

SMB Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diode

Features

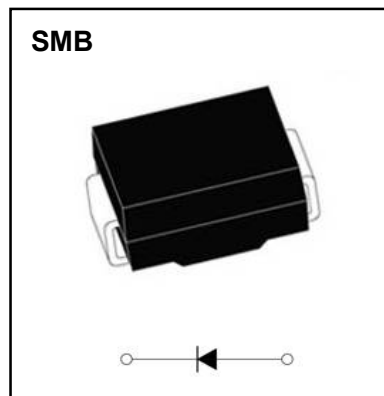
- I_O 3A
- V_{RRM} 800V-1000V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- ES3X
- X : From K To M



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES3	
				K	M
Repetitive Peak Reverse Voltage	V_{RRM}	V		800	1000
Maximum RMS Voltage	V_{RMS}	V		560	700
Average Forward Current	$I_{F(AV)}$	A	60HZ Half-sine wave, Resistance load, $T_L=100^{\circ}C$	3.0	
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave , 1 cycle , $T_a=25^{\circ}C$	100	
Junction Temperature	T_J	$^{\circ}C$		-55~+150	
Storage Temperature	T_{STG}	$^{\circ}C$		-55 ~ +150	

Electrical Characteristics (T =25°C Unless otherwise specified)

Item	Symbol	Unit	Test Condition	ES3	
				K	M
Peak Forward Voltage	V_F	V	$I_F=3.0A$	4.0	
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	$V_{RM}=V_{RRM}$	$T_a=25^{\circ}C$	5
	I_{RRM2}			$T_a=100^{\circ}C$	500
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^{\circ}C/W$	Between junction and ambient	47 ¹⁾	
	$R_{\theta J-L}$		Between junction and terminal	12 ¹⁾	

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.27" x 0.27" (7.0 mm x 7.0 mm)^{er} copper pad areas

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

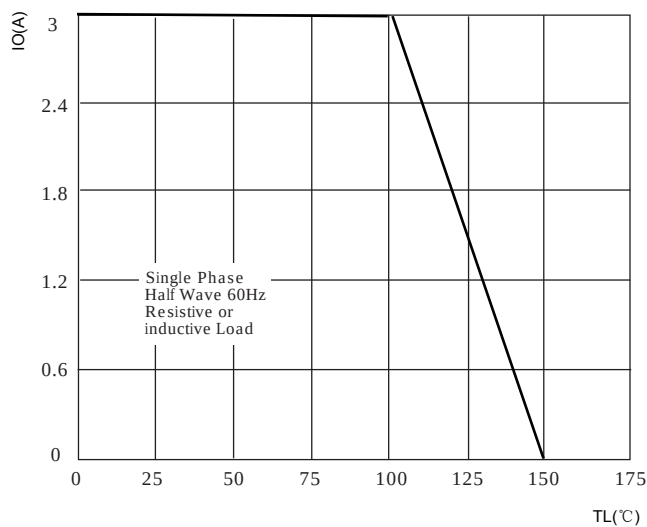


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

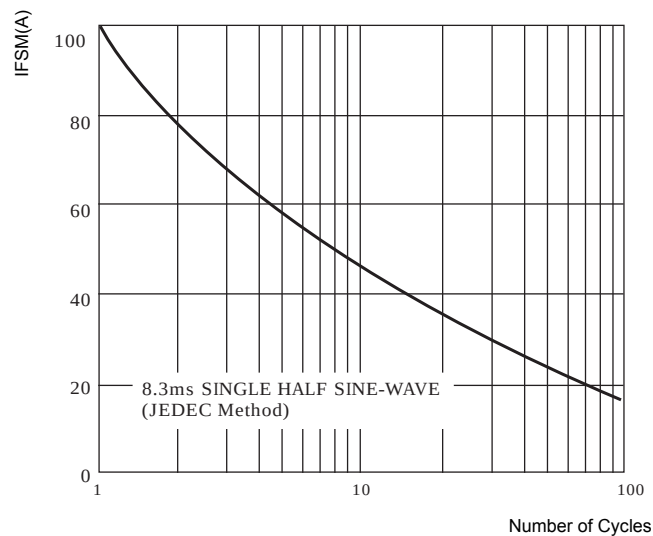


FIG.3: TYPICAL FORWARD CHARACTERISTICS

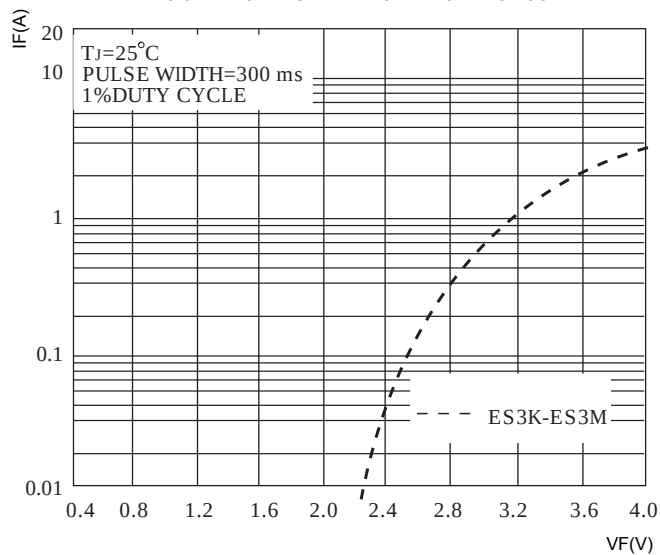


FIG.4: TYPICAL REVERSE CHARACTERISTICS

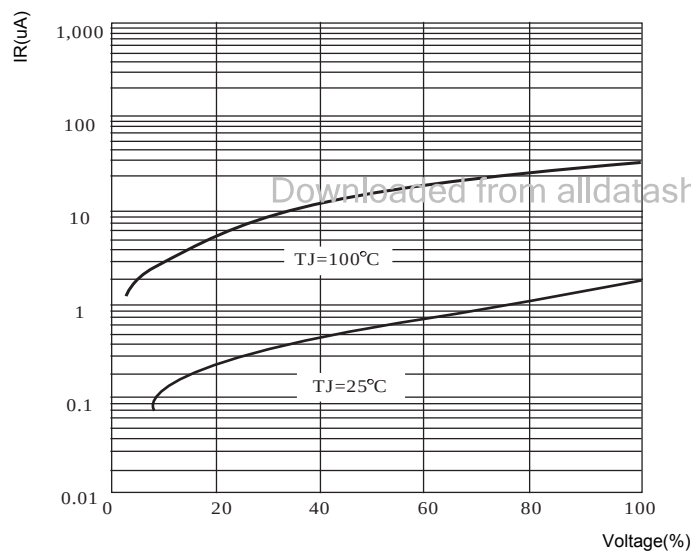
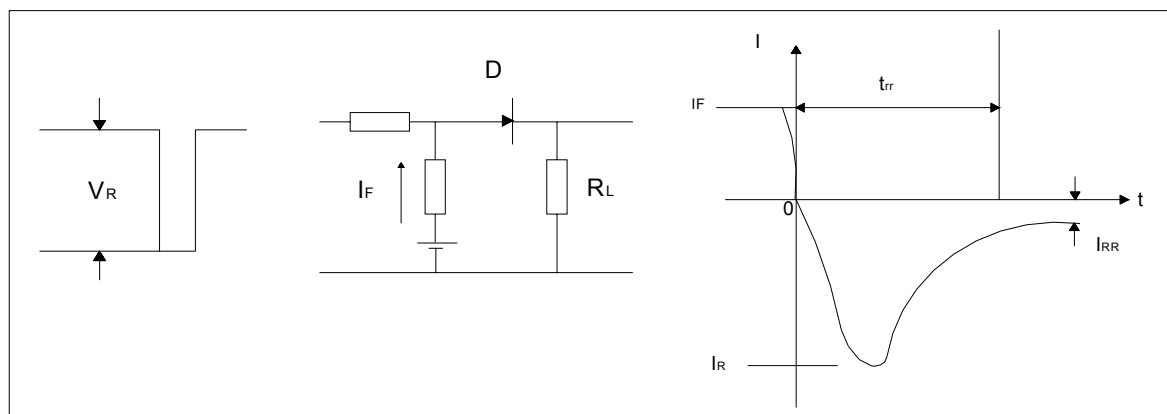
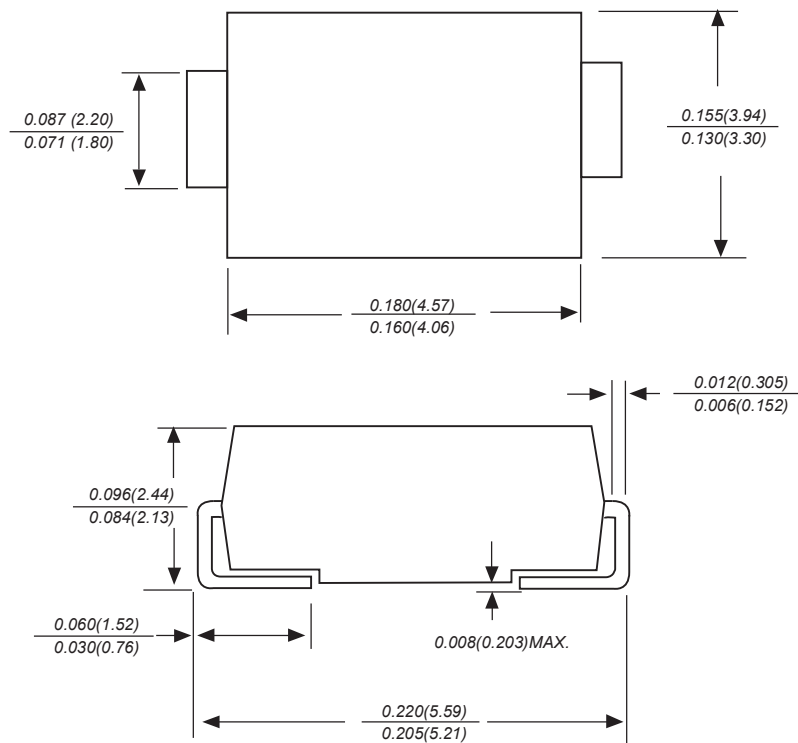


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



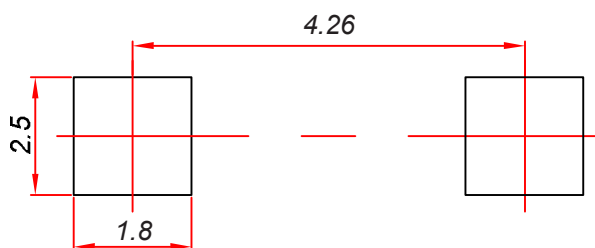
SMB Package Outline Dimensions



Dimensions in inches and (millimeters)

Downloaded from alldatasheet.com

SMB Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JSMD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSMD does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices–SMB

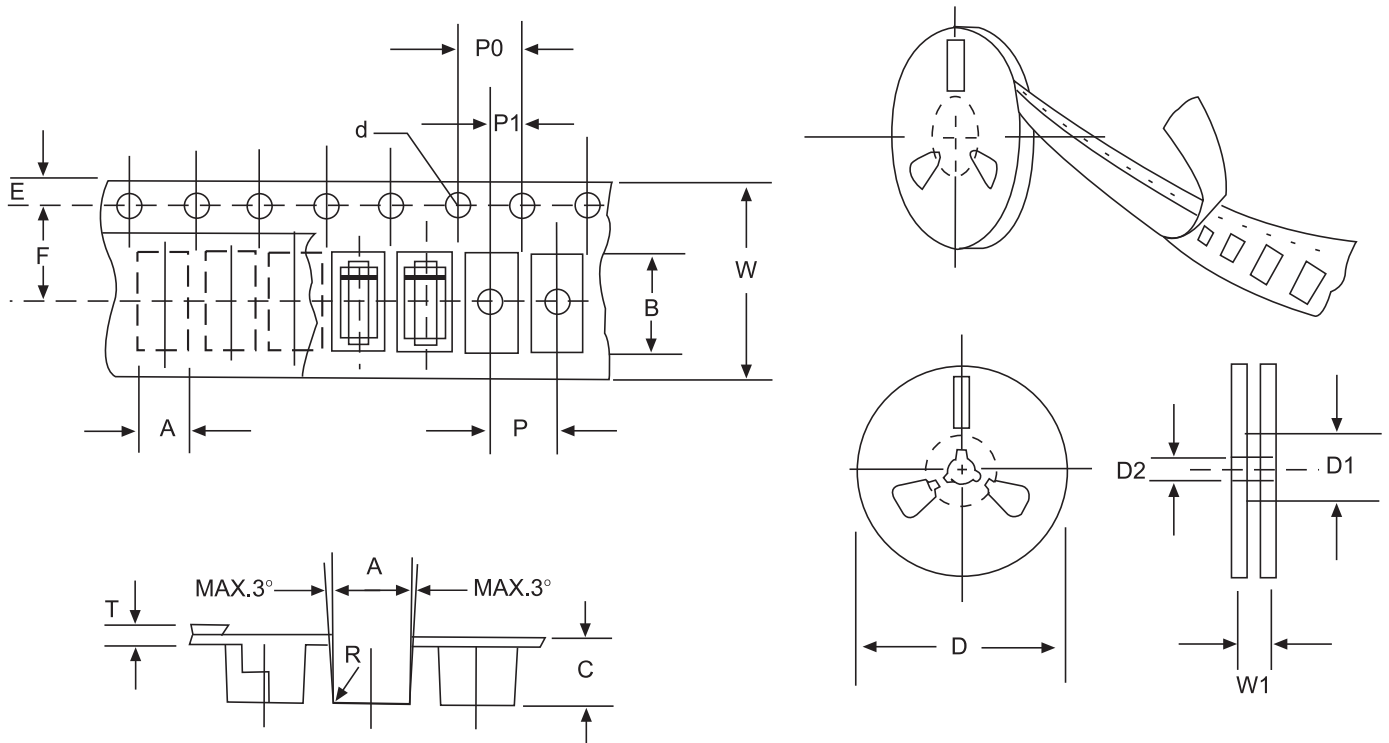


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SMB mm (inch)
Carrier width	A	4.09±0.1(0.161±0.004)
Carrier length	B	5.82±0.1(0.229±0.004)
Carrier depth	C	3.33±0.1(0.131±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.0002)
Reel outside diameter	D	330/178±2.0(13/7.0±0.79)
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	5.65±0.05(0.222±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±0.1(0.079±0.004)
Total tape thickness	T	0.32±0.1(0.013±0.004)
Tape width	W	12.0±0.2(0.472±0.008)
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.