

/ Descriptions

Surface Mount Superfast Recovery Rectifier, Reverse Voltage: 50 to 600V, Forward Current: 3A, SMAF thin package.

/ Features

Glass Passivated Chip Junction, Superfast reverse recovery time, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications,HF Product.

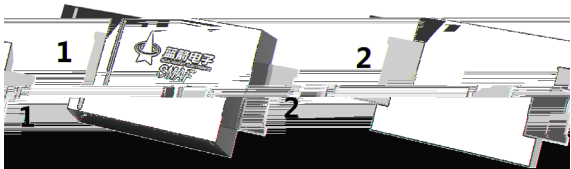
/ Applications

General purpose.

/ Equivalent Circuit

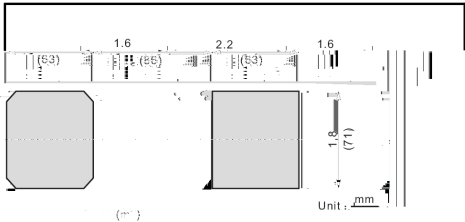


/ Pinning



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating							Unit
		ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF	
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 @ Fig.1	I _{F(AV)}	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	80							A
Peak Forward Surge Current,1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	160							A
I ² t Rating for fusing (3ms≤t≤8.3ms)	I ² t	26.5							A ² S
Typical Junction Capacitance ⁽¹⁾	C _j	89				52		41	pF
Typical Thermal Resistance ⁽²⁾	R _{JA}	100							°C/W
	R _{JC}	20							°C/W
	R _{JL}	30							°C/W
Operating and Storage Temperature Range	T _j ,T _{stg}	-55~+150							°C

Note:

- 1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
- 2) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	数值 Rating							Unit
			ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF	
Maximum Forward Voltage	V _F	I _F =3A	1				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	T _a =25℃	5							μA
		T _a =125℃	100							μA
Maximum Reverse Recovery Time	t _{rr}	I _F =0.5A I _R =1.0A I _{rr} =0.25A	35							ns

/ Electrical Characteristic Curve

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

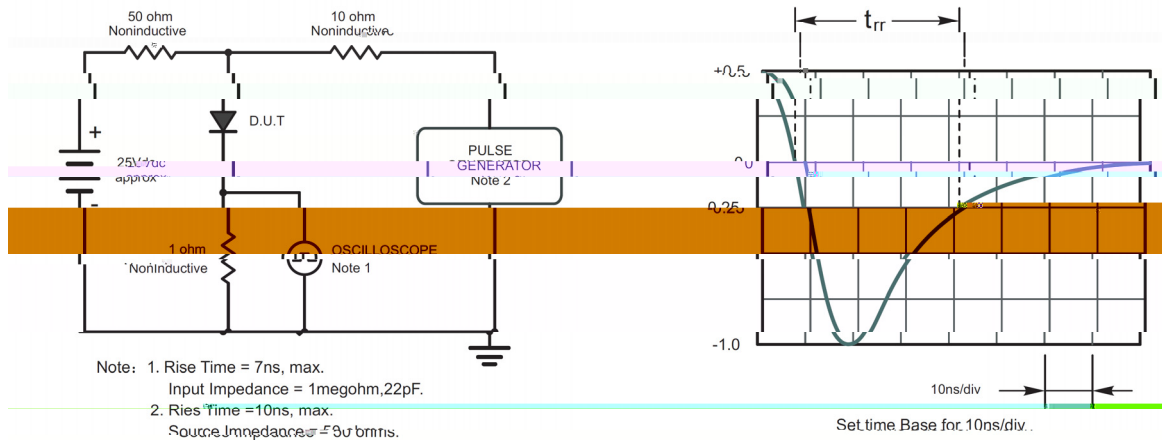


Fig.1 Forward Current Derating Curve

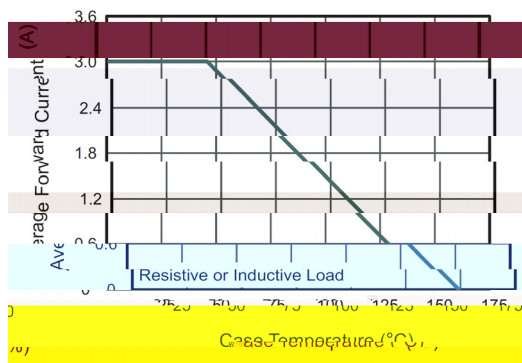


Fig.2 Typical Reverse Characteristics

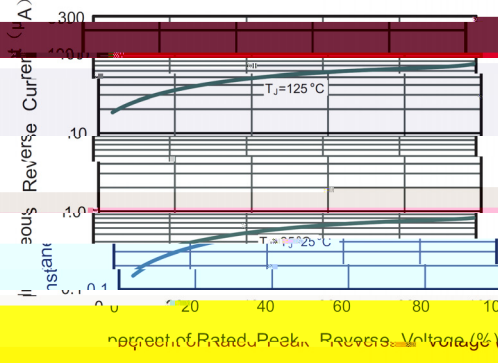


Fig.3 Typical Forward Characteristics

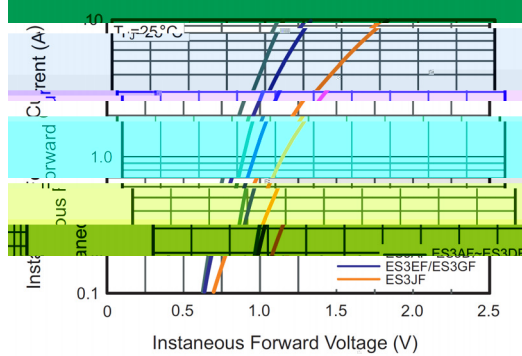


Fig.4 Typical Junction Capacitance

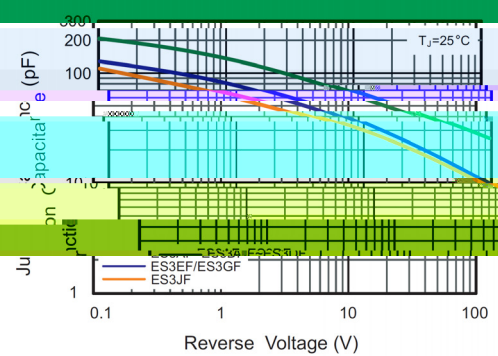
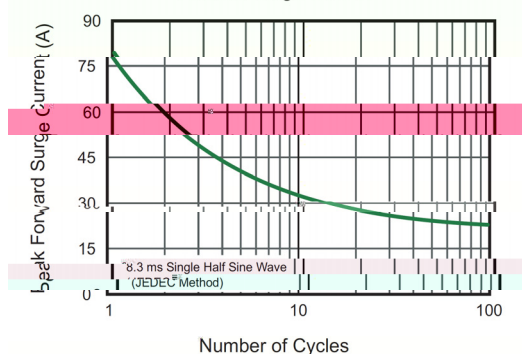
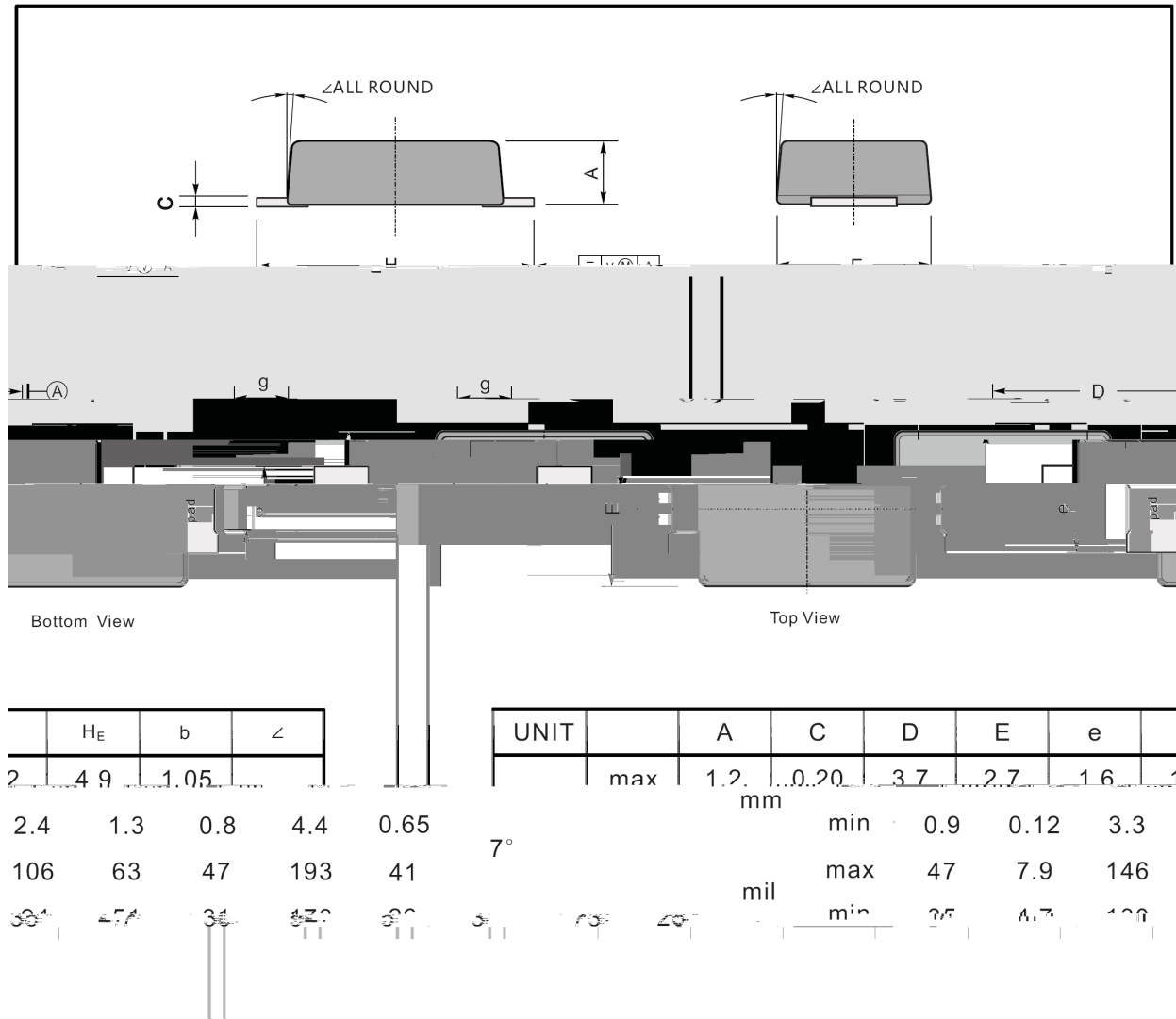


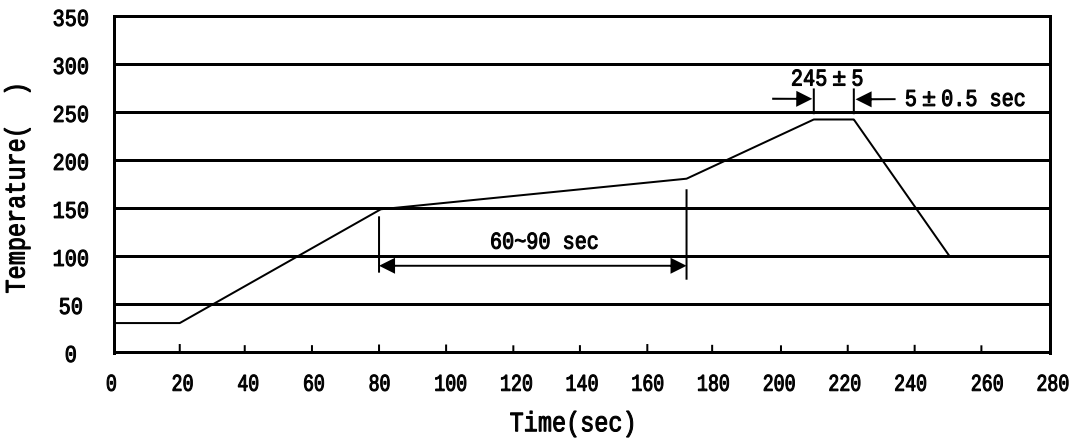
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



/ Package Dimensions



() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5 10 1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
SMAF	3,000	5	15,000	6	90,000	7" ×12	185×180×105	390×385×205

/ Notices