

# SMCG Plastic-Encapsulate Diodes

## S3A THRU S3M General Purpose Rectifier Diodes

### Features

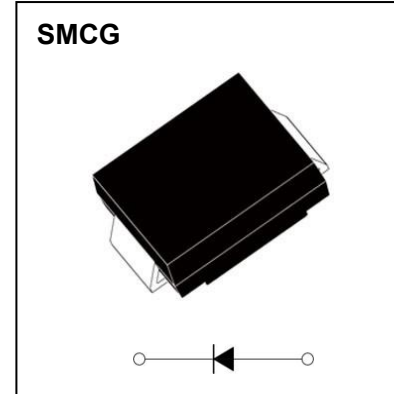
- $I_{F(AV)}$  3A
- $V_{RRM}$  50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

### Applications

- Rectifier

### Marking

- S3X  
X : From A To M



### Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	S3						
				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 , $T_L = 100^\circ\text{C}$	3.0						
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	60Hz Half-sine wave , 1 cycle , $T_a = 25^\circ\text{C}$	100						
Operation Junction and Storage Temperature Range	$T_J, T_{STG}$	$^\circ\text{C}$		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition	S3						
				A	B	D	G	J	K	M
Peak Forward Voltage	$V_F$	V	$I_F = 3.0\text{A}$	1.15						
Peak Reverse Current	$I_{RRM1}$	$\mu\text{A}$	$V_{RM} = V_{RRM}$	$T_a = 25^\circ\text{C}$						
	$I_{RRM2}$			$T_a = 125^\circ\text{C}$						
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C/W}$	Between junction and ambient		47					
	$R_{\theta J-L}$		Between junction and terminal		10					

### 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) copper pad areas

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

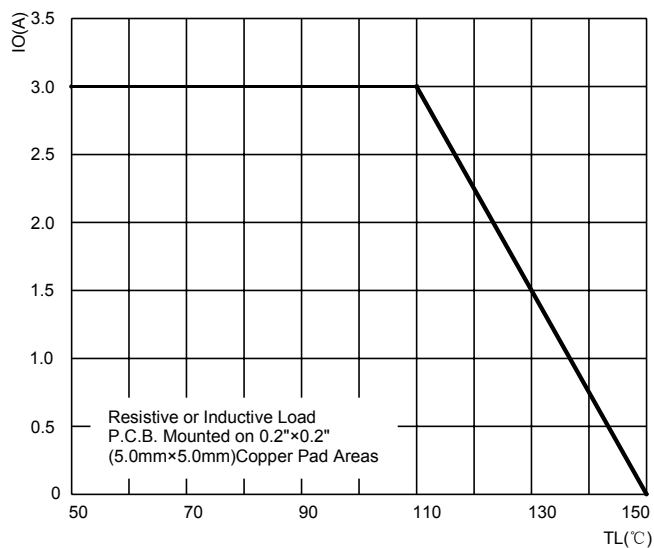


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

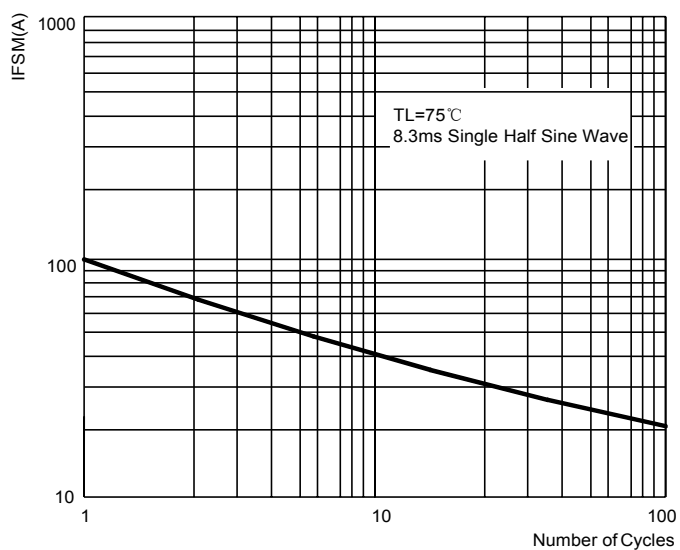


FIG.3: TYPICAL FORWARD CHARACTERISTICS

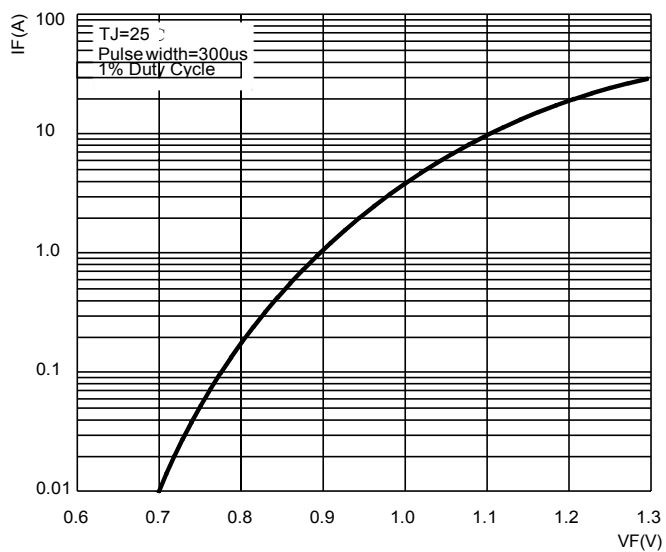
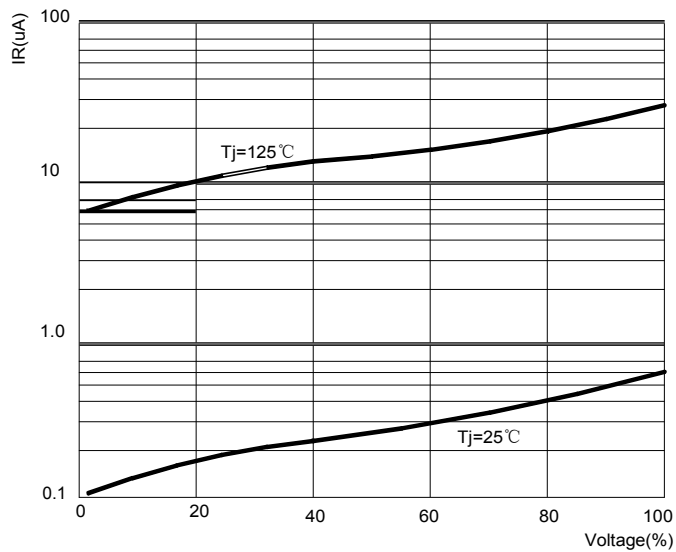
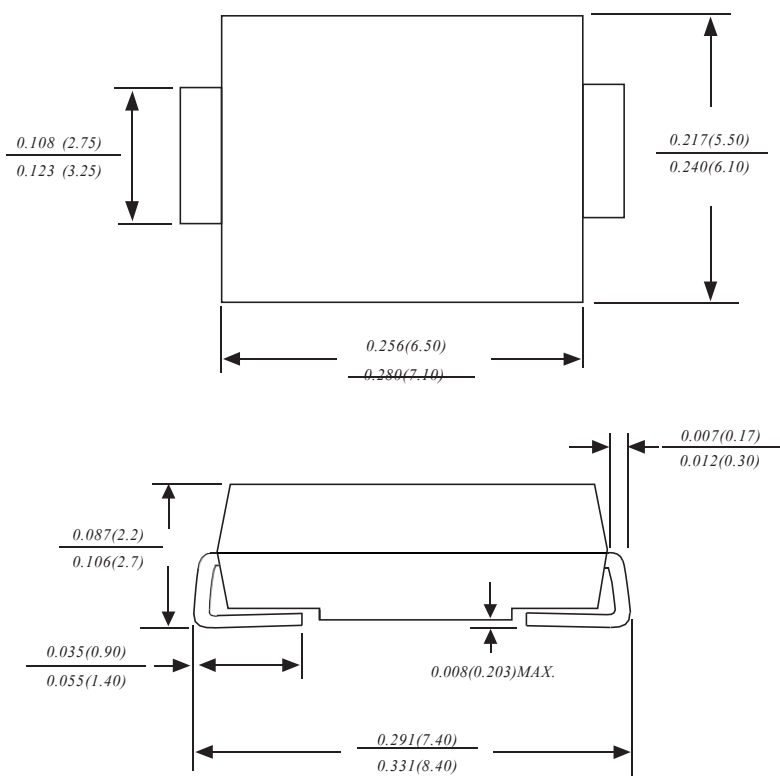


FIG.4: TYPICAL REVERSE CHARACTERISTICS

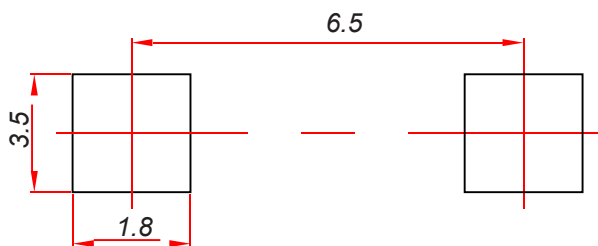


## SMCG Package Outline Dimensions



Dimensions in inches and (millimeters)

## SMCG Suggested Pad Layout



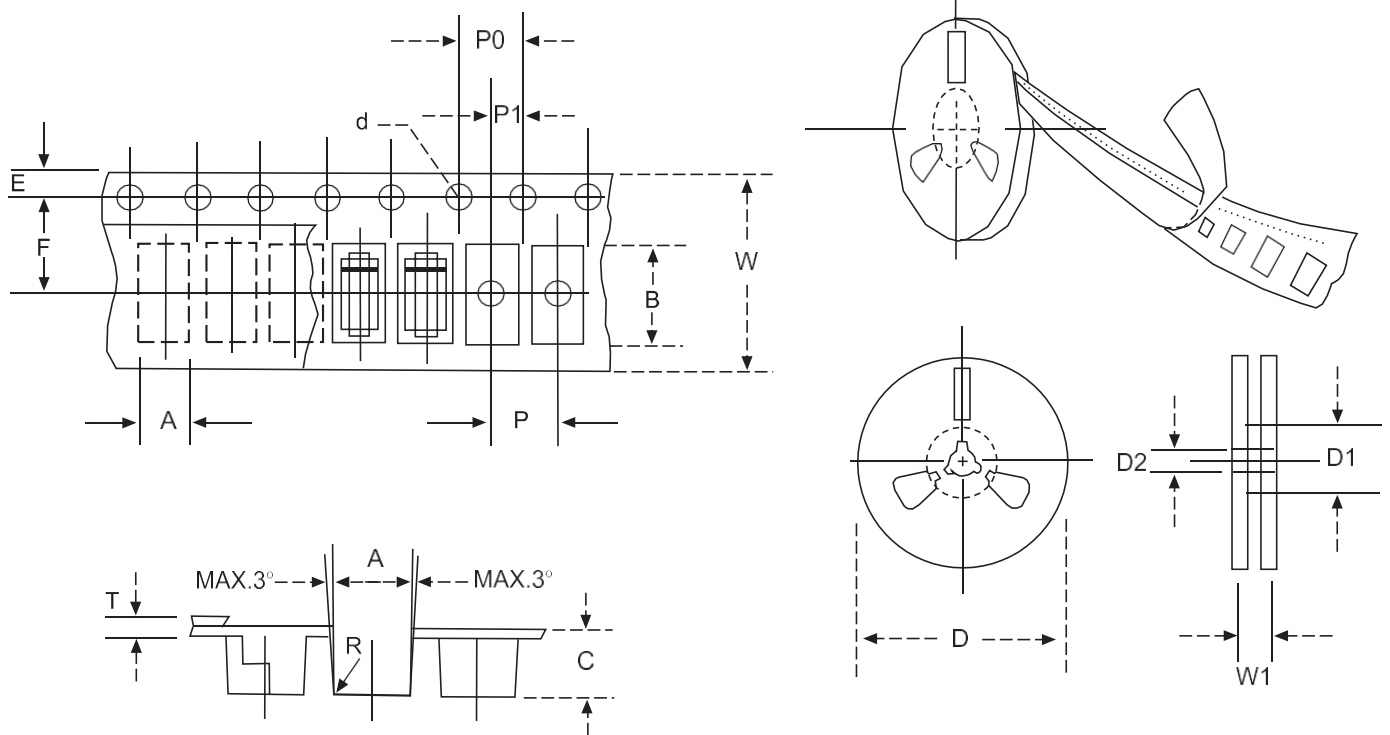
### Note:

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

### NOTICE

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# Reel Taping Specifications For Surface Mount Devices-SMCG



**FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING**

ITEM	SYMBOL	SMCG 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	2.70±0.1(0.106±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75±1.0 2(95 0.039 )
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	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.