Surface Mount Superfast Recovery Rectifier

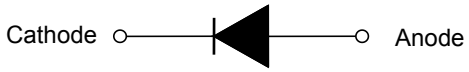
FEATURES:

- 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

Marking

Type number	Marking code
ES2AF	ES2A
ES2BF	ES2B
ES2CF	ES2C
ES2DF	ES2D
ES2EF	ES2E
ES2GF	ES2G
ES2JF	ES2J

Circuit Diagram & Pin Configuration:



SMAF

Absolute Maximum Ratings and Characteristics

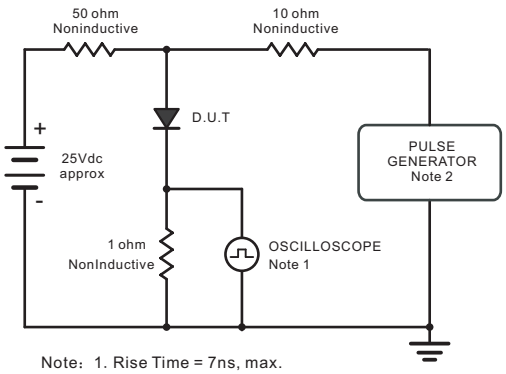
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF	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 = 125 °C	$I_{F(AV)}$	2							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	50							A
Maximum Forward Voltage at 2 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	30							pF
Maximum Reverse Recovery Time (1)	t_{rr}	35							ns
Typical Thermal Resistance (2)	$R_{\theta JA}$ $R_{\theta JC}$	65 20							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

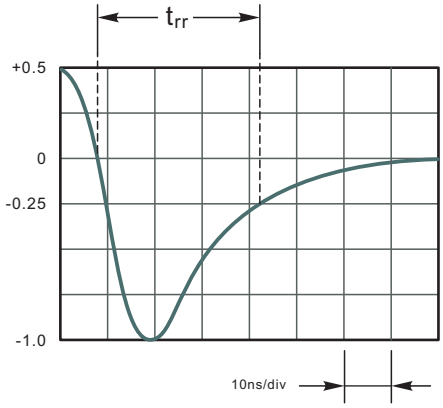
(1) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

(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



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



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

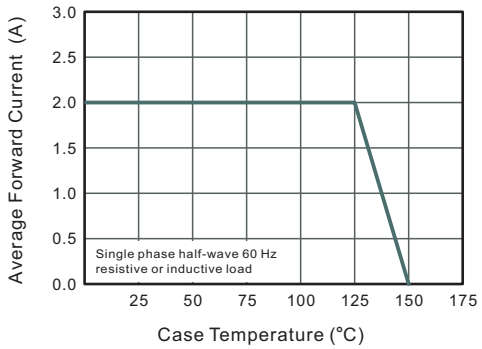


Fig.3 Typical Reverse Characteristics

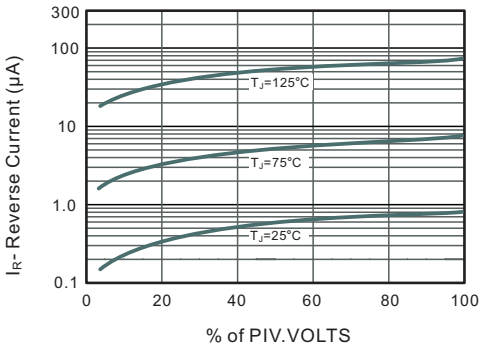


Fig.4 Typical Forward Characteristics

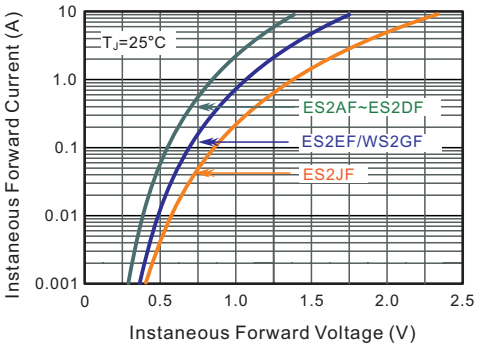


Fig.5 Typical Junction Capacitance

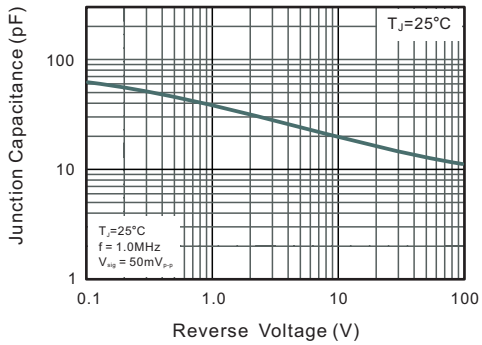
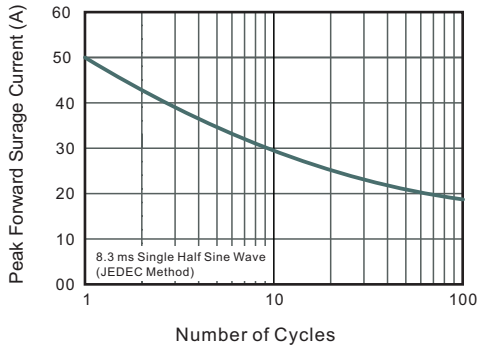
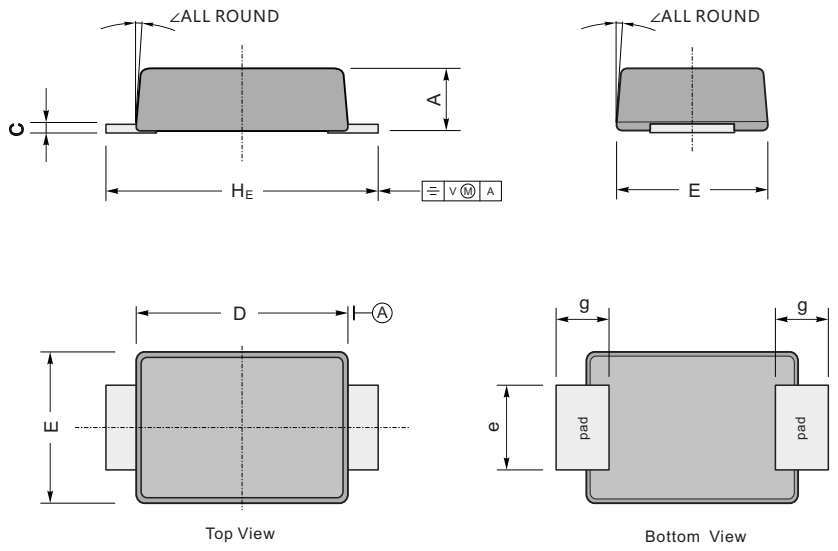


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current



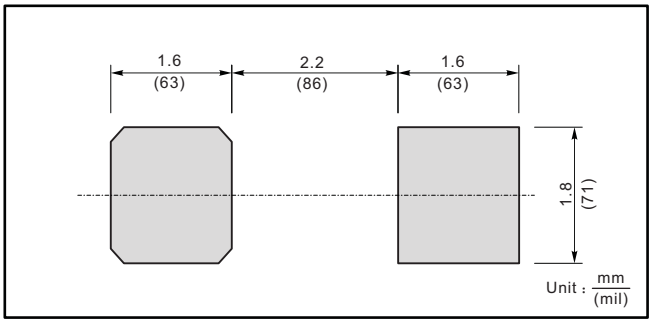
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads **SMAF**



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	max	47	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size



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