ES3AF THRU ES3JF

Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V Forward Current – 3 A

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code:
ES3AF~ES3JF: ES3A~ES3J
Simplified outline SMAF and symbol

FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Juntion
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

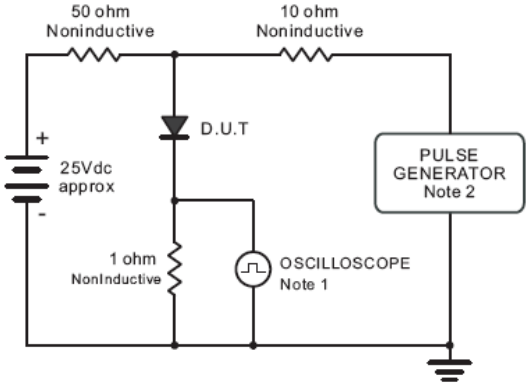
- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- pprox. Weight: 27mg 0.00086oz

Absolute Maximum Ratings and Characteristics

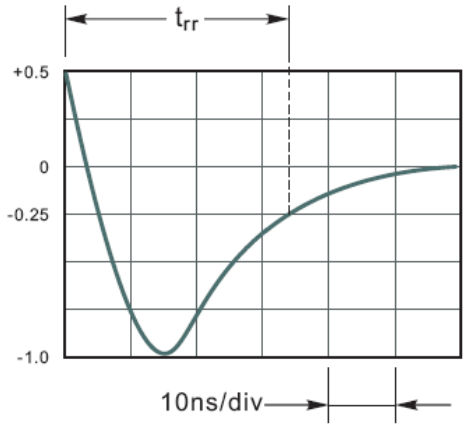
Ratings at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.For capacitive load, derate current by 20%.

Parameter	Symbols	ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF	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_L = 100 °C	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100							A
Maximum Forward Voltage at 3A	V_F	1				1.25		1.7	V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I_R	5 200							μA
Typical Junction Capacitance at V_R=4V, f=1MHz	C_j	45							pF
Maximum Reverse Recovery Time at I_F=0.5A, I_R=1A, I_{rr}=0.25A	t_{rr}	35							ns
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

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

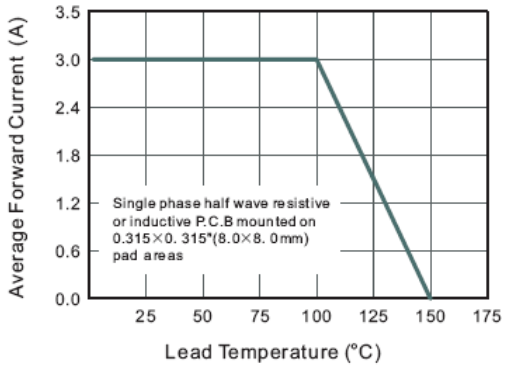


Fig.3 Typical Reverse Characteristics

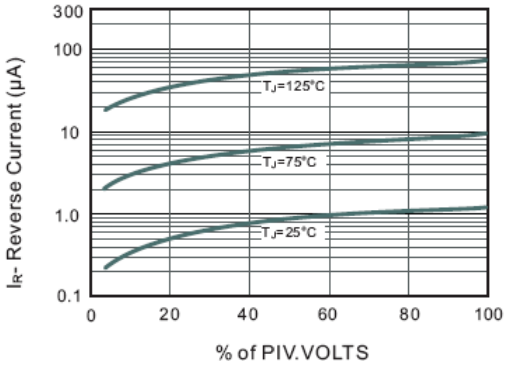


Fig.4 Typical Forward Characteristics

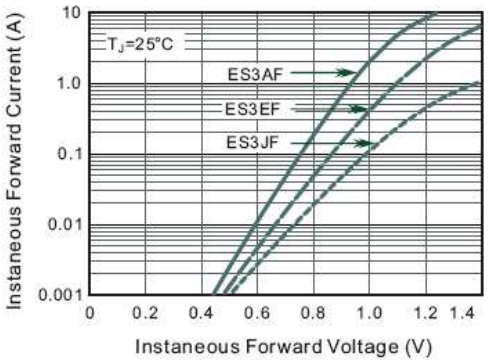
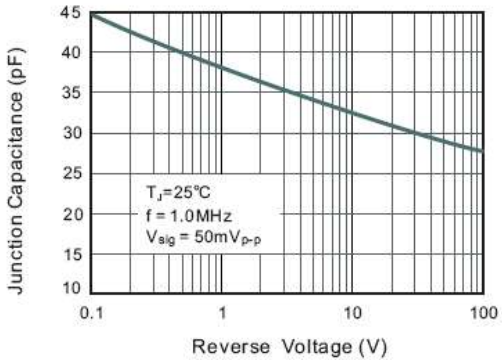
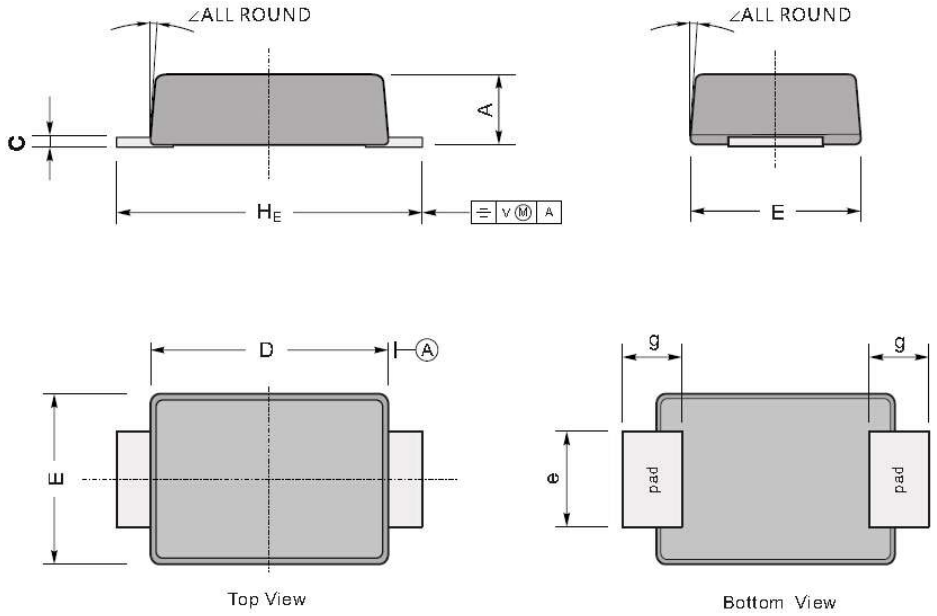


Fig.5 Typical Junction Capacitance



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads SMAF



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	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	43	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size