

SMCG Plastic-Encapsulate Diodes

US3A THRU US3M High Efficient Rectifier Diodes

Features

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

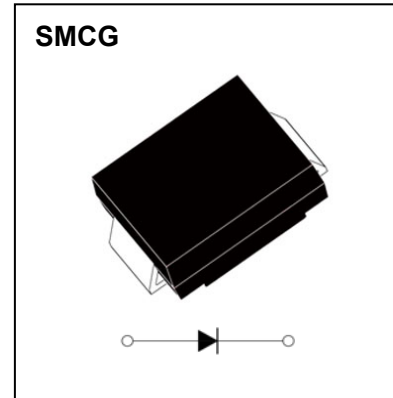
Applications

- Rectifier

Marking

- US3X

X : From A To M



Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	US3						
				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 ℃	3.0						
Surge(Non-repetitive)Forward Current	I _{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25 ℃	100						
Operation Junction and Storage Temperature Range	T _J ,T _{STG}	℃		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition		US3						
					A	B	D	G	J	K	M
Peak Forward Voltage	V _F	V	I _F =3.0A		1.0			1.3	1.7		
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A,I _R =1.0A,I _{rr} =0.25A		50				75		
Peak Reverse Current	I _{RRM1}	μA	V _{RM} =V _{RRM}	T _a =25℃	10						
	T _a =100℃			200							
Thermal Resistance(Typical)	R _{θJ-A}	℃/W	Between junction and ambient		47						
	R _{θJ-L}		Between junction and terminal		13						

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

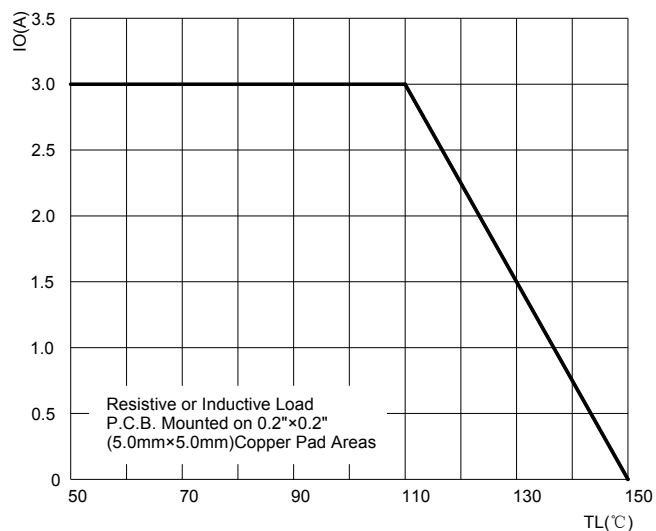


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

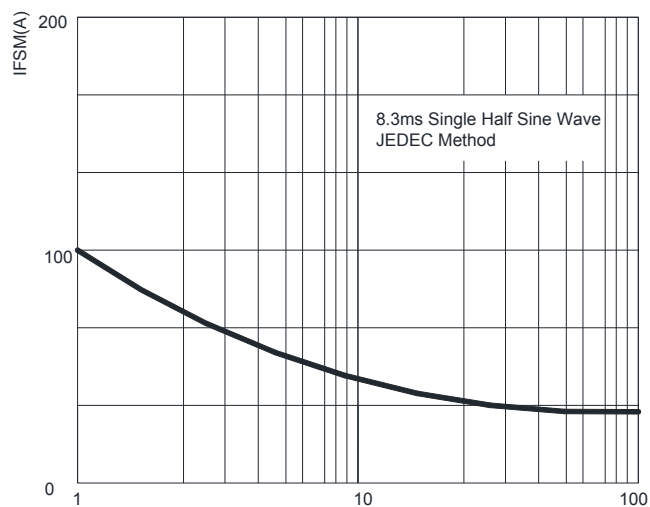


FIG.3: TYPICAL FORWARD CHARACTERISTICS

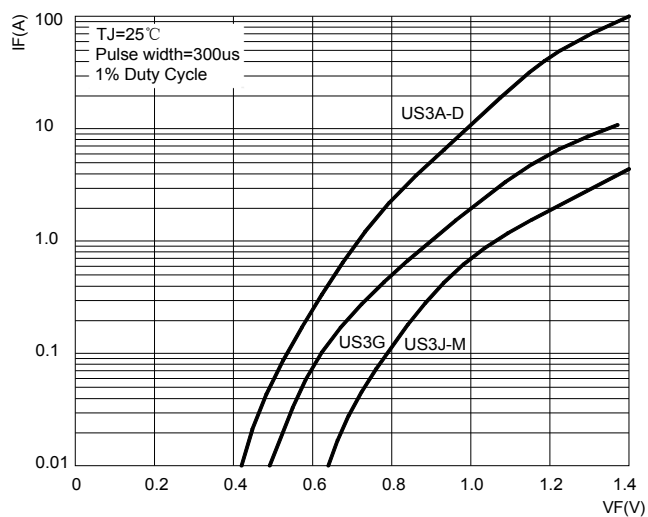


FIG.4: TYPICAL REVERSE CHARACTERISTICS

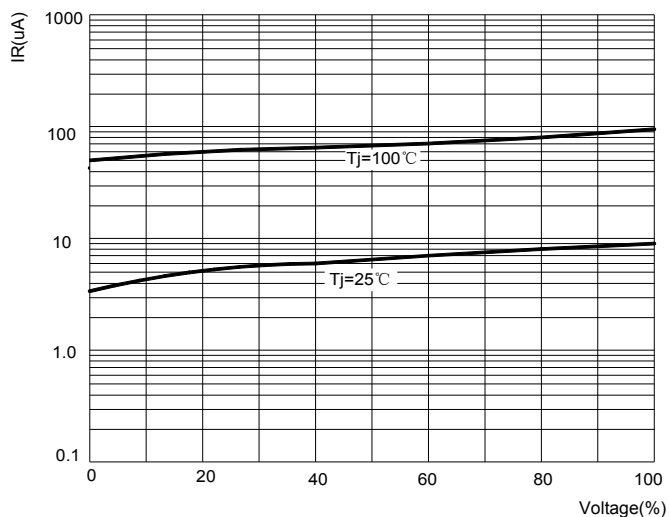
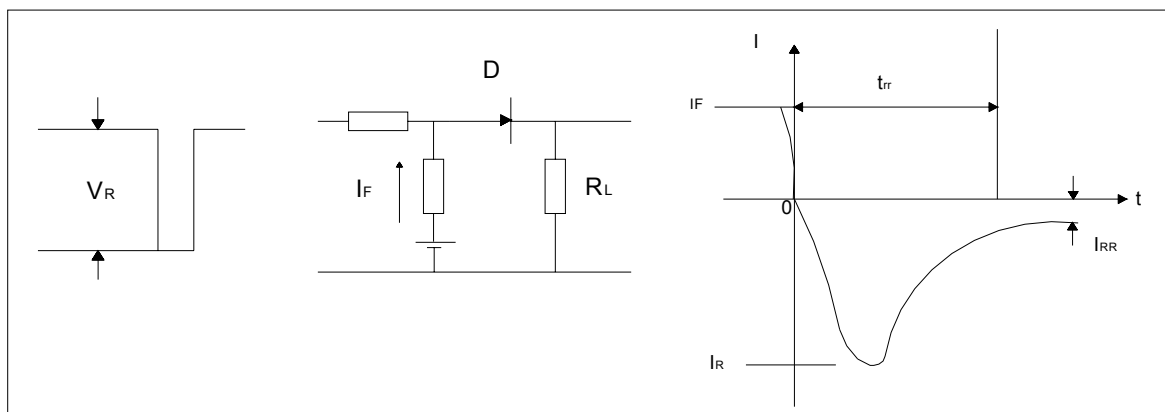
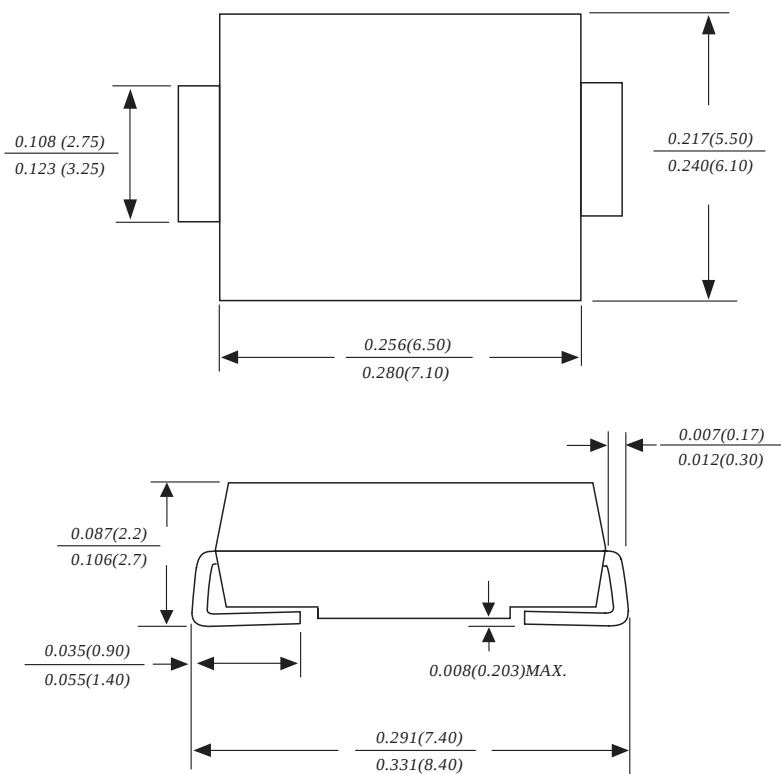


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

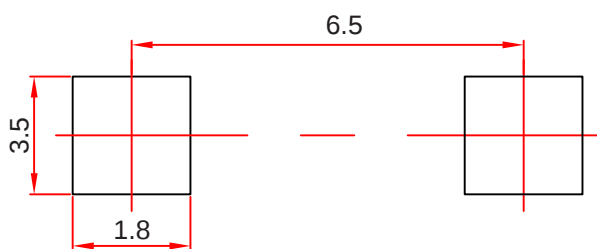


SMCG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMCG 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–SMCG

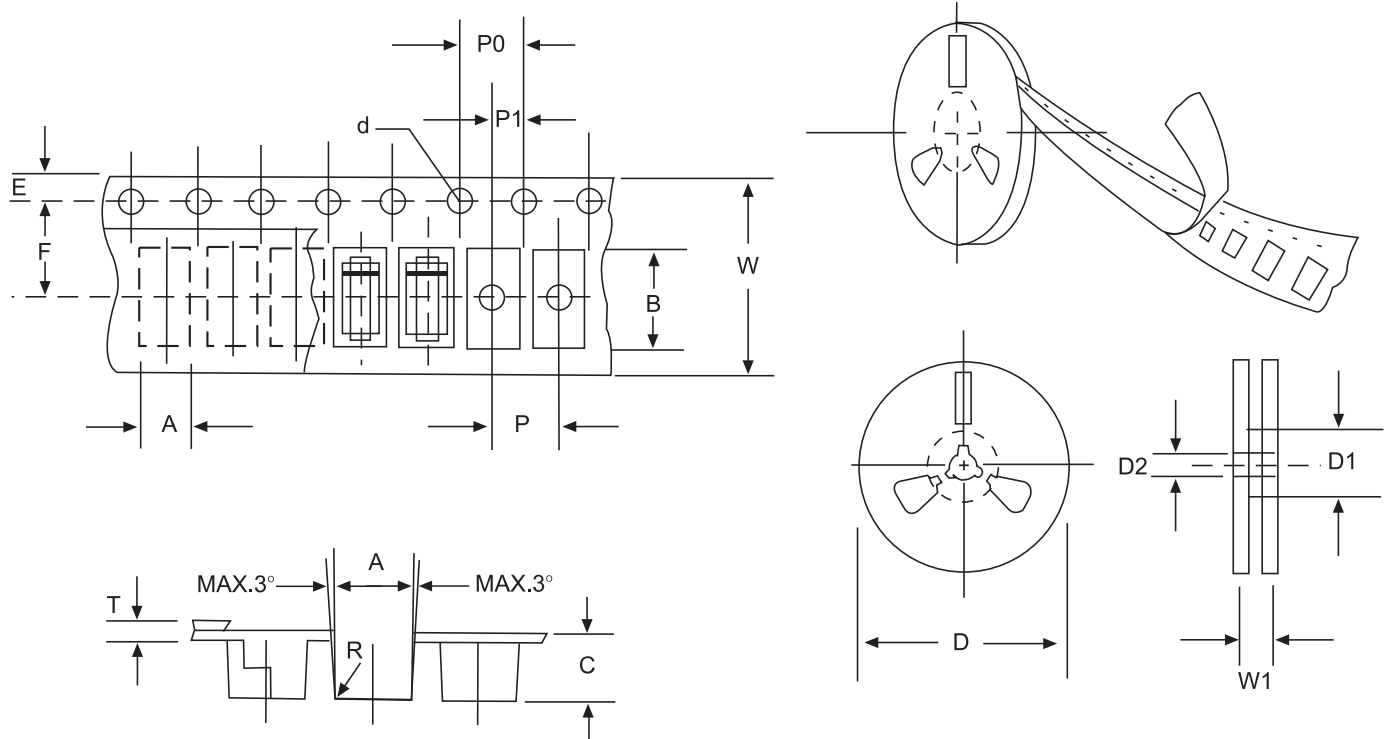


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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)
Strocket 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)
Totall 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.