ES3AF~ES3JF

ROHS

Surface Mount Superfast Recovery Rectifier

www.unsemi.com.tw

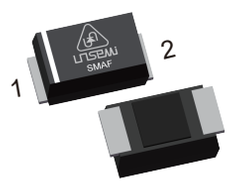
Features

- ◆ 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: SMAF
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Approx. Weight : 27mg/0.00095oz
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026

SMAF



1：Cathode

2：Anode

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter		Symbol	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 Tc =125℃		$I_{F(AV)}$	3.0							A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load		I_{FSM}	80							A
Maximum Forward Voltage at at 3A		V_F	1.0				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Reverse Voltage	Ta=25℃	I_R	5.0							μA
	Ta=125℃	I_R	100							
Typical Junction Capacitance at V_R=4V, f=1MHz		Cj	40							pF
Maximum Reverse Recovery Time (1)		trr	35							nS
Typical Thermal Resistance (2)		$R_{\theta JA}$	50							℃/W
		$R_{\theta JC}$	16							
Operating and Storage Temperature Range		T_J,Tstg	-55 ~ +150							℃

Note: (1) Measured with I_F=0.5A, I_R=1A, Irr=0.25A.

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

Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

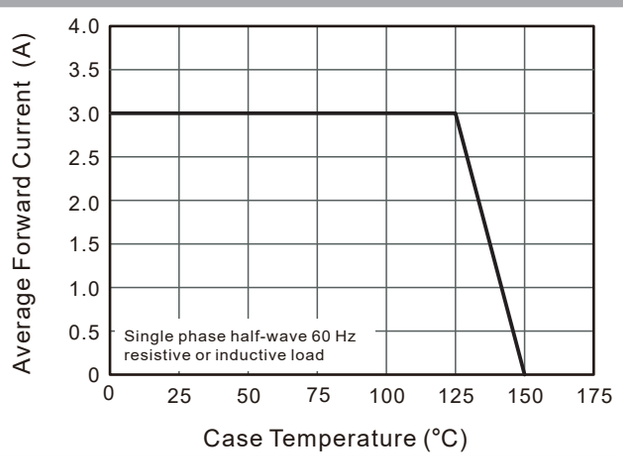


Fig. 2 Typical Reverse Characteristics

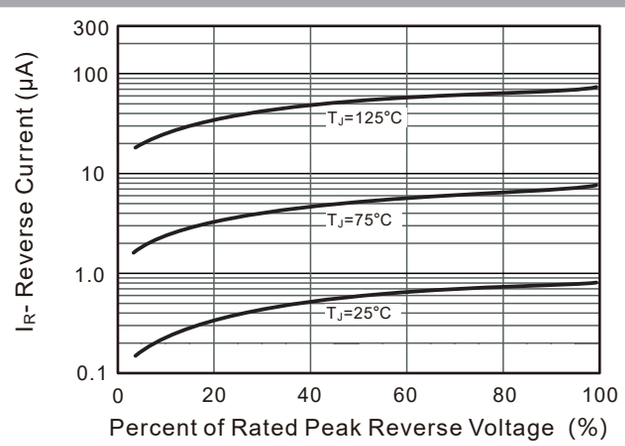


Fig.3 Typical Forward Characteristic

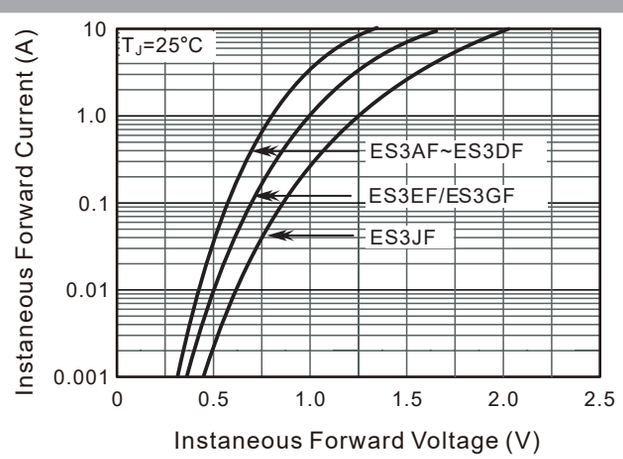


Fig. 4 Typical Junction Capacitance

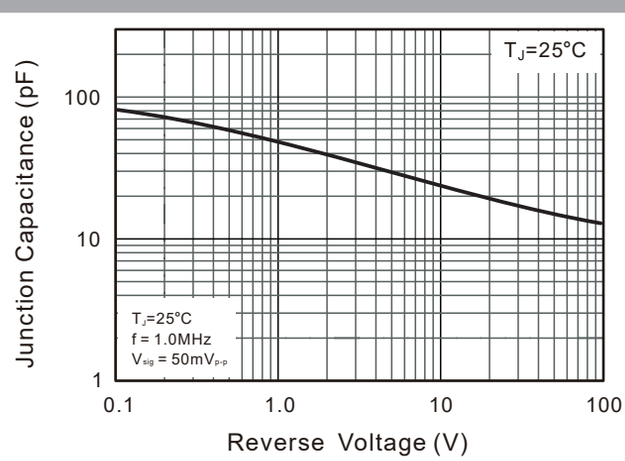
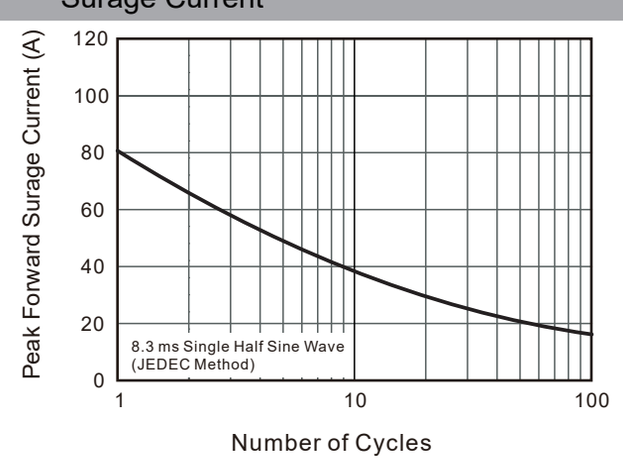
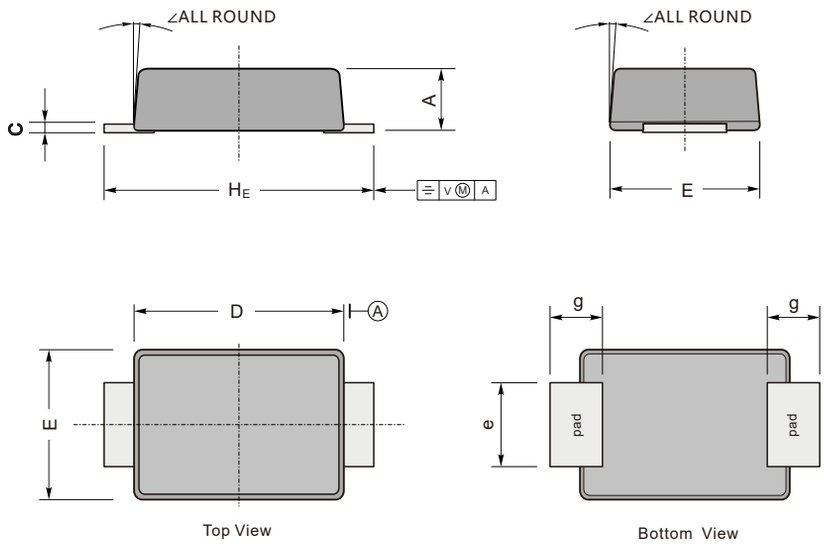


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current



Package Outline & Dimensions



UNIT		A	C	D	E	e	g	HE	∠
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	

Marking

Type Number	ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF
Making	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J

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