

## SMC Plastic-Encapsulate Diodes

### Fast Recovery Rectifier Diode

#### Features

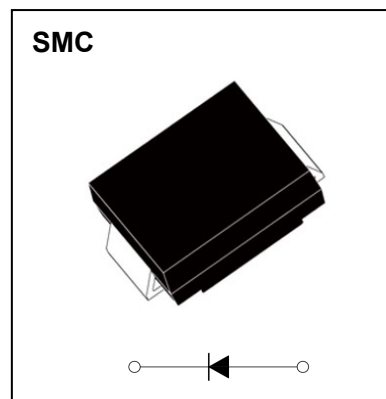
- $I_o$  3A
- $V_{RRM}$  50V-1000V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

#### Applications

- Rectifier

#### Marking

- RS3X
- X : From A To M



#### Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	RS3						
				A	B	D	G	J	K	M
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		50	100	200	400	600	800	1000
Maximum RMS Voltage	$V_{RMS}$	V		35	70	140	280	420	560	700
Average Forward Current	$I_{F(AV)}$	A	60HZ Half-sine wave, Resistance load, $T_L=110^{\circ}C$	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 ( $T_a=25^{\circ}C$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	RS3						
				A	B	D	G	J	K	M
Peak Forward Voltage	$V_F$	V	$I_F=3.0A$	1.3						
Maximum reverse recovery time	$t_{rr}$	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	150			250		500	
Peak Reverse Current	$I_{RRM1}$	$\mu A$	$V_{RM}=V_{RRM}$	$T_a=25^{\circ}C$						
	$I_{RRM2}$			$T_a=125^{\circ}C$						
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^{\circ}C/W$	Between junction and ambient				50 <sup>1)</sup>			
	$R_{\theta J-L}$		Between junction and terminal				15 <sup>1)</sup>			

#### Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

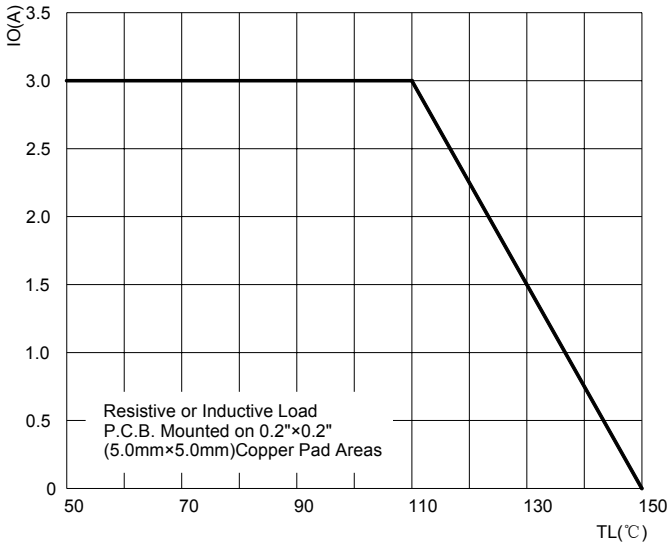


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

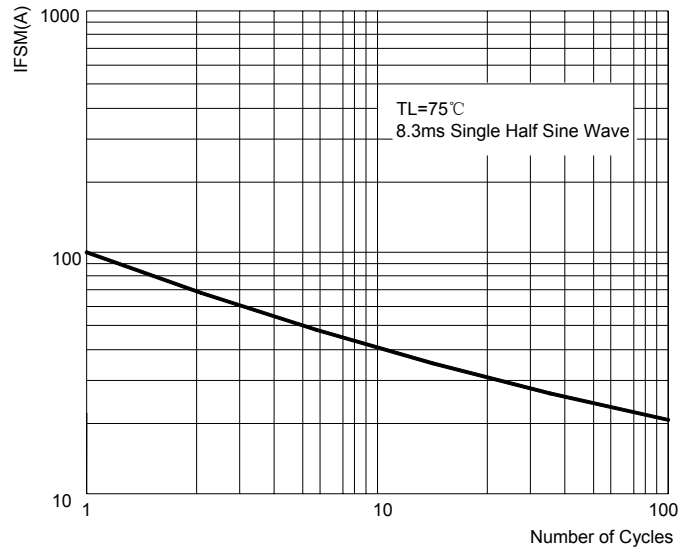


FIG.3: TYPICAL FORWARD CHARACTERISTICS

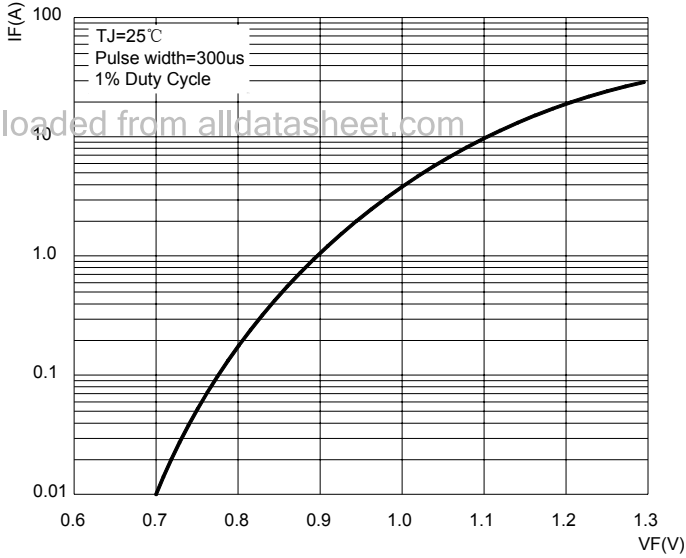


FIG.4: TYPICAL REVERSE CHARACTERISTICS

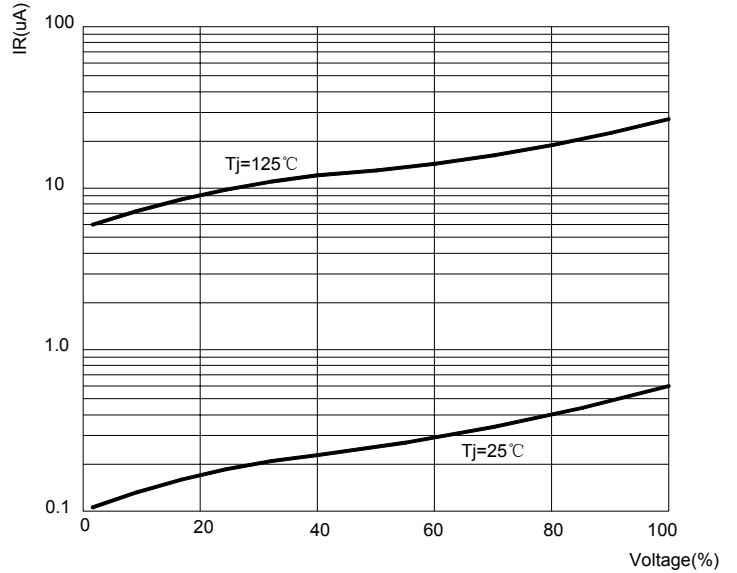
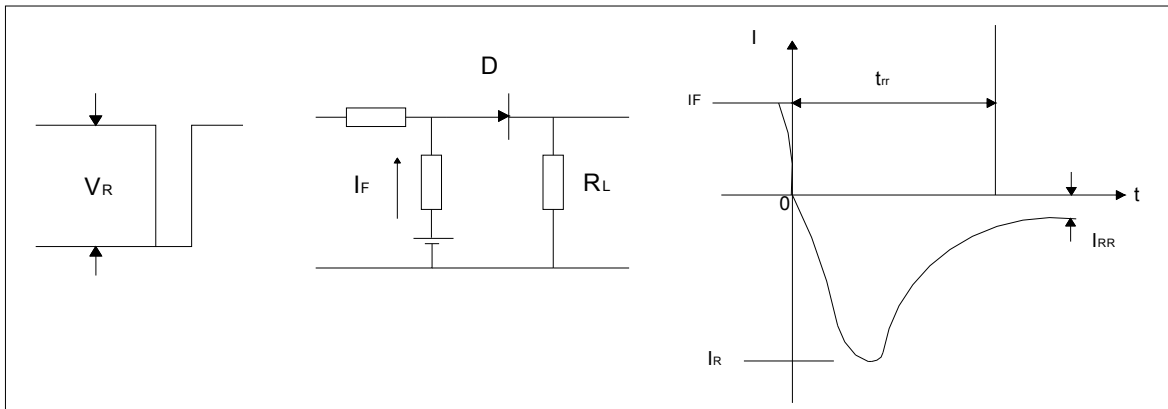
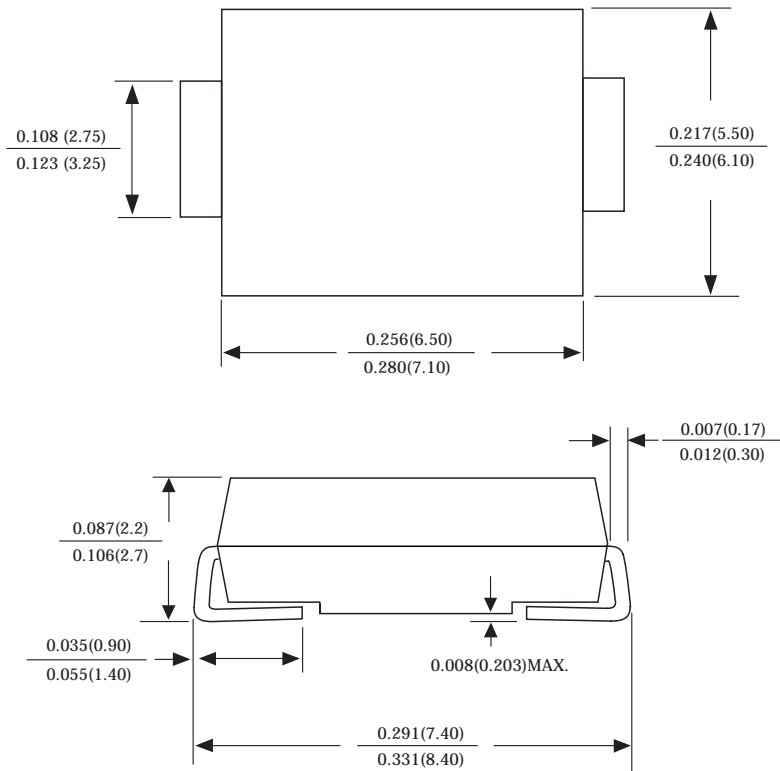


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



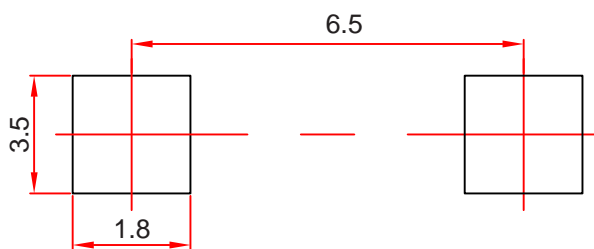
## SMC Package Outline Dimensions



Dimensions in inches and (millimeters)

Downloaded from alldatasheet.com

## SMC Suggested Pad Layout



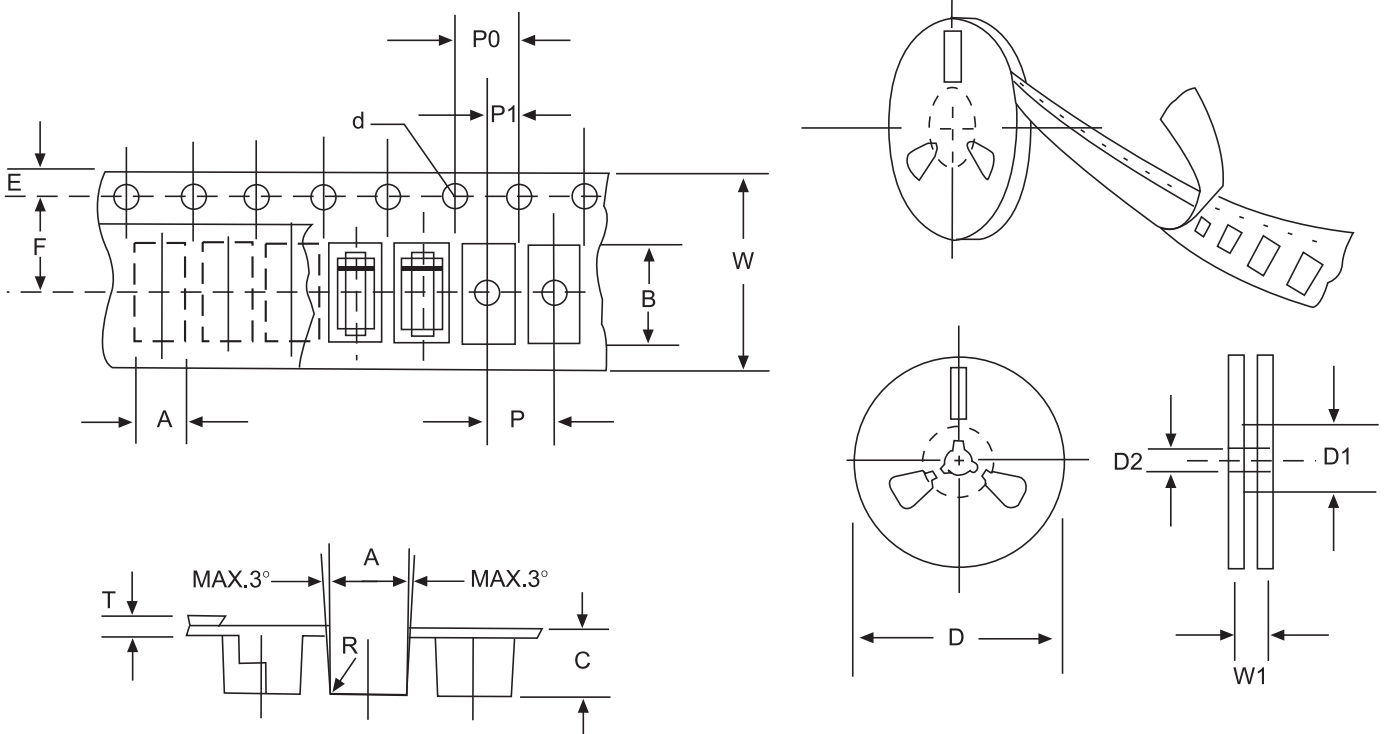
### Note:

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

### NOTICE

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

# Reel Taping Specifications For Surface Mount Devices-SMC



**FIG:CONFIGURATION OF AXIAL TAPING**

TERMS	SYMBOL	SMC mm(inch)
Carrier width	A	6.05±0.1(0.238±0.004)
Carrier length	B	8.31±0.1(0.327±0.004)
Carrier depth	C	2.50±0.1(0.100±0.004)
Sprocket hole	d	1.5±0.1(0.059±0.004)
Reel outside diameter	D	330/281/178±2(13/11/7±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	1.5±0.1(0.059±0.004)
Punch hole position	F	7.65±0.05(0.301±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	0.3±0.1(0.012±0.004)
Tape width	W	16.0±0.2(0.630±0.008)
Reel width	W1	24.0±2.0(0.945±0.079)

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