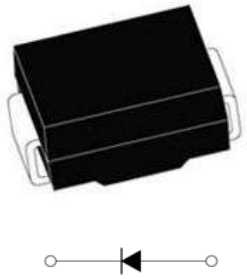
SMA Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diodes

Features:

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

SMA



Application

- Rectifier

Marking

- ES1X

X：From A To J

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES1							
				A	B	C	D	E	G	H	J
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，Ta=75℃	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							
					A	B	C	D	E	G	H	J
Peak Forward Voltage	VF	V	IF=1.0A		0.875				1.25		1.7	
Peak Reverse Current	IRRM1	μA	VRM=VRRM	Ta =25℃	5							
	IRRM2			Ta =100℃	100							
Maximum reverse recovery time	trr	ns	IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A		15							
Maximum reverse recovery time	trr	ns	IF = 0.6 A, VR = 30 V, dI/dt = 50 A/μs, Irr = 10 % IRM	TJ = 25 °C	25							
				TJ = 100 °C	35							
Thermal Resistance(Typical)	RθJ-A	℃/ W	Between junction and ambient		55							
	RθJ-L		Between junction and terminal		25							

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

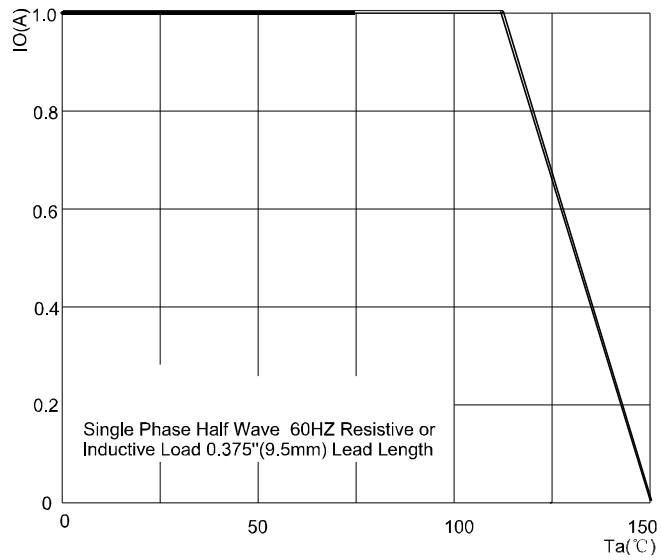


FIG.2:MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

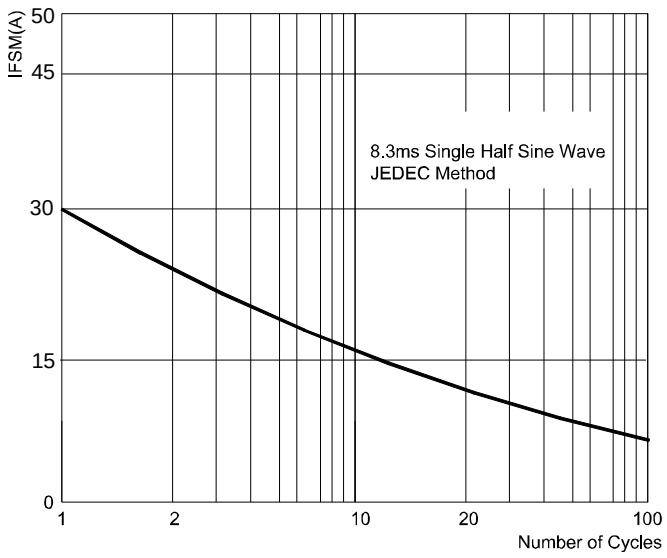


FIG.3: TYPICAL FORWARD CHARACTERISTICS

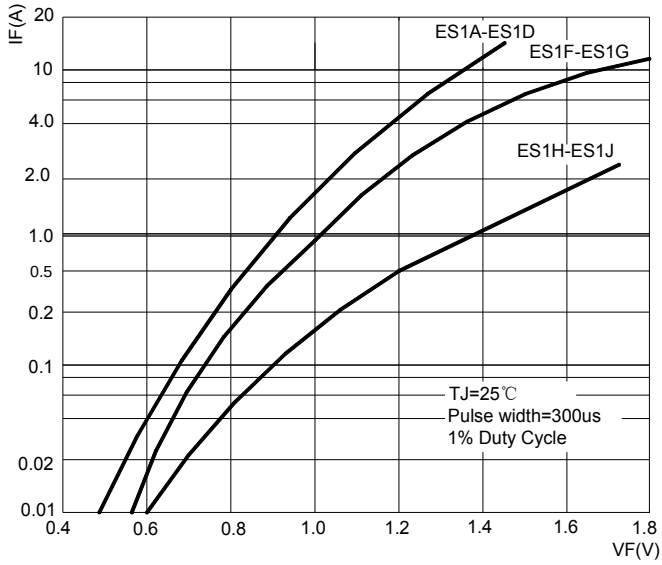


FIG.4:TYPICAL REVERSE CHARACTERISTICS

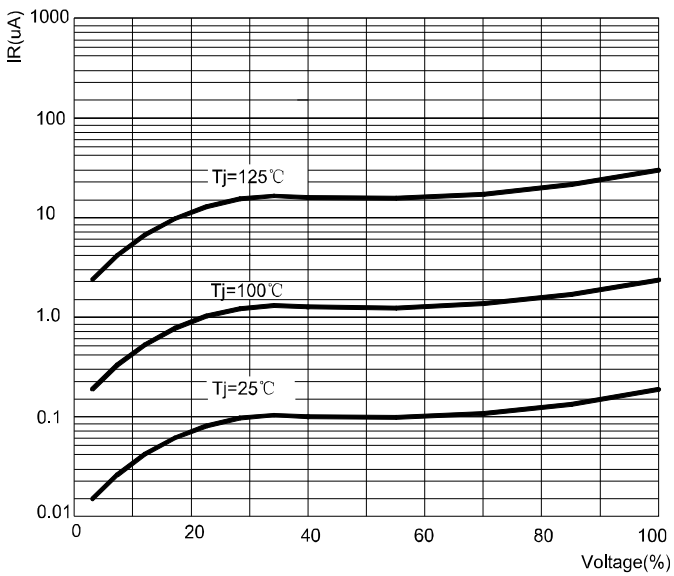
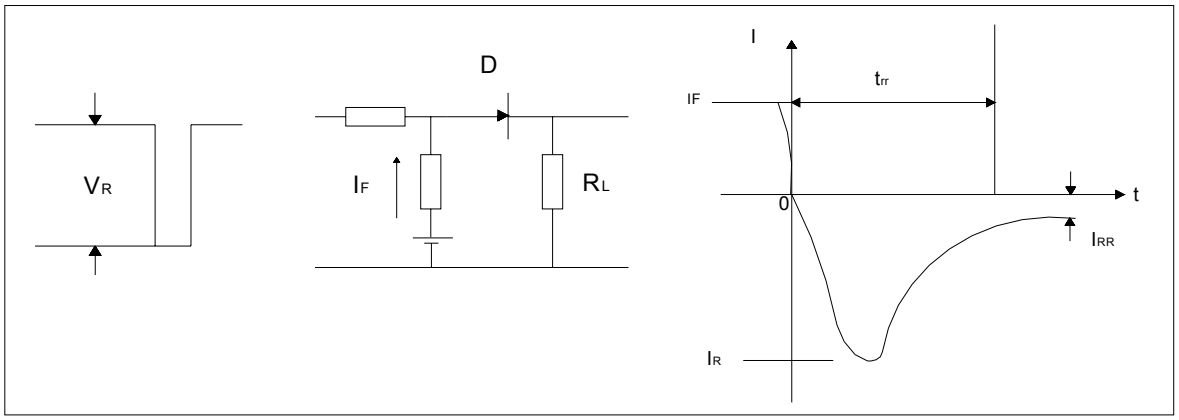
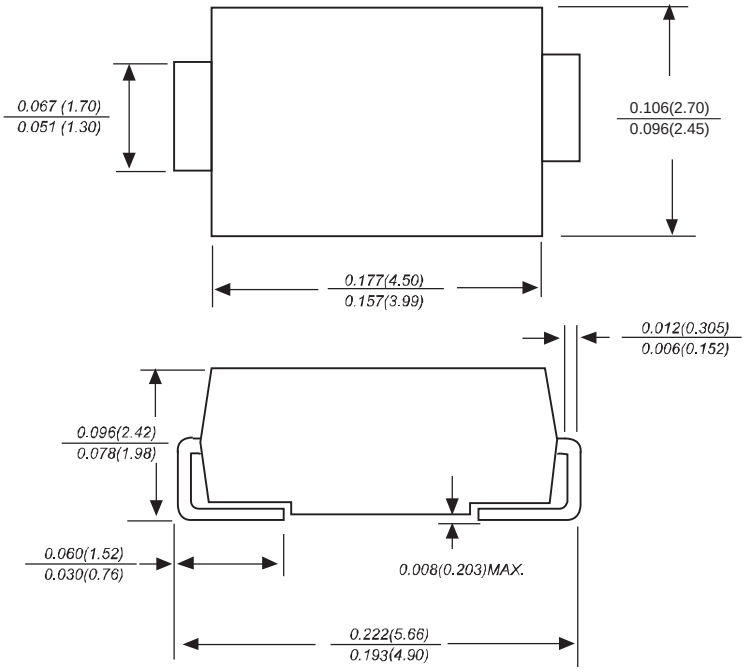


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

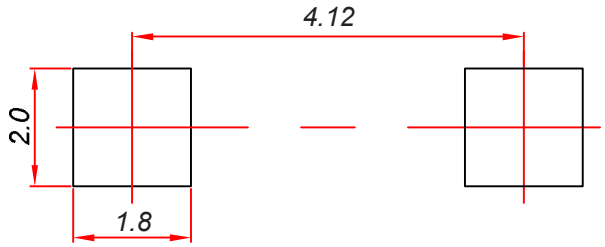


SMA Package Outline Dimensions



Dimensions in inches and (millimeters)

SMA Suggested Pad Layout



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

Reel Taping Specifications For Surface Mount Devices- SMA

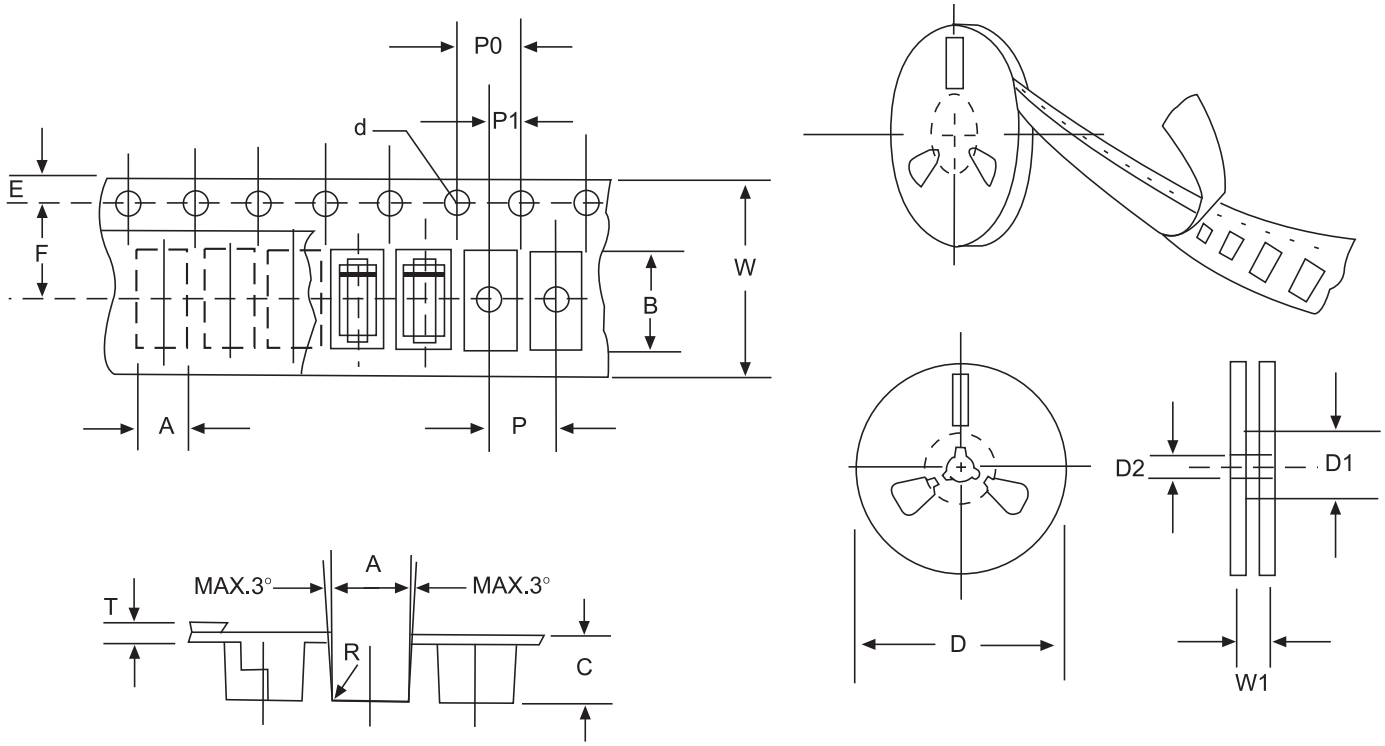


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMA mm(inch)
Carrier width	A	2.79±0.1(0.110±0.004)
Carrier length	B	5.33±0.1(0.210±0.004)
Carrier depth	C	2.36±0.1(0.093±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	279±2.0 (11± 0.079)
Reel inner diameter	D1	75 ±1.0 (2.95 ±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	0.28±0.02(0.011±0.0008)
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 packed in accordance with EIA standard RS-481-A and specification given above.