

### Features

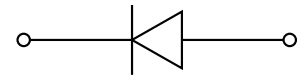
- Low profile package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Super fast reverse recovery time
- Fast switching for high efficiency
- High forward surge capability

### Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive, and telecommunication.

### Mechanical Data

- Case: SMAF
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end



### Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF
Maximum repetitive peak reverse voltage	$V_{RRM}$	V	50	100	150	200	300	400	600
Maximum RMS Voltage	$V_{RMS}$	V	35	70	105	140	210	280	420
Maximum DC blocking Voltage	$V_{DC}$	V	50	100	150	200	300	400	600
Average rectified output current @60Hz sine wave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	2.0						
Forward Surge Current (Nonrepetitive) @60Hz Half-sine wave, 1 cycle, T=25°C	$I_{FSM}$	A	50.0						
Storage temperature	$T_{stg}$	°C	-55 ~ +150						
Junction temperature	$T_j$	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	°C / W	65						
	$R_{\theta J-L}^{(1)}$	°C / W	20						

Note : (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" × 0.2" (5.0mm x 5.0 mm) copper pad areas

### Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF
Maximum instantaneous forward voltage	$I_f=2.0A$	$V_F$	V	1.0				1.3	1.7	
Maximum reverse recovery time	$I_f=0.5A, I_R=1.0A, I_{rr}=0.25A$	$T_{rr}$	ns	35						
Maximum DC reverse current at rated DC blocking voltage	$V_{RM}=V_{RRM}$	$I_R$	μA	5.0						
				100						
Typical junction capacitance	4.0V DC, 1MHz	$C_j$	pF	31				17	12	

► **Ratings And Characteristics Curves** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

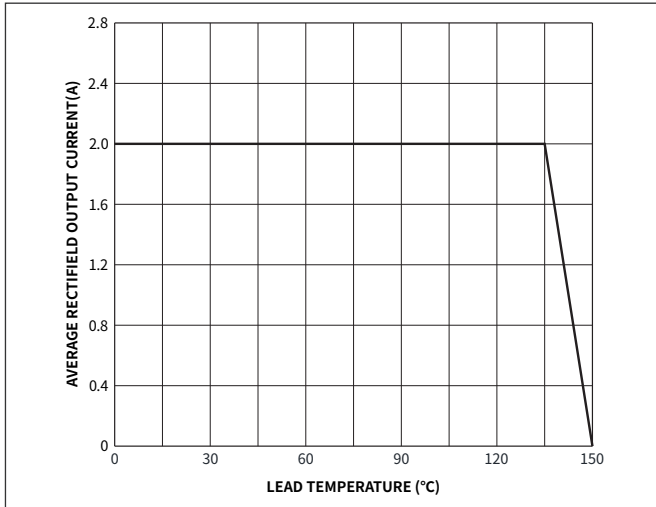


Fig. 1 - Forward Current Derating Curve

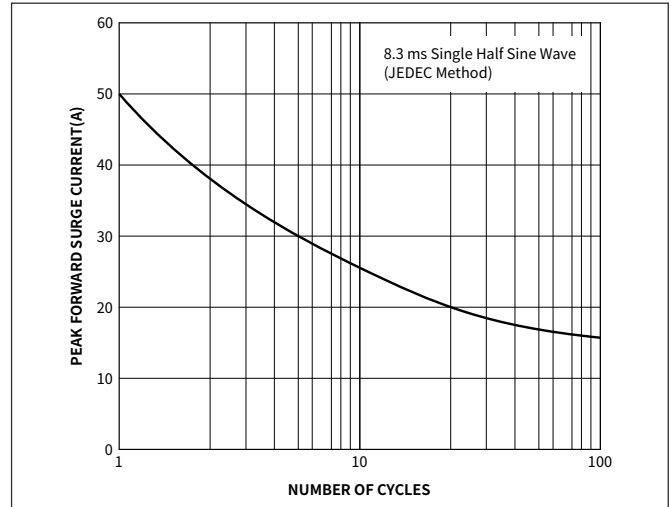


Fig. 2 Maximum Non-Repetitive Peak Forward Surge Current

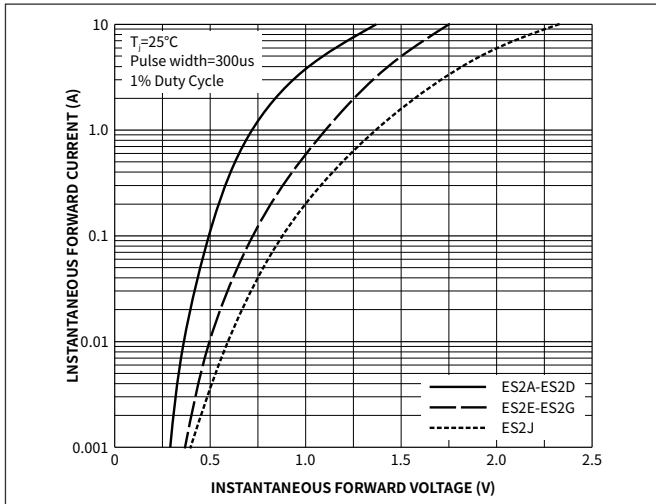


Fig. 3 Typical Forward Voltage

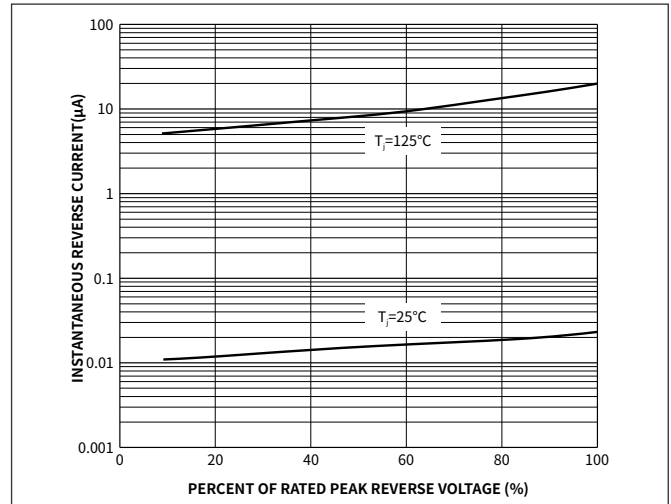


Fig. 4 Typical Reverse Characteristics

## ▶ Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SAMF	R1	0.034	3000	12000	120000	7"
SMAF	R2	0.034	7500	15000	120000	11"
SMAF	R3	0.034	7500	15000	120000	13"

## ▶ Package Outline Dimensions (SMAF)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	3.30	3.70	0.129	0.145
C	2.40	2.70	0.094	0.105
D	4.40	4.90	0.172	0.191
E	0.90	1.20	0.035	0.047
F	0.80	1.20	0.031	0.047
G	0.12	0.20	0.005	0.008

## ▶ Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	1.80	-	0.070	-
J	1.60	-	0.063	-
K	-	2.2	-	0.086