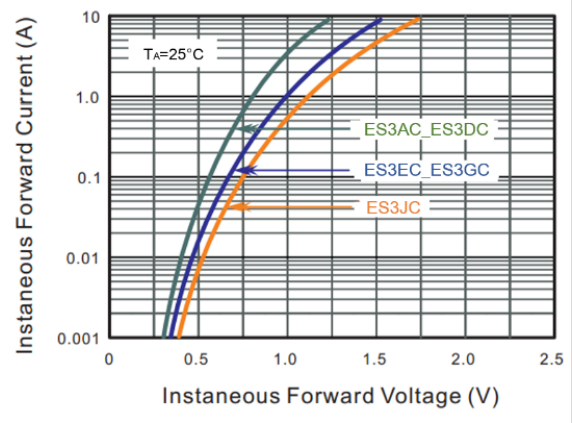


Fig 4. Typical Junction Capacitance

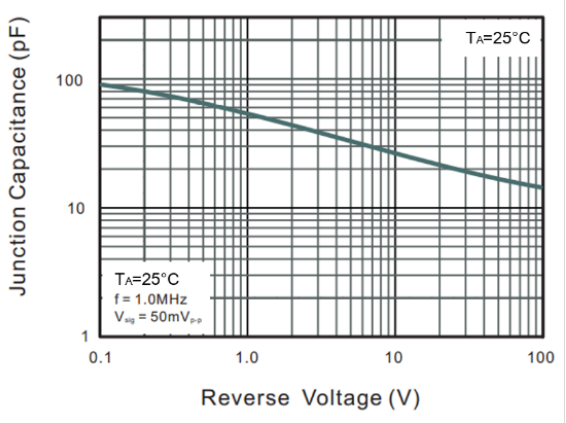


Fig 5. Maximum Non-Repetitive vs. Peak Forward Surge Current

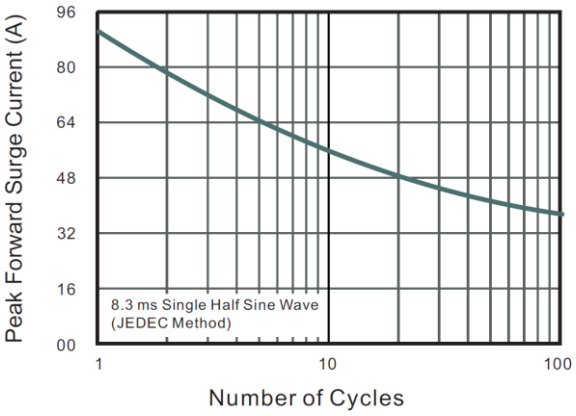
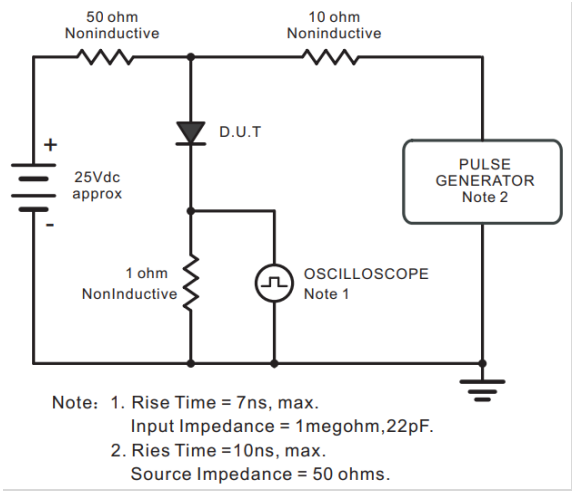
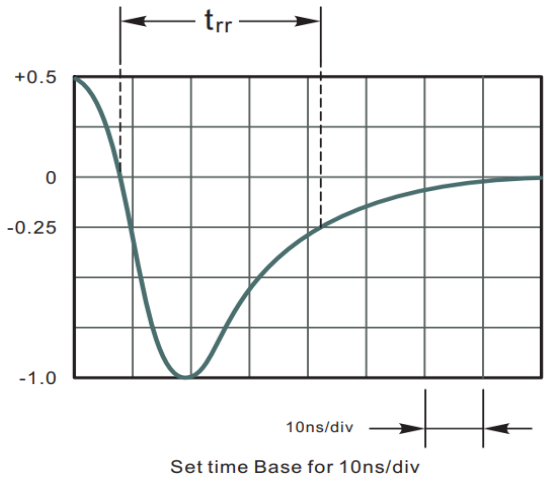


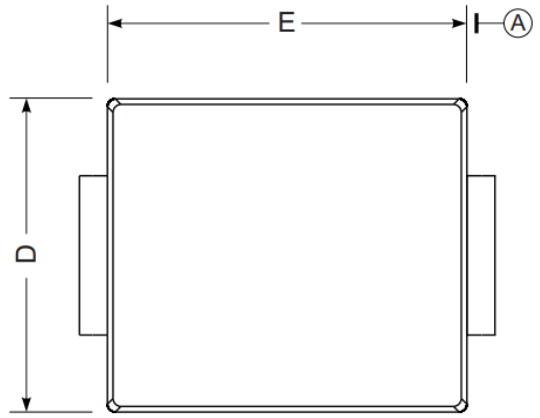
Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram

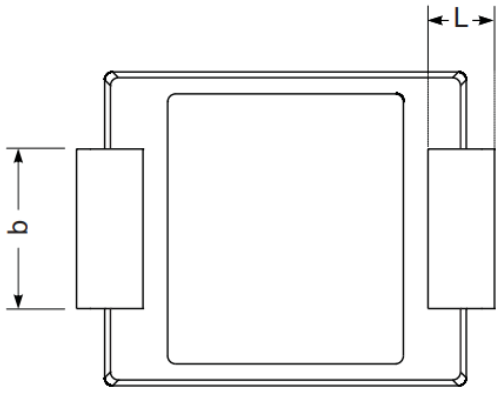


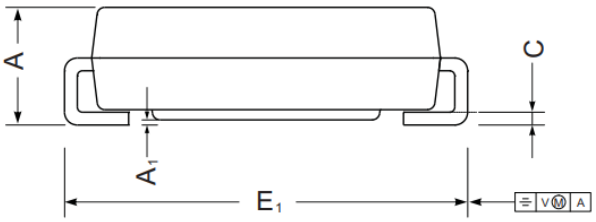


PACKAGE INFORMATION

Dimension in SMC (Unit: mm)

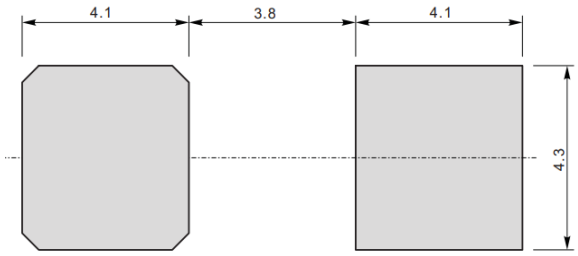






Symbol	Min.	Max.
A	2.000	2.620
E	6.500	7.000
D	5.600	6.200
E_1	7.600	8.000
A_1	0.050	0.210
C	0.150	0.310
L	0.900	1.600
b	2.750	3.250

The recommended mounting pad size



Unit : mm

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