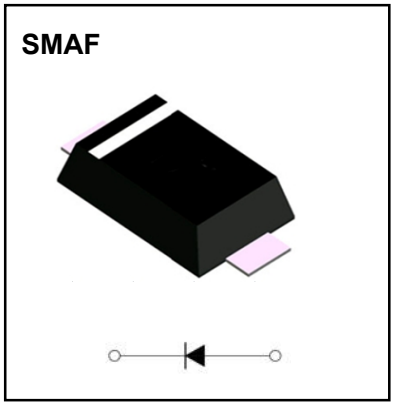
SZCJ Shenzhen Changji Semiconductor Co., LTD.

SMAF Plastic-Encapsulate Diodes

ES1AF THRU ES1JF Super Fast Recovery Rectifier Diodes

Features

- $I_{F(AV)}$ 1A
- V_{RRM} 50V-600V
- High surge current capability
- Polarity: Color band denotes cathode



Applications

- Rectifier

Marking

- ES1X

X：From A To J

Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES1							
				AF	BF	CF	DF	EF	GF	HF	JF
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	150	200	300	400	500	600
Maximum RMS Voltage	V_{RMS}	V		35	70	105	140	210	280	350	420
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load	1.0							
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25℃	30							
Operation Junction and Storage Temperature Range	T_J,T_{STG}	℃		-55 ~ +150							

Electrical Characteristics (T=25 ℃Unless otherwise specified)

Item	Symbol	Unit	Test Condition		ES1							
					AF	BF	CF	DF	EF	GF	HF	JF
Peak Forward Voltage	V_F	V	I_F=1.0A		0.95				1.25		1.70	
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A,I_{rr}=0.25A		35							
Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	Ta =25℃	5							
	I_{RRM2}			Ta =125℃	50							
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		101							
	$R_{\theta J-L}$		Between junction and terminal		13.5							
Juction Capacitance (Typical)	Cj	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C		14				12		10	

Notes:

Thermal resistance from junction to ambient and from juction to lead mounted on FR4 PCB double sided copper mini pad

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

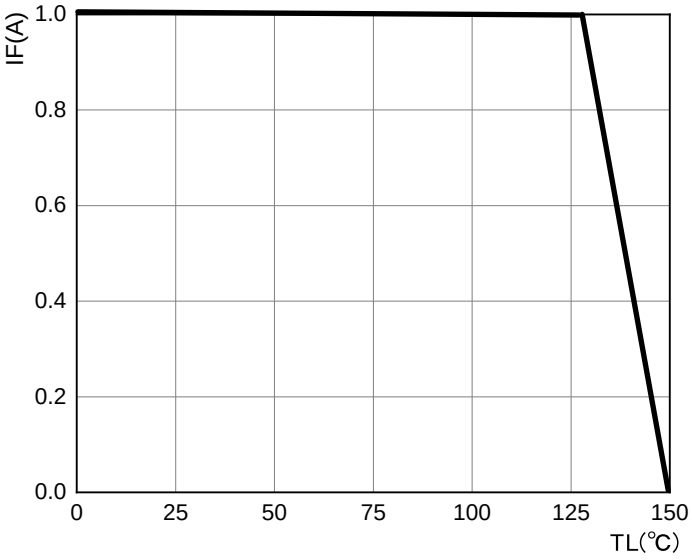
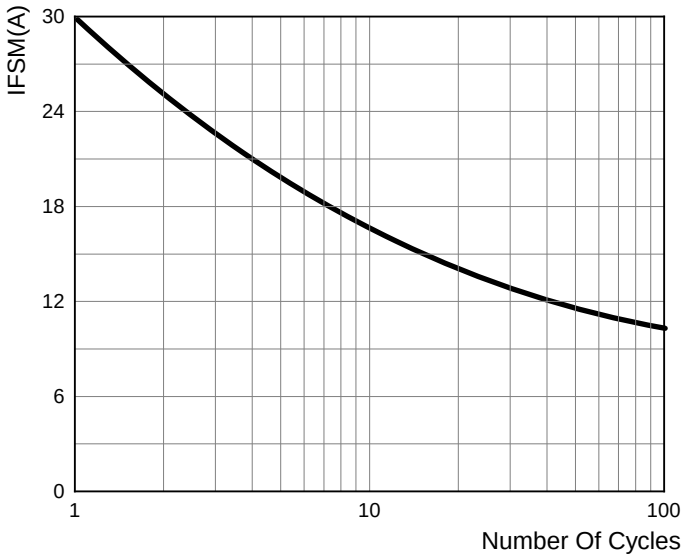
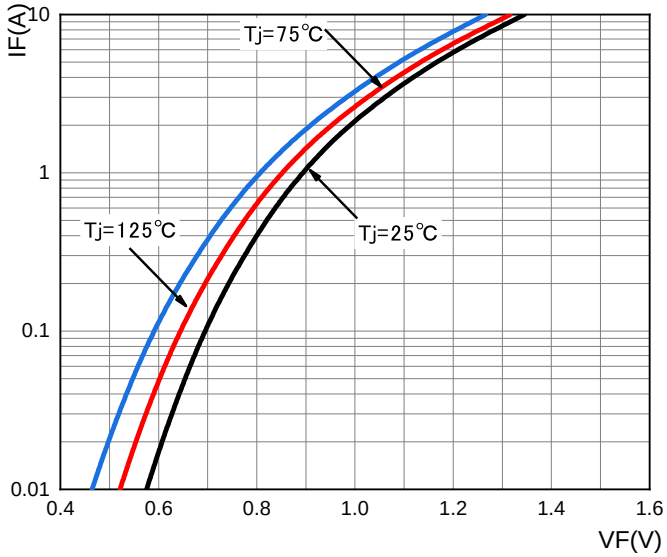


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



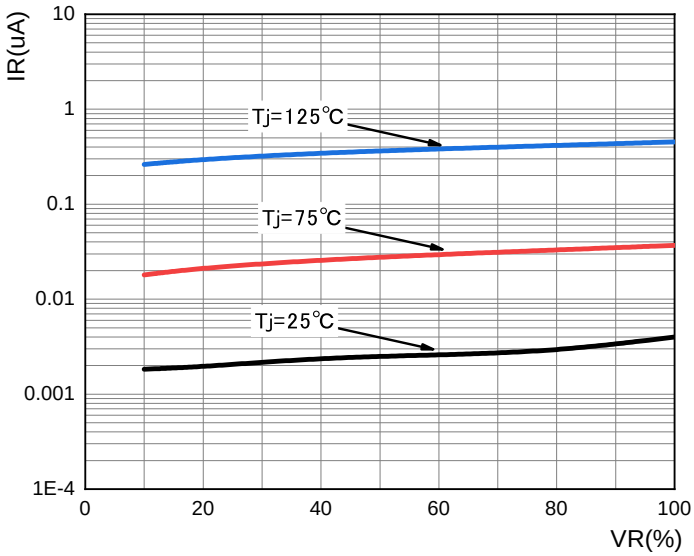
ES1AF-ES1DF

FIG.3 : TYPICAL FORWARD CHARACTERISTICS



ES1AF-ES1DF

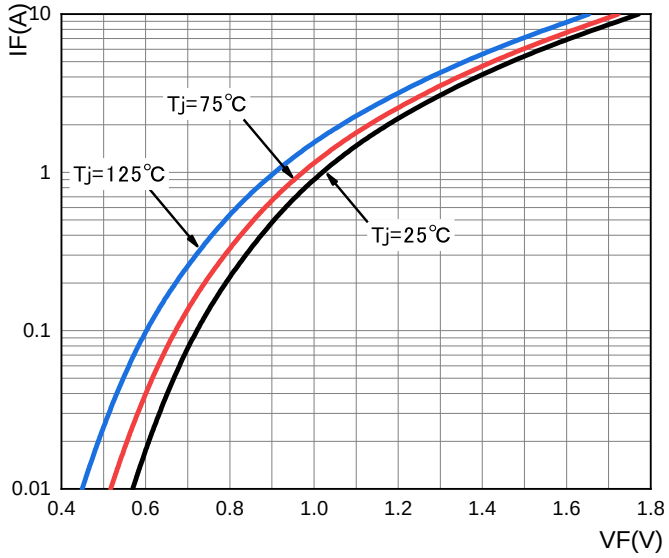
FIG.4 TYPCAL REVERSE CHARACTERISTICS



Typical Characteristics

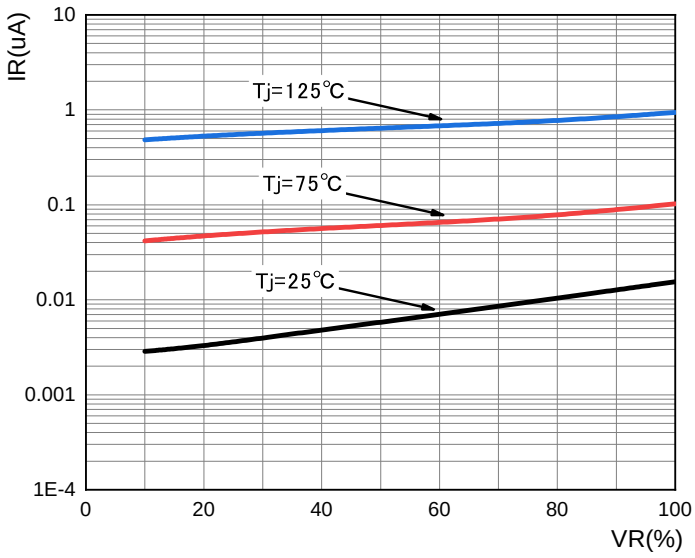
ES1EF-ES1GF

FIG.5 : TYPICAL FORWARD CHARACTERISTICS



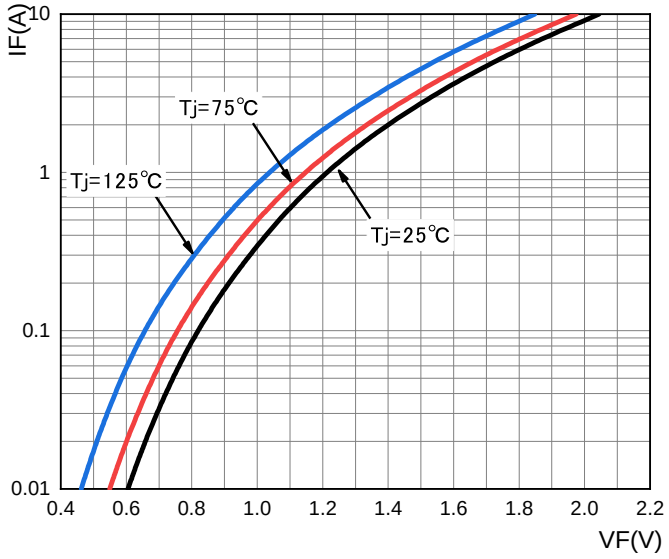
ES1EF-ES1GF

FIG.6 TYPCAL REVERSE CHARACTERISTICS



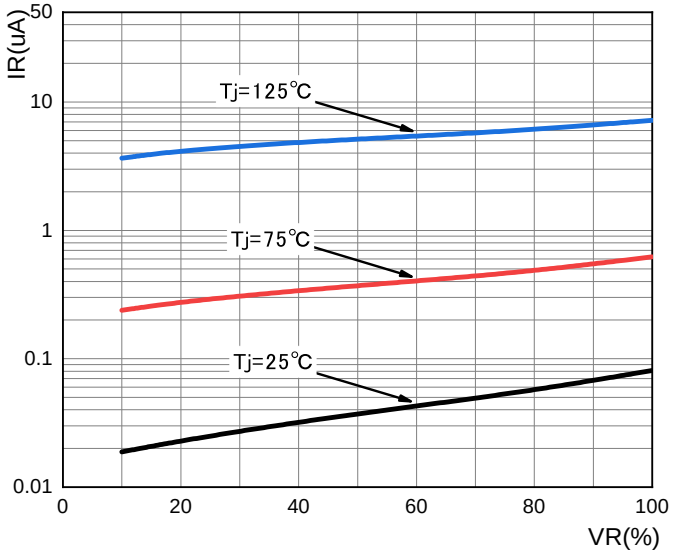
ES1HF-ES1JF

FIG.7 : TYPICAL FORWARD CHARACTERISTICS

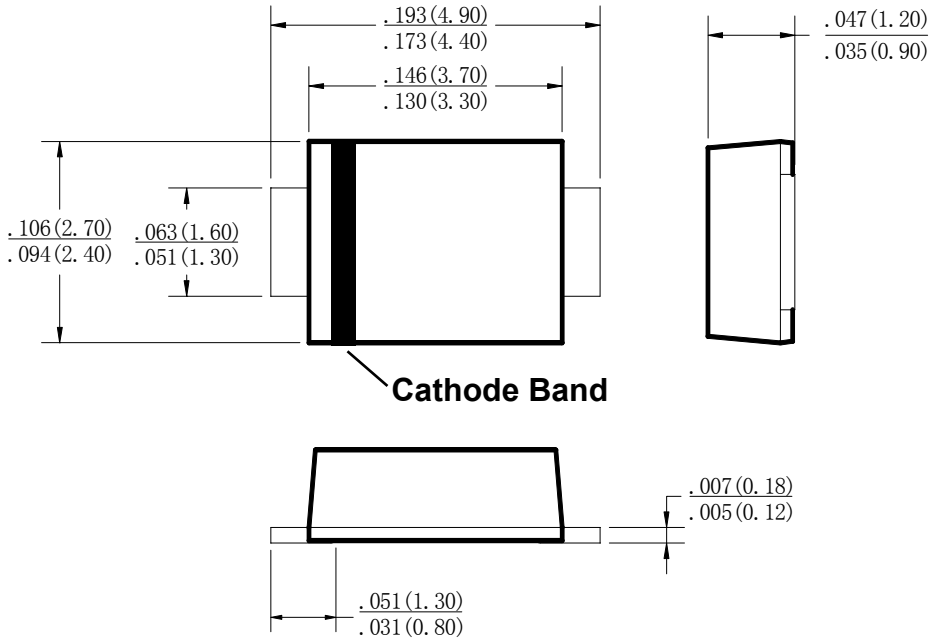


ES1HF-ES1JF

FIG.8 TYPCAL REVERSE CHARACTERISTICS

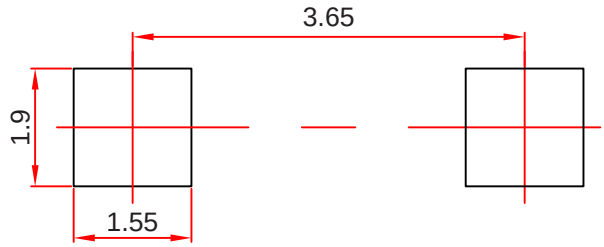


SMAF Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAF Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enha nts,improvements,corrections or other es without further notice to any product herein.SZCJ does not assume any liability arising out of the application or use of any product described .

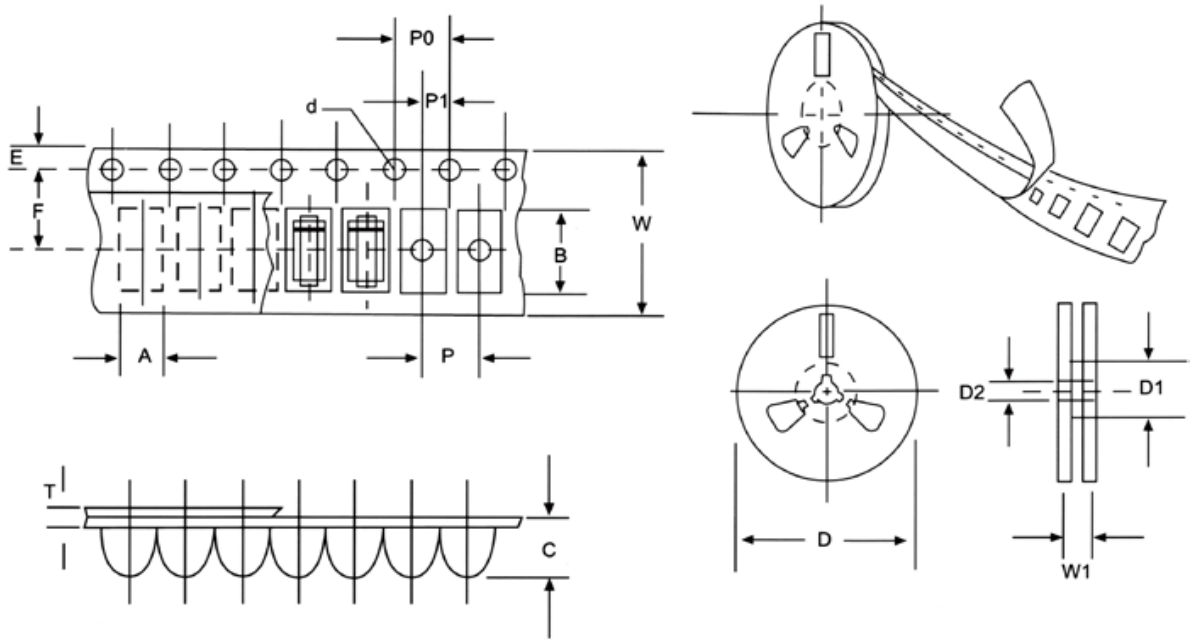


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMAF mm(inch)
Carrier width	A	2.83±0.1(0.112±0.004)
Carrier length	B	4.90±0.1(0.193±0.004)
Carrier depth	C	1.45±0.1(0.057±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	178±2.0(7.0±0.079)
Reel inner diameter	D1	54±1.0(2.13±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	5.5±0.05(0.217±0.002)
Punch hole pitch	P	4.0±0.1(0.157±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.23-0.29(0.009-0.011)
Tape width	W	12.0±0.1(0.472±0.004)
Reel width	W1	16.8±2.0(0.661±0.079)

NOTE:Devices are packde in accordance with EIA standard RS-481-A and specification given above.