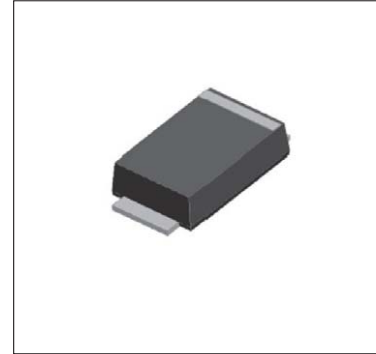


## Surface Mount Super Fast Recovery Rectifier

## ES1AF—ES1MF

### Features

- ◆ Low profile package
- ◆ Ideal for automated placement
- ◆ Glass passivated chip junction
- ◆ High forward surge capability
- ◆ Super fast reverse recovery time



### Mechanical Data

**Case:** SMAF Molded plastic body

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Polarity:** Cathode line denotes the cathode end

**Mounting Position:** Any

### Maximum Ratings & Electrical Characteristics

Ratings at TA = 25°C unless otherwise specified

Characteristic	Symbol	ES1AF	ES1BF	ES1DF	ES1FF	ES1GF	ES1JF	ES1KF	ES1MF	Units
Peak repetitive reverse voltage	VRRM	50	100	200	300	400	600	800	1000	V
RMS reverse voltage	VRMS	35	70	140	210	280	420	560	700	V
DC blocking voltage	VDC	50	100	200	300	400	600	800	1000	V
Maximum average forward output current	IF(AV)	1								A
Peak forward surge current, 8.3ms single half-sine-wave, @TJ = 25°C	IFSM	25								A
Rating for fusing (t<8.3ms)	I2t	2.6								A2sec
Maximum instantaneous forward voltage @ 1A	VF	0.95		1.3		1.7		1.85		V
Maximum reverse recovery time (Note 1)	Trr	35								nS
Maximum Reverse current @TA =25°C	IR	5								μA
Rated VR @TA =125°C		50								

### Thermal Characteristics

Characteristic	Symbol	ES1AF	ES1BF	ES1DF	ES1FF	ES1GF	ES1JF	ES1KF	ES1MF	Units
Typical thermal resistance (Note 2)	R θJA	80								°C /W
	R θJL	25								
Operating junction temperature range	TJ	- 55 ---- + 150								°C
Storage temperature range	TSTG	- 55 ---- + 150								°C

Note:

(1) IF=0.5A, IR=1A, IRR=0.25A

(2) Units mounted on P.C.B. with 5.0 x 5.0 mm land areas.

Surface Mount Super Fast Recovery Rectifier

ES1AF-ES1MF

Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

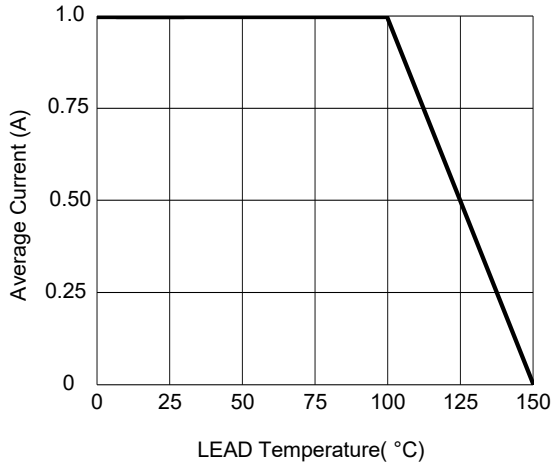


Fig.1-Forward Current Derating Curve

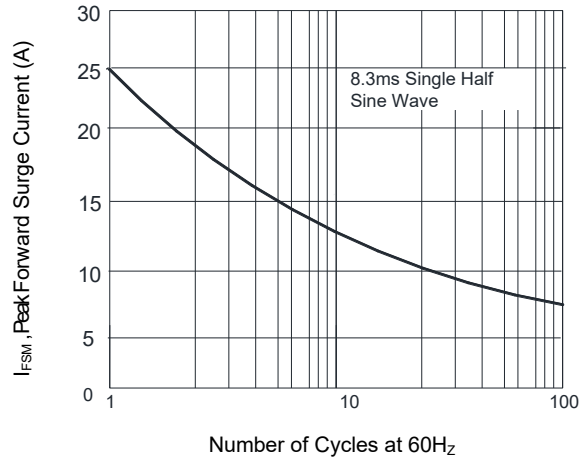


Fig.2- Surge Forward Current Capability

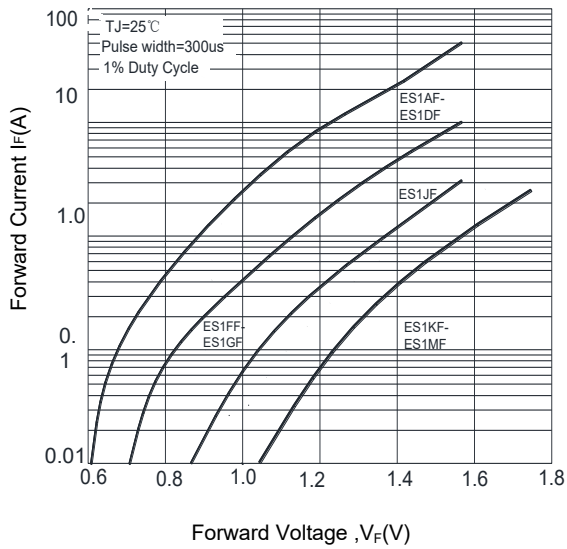


Fig.3- Typical Forward Voltage Characteristic

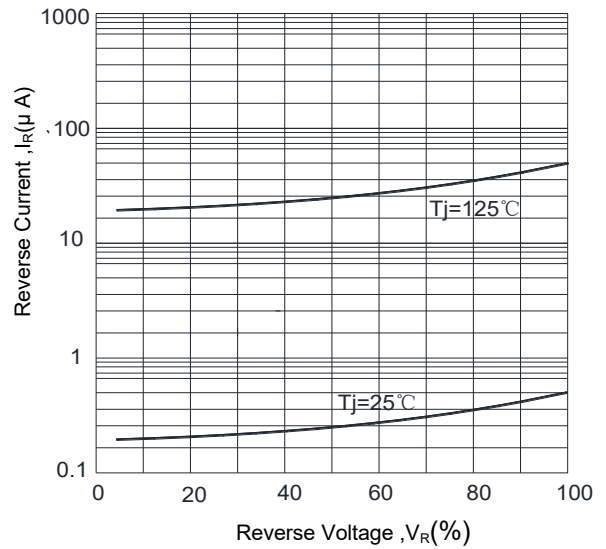
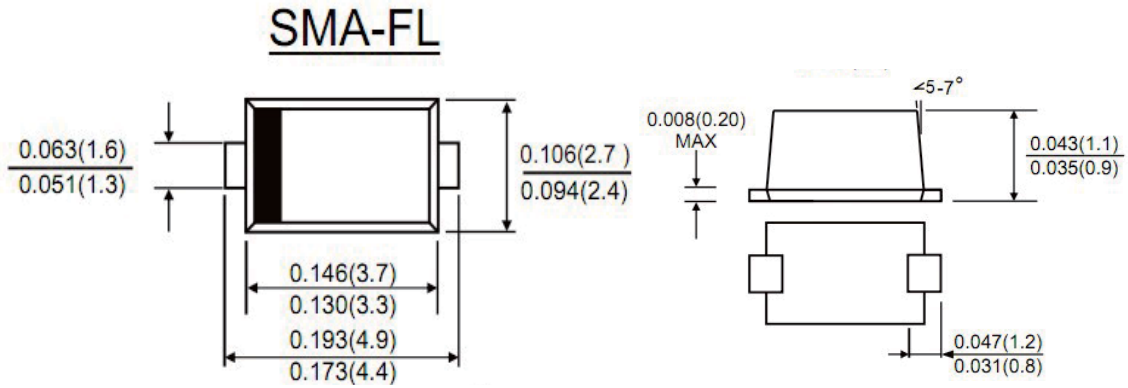


Fig.4- Typical Reverse Characteristic

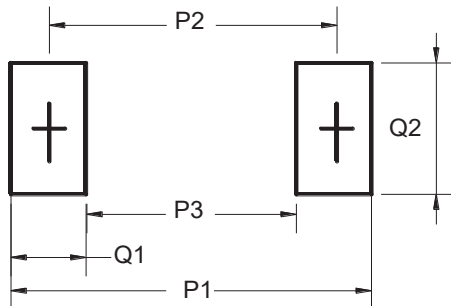
## Surface Mount Super Fast Recovery Rectifier

## ES1AF-ES1MF

### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



Dim	Millimeters
P1	6.50
P2	4.00
P3	1.50
Q1	2.50
Q2	1.70

### Ordering Information

Part No.	Marking	Package	Shipping	
			11"	13"
ES1AF	ES1AF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1BF	ES1BF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1DF	ES1DF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1FF	ES1FF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1GF	ES1GF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1JF	ES1JF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1KF	ES1KF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel
ES1MF	ES1MF	SMAF	5000PCS /Tape&Reel	10000PCS /Tape&Reel

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