


Surface Mount Superfast Recovery Rectifier
Reverse Voltage – 50 to 600 V
Forward Current –3 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 : SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.1g / 0.003oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View

Marking Code: ES3A~ES3J

Simplified outline SMB and symbol

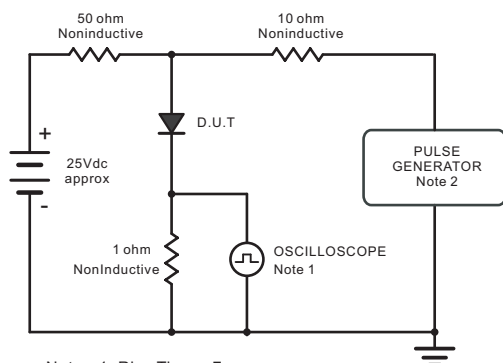
Absolute Maximum Ratings and Characteristics

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%.

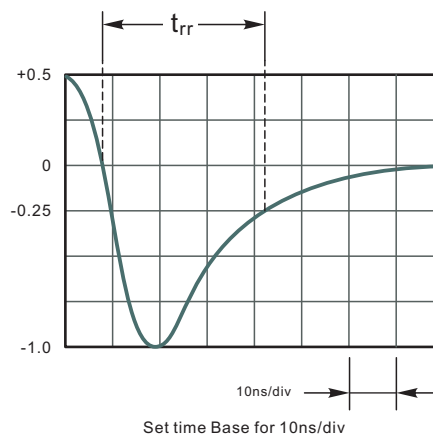
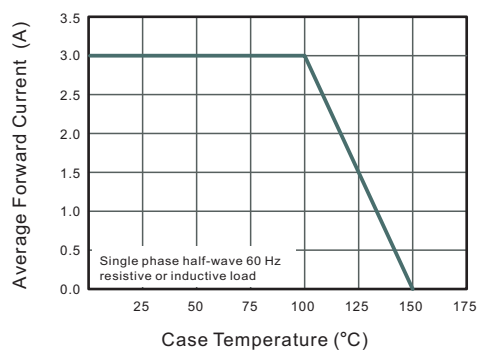
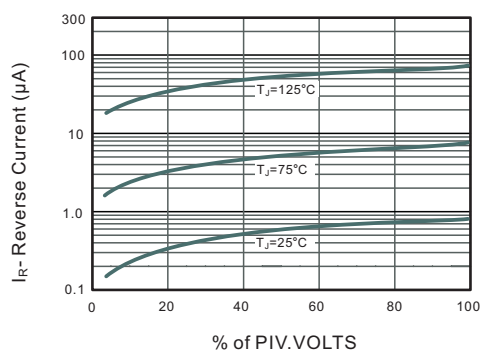
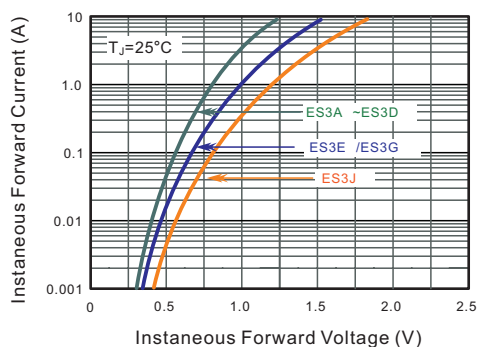
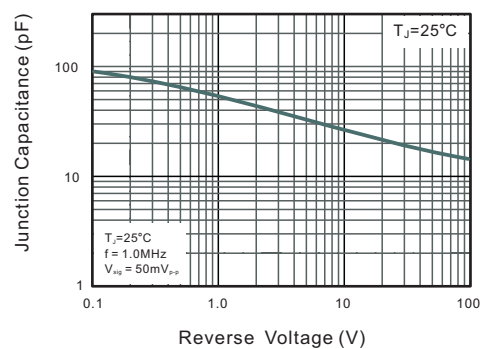
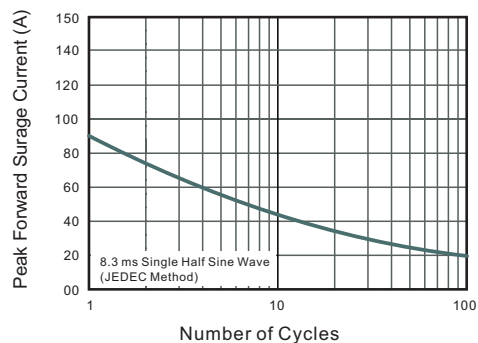
Parameter	Symbols	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _c = 100 °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				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							μA
Typical Junction Capacitance at V _R =4V, f=1MHz	C _j	45							pF
Maximum Reverse Recovery Time ⁽¹⁾	t _{rr}	35							ns
Typical Thermal Resistance ⁽²⁾	R _{θJA} R _{θJC}	50 16							°C/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150							°C

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

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

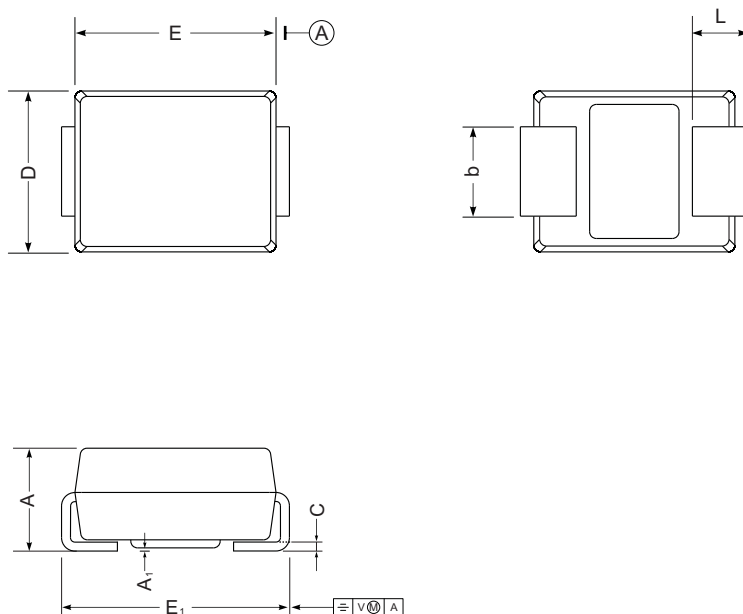
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**

Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise 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**

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



SMB mechanical data

UNIT		A	E	D	E ₁	A ₁	L	C	b
mm	max	2.44	4.70	3.94	5.59	0.20	1.5	0.305	2.2
	min	2.13	4.06	3.3	5.08	0.05	0.8	0.152	1.9
mil	max	96	185	155	220	7.9	59	12	87
	min	84	160	130	200	2.0	32	6	75

The recommended mounting pad size

