

SMBF Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diode

Features

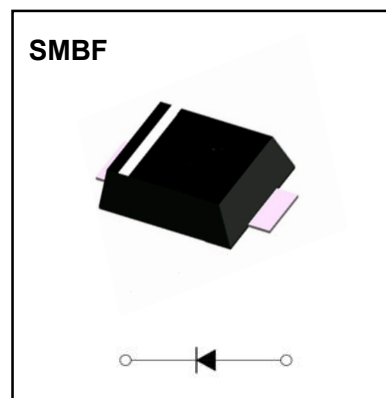
- I_O 2A
- V_{RRM} 50V-600V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- ES2ABF-ES2JBF : ES2AB-ES2JB



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES2							
				ABF	BBF	CBF	DBF	FBF	GBF	HBF	JBF
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, $T_L=110^{\circ}\text{C}$	2.0							
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave , 1 cycle , $T_a=25^{\circ}\text{C}$	50							
Junction Temperature	T_J	$^{\circ}\text{C}$		-55~+150							
Storage Temperature	T_{STG}	$^{\circ}\text{C}$		-55 ~ +150							

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition		ES2							
					ABF	BBF	CBF	DBF	FBF	GBF	HBF	JBF
Peak Forward Voltage	V _F	V	I _F =2.0A		0.95				1.25		1.7	
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}	T _a =25℃	5.0							
	T _a =100℃			100								
Thermal Resistance(Typical)	R _{θJ-A}	℃/W	Between junction and ambient		75 ¹⁾							
	R _{θJ-L}		Between junction and terminal		20 ¹⁾							

Notes:

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

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

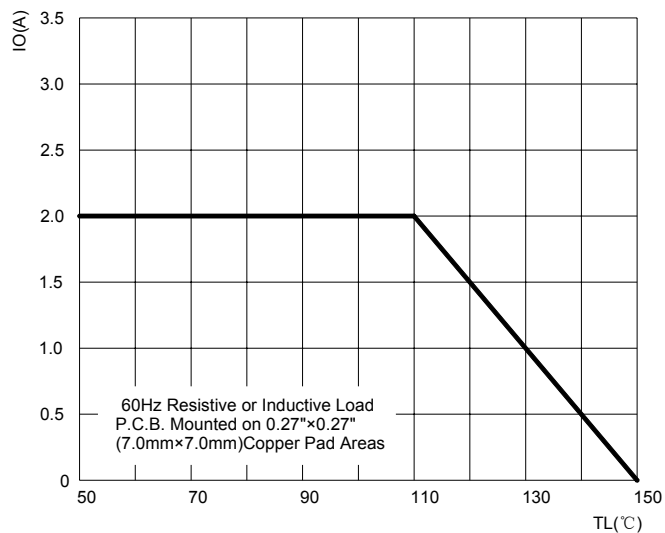


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

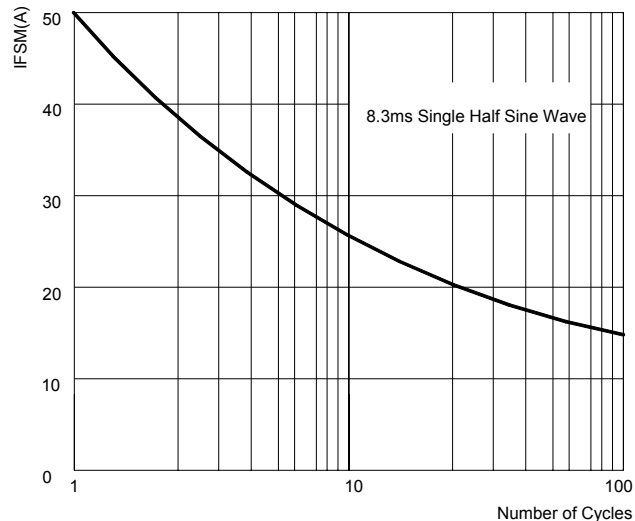


FIG.3: TYPICAL FORWARD CHARACTERISTICS

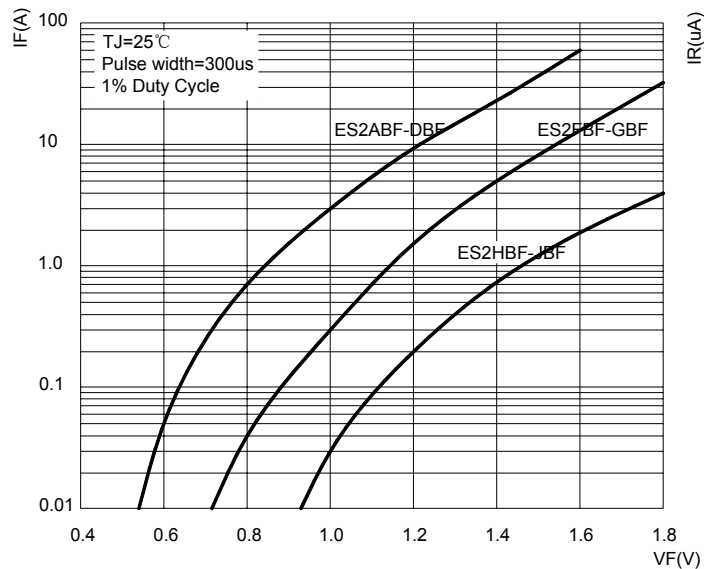


FIG.4: TYPICAL REVERSE CHARACTERISTICS

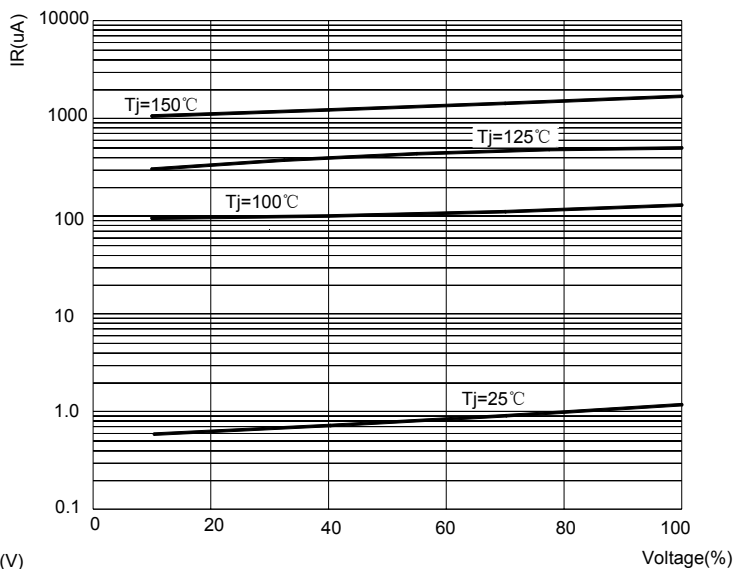
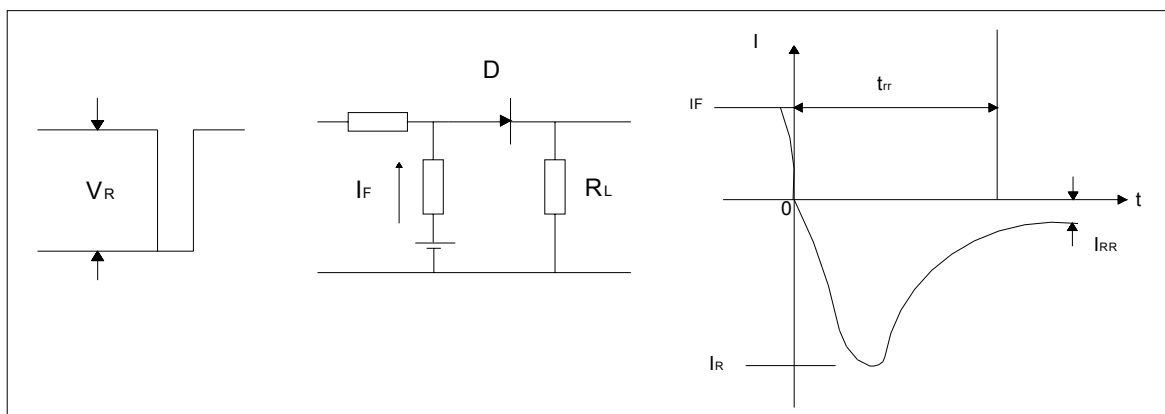
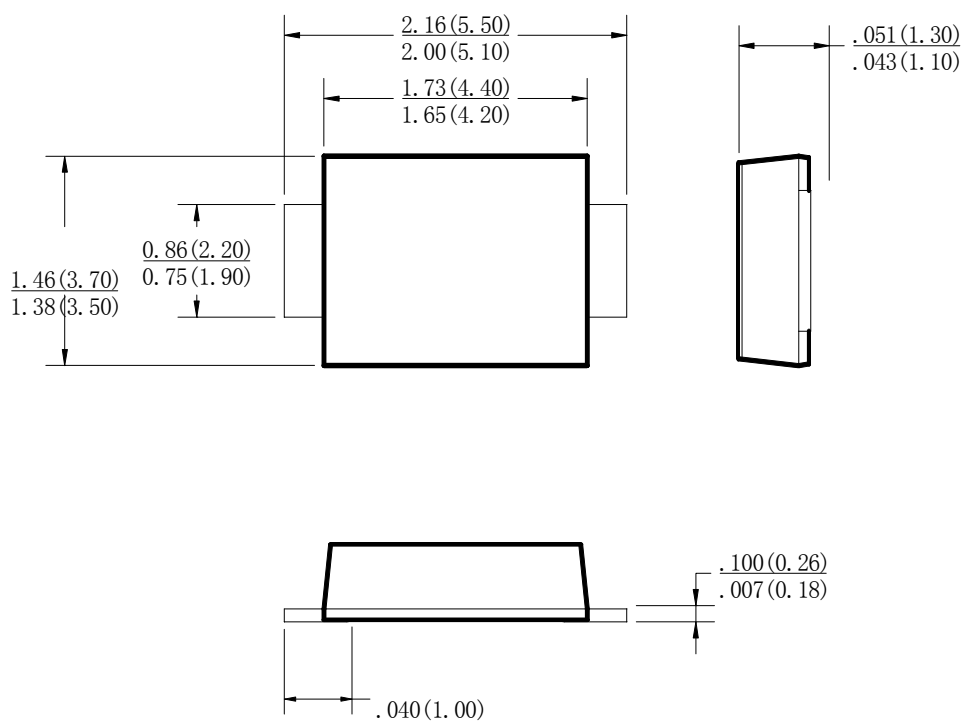


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

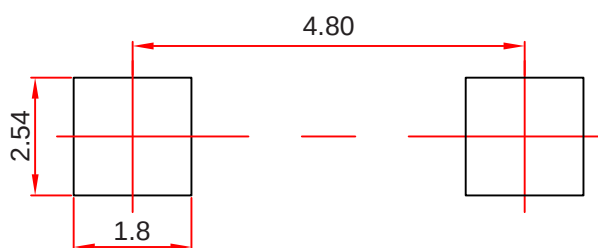


SMBF Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBF Suggested Pad Layout



Note:

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

NOTICE

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Reel Taping Specifications For Surface Mount Devices–SMBF

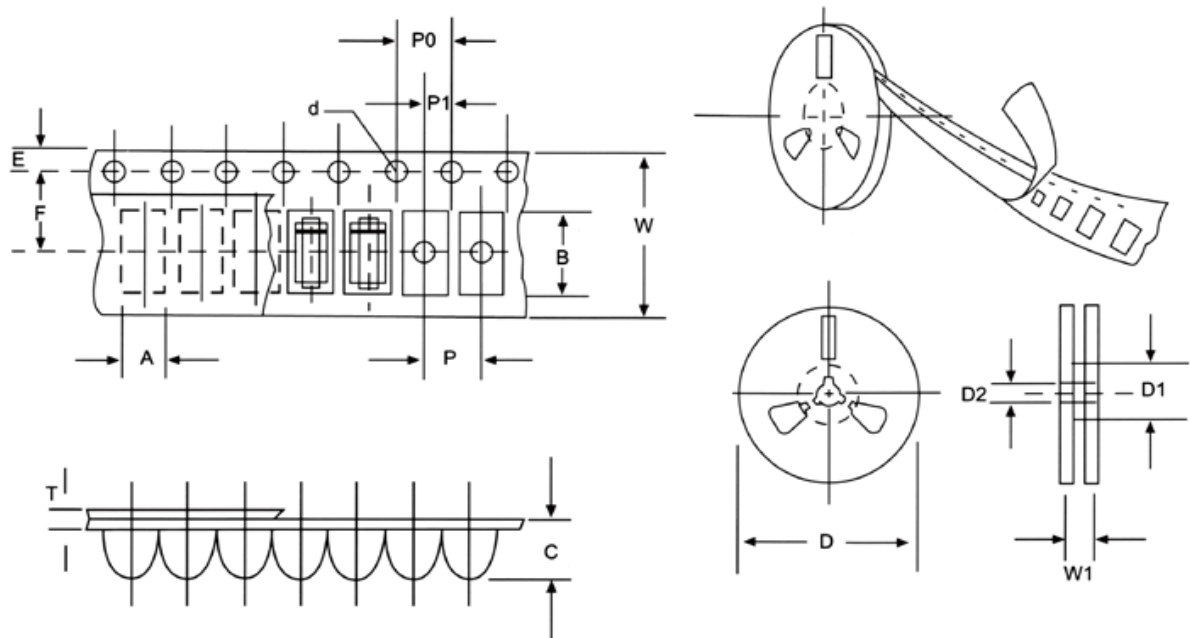


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SMBF mm(inch)
Carrier width	A	3.80±0.1(0.150±0.004)
Carrier length	B	5.75±0.1(0.226±0.004)
Carrier depth	C	1.40±0.1(0.055±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330/281/178±2.0(13/11/7.0±0.079)
Reel inner diameter	D1	8.0±0.2(0.315±0.008)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket 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	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.05(0.079±0.002)
Total tape thickness	T	0.23±0.02 (0.009±0.0008)
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.