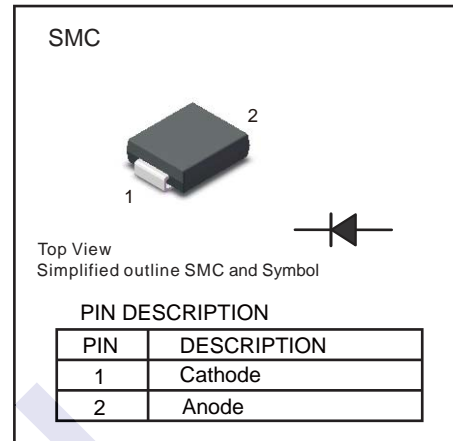


Superfast Recovery Rectifier

ES3A ~ ES3J

■ Features

- Reverse voltage : 50 to 600 V
- Forward current : 3 A
- For surface mounted applications
- Low profile package
- Glass passivated chip junction
- Superfast reverse recovery time



■ 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	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Unit	
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		
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600		
Maximum Instantaneous Forward Voltage at $I_F=3A$	V_F	1.0			1.25		1.68		A	
Maximum Averaged Forward Rectified Current	I_{FAV}	3								
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90								
Maximum DC Reverse Current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=125^\circ C$	I_R	5 100								μA
Typical Junction Capacitance *1	C_j	40								pF
Maximum Reverse Recovery Time *2	t_{rr}	35								ns
Typical Thermal Resistance *3	$R_{\theta JA}$ $R_{\theta JC}$	40 16								$^\circ C/W$
Junction Temperature	T_j	150								$^\circ C$
Storage Temperature	T_{stg}	-55 to 150								

* 1 Measured at 1MHz and applied reverse voltage of 4 V D.C.

* 2 Measured with $I_F = 0.5 A$, $I_R = 1 A$, $t_{rr} = 0.25 A$

* 3 P.C.B. mounted with 0.2" x 0.2" (5x5mm) copper pad areas.

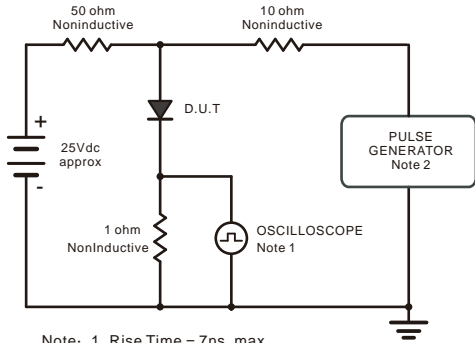
■ Marking

NO.	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J
Marking	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J

ES3A ~ ES3J

Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

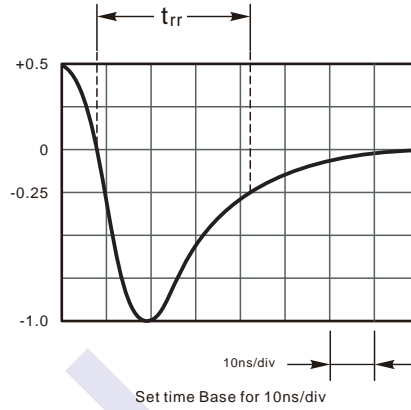


Fig.2 Maximum Average Forward Current Rating

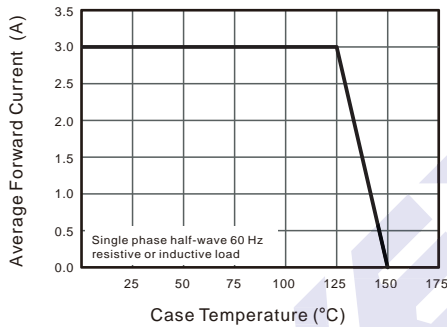


Fig.3 Typical Reverse Characteristics

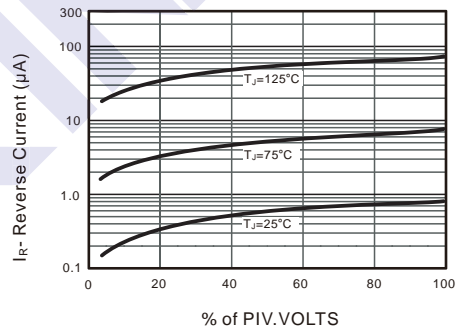


Fig.4 Typical Forward Characteristics

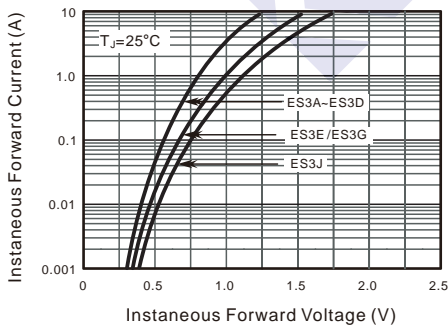


Fig.5 Typical Junction Capacitance

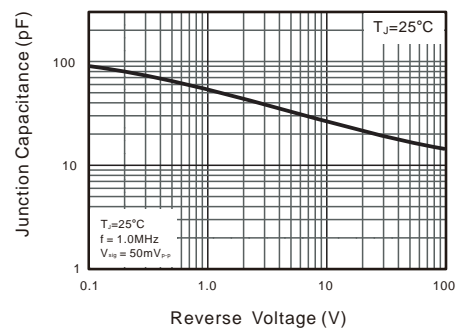
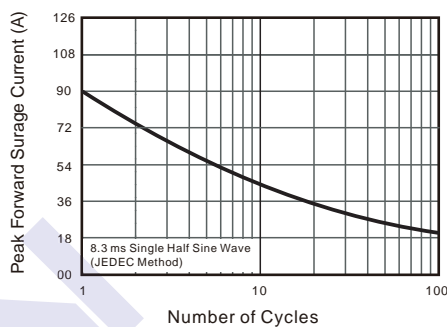


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

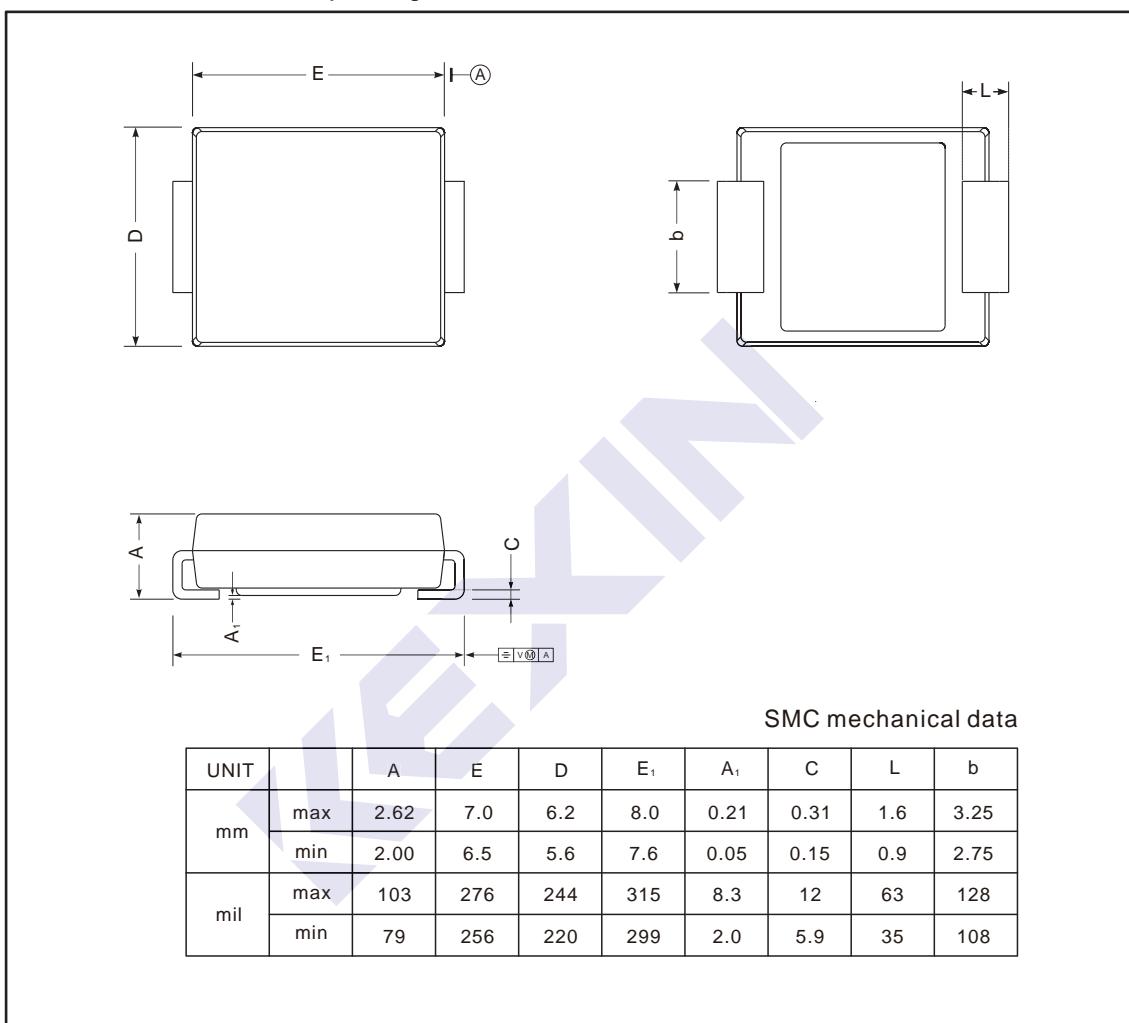


ES3A ~ ES3J

■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SMC



■ The Recommended Mounting Pad Size

