SMCG Plastic-Encapsulate Diodes

Fast Recovery Rectifier Diode

Features

- I_O 5A
- VRRM 50V-1000V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

Applications

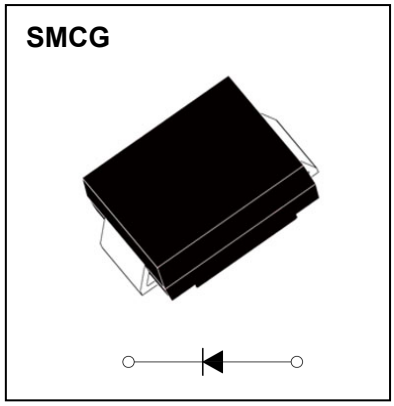
- Rectifier

Marking

- RS5X

  X：From A To M

SMCG



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	RS5						
				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=75℃	5.0						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave ,1 cycle , Ta =25℃	150						
Junction Temperature	T_J	℃		-55~+150						
Storage Temperature	T_{STG}	℃		-55~+150						

Electrical Characteristics (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Test Condition		RS5						
					A	B	D	G	J	K	M
Peak Forward Voltage	V_F	V	I_F=5.0A		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}	μA	V_{RM}=V_{RRM}	Ta =25℃	10						
	I_{RRM2}			Ta =125℃	250						
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		50[1)]						
	$R_{\theta J-L}$		Between junction and terminal		15[1)]						

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

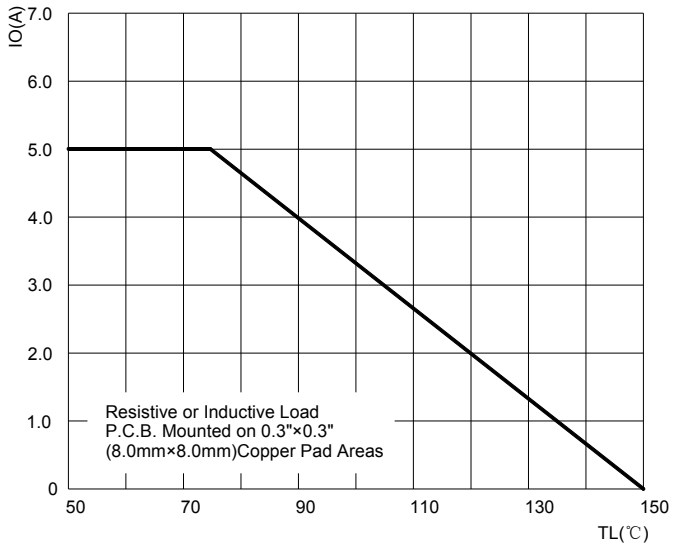


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

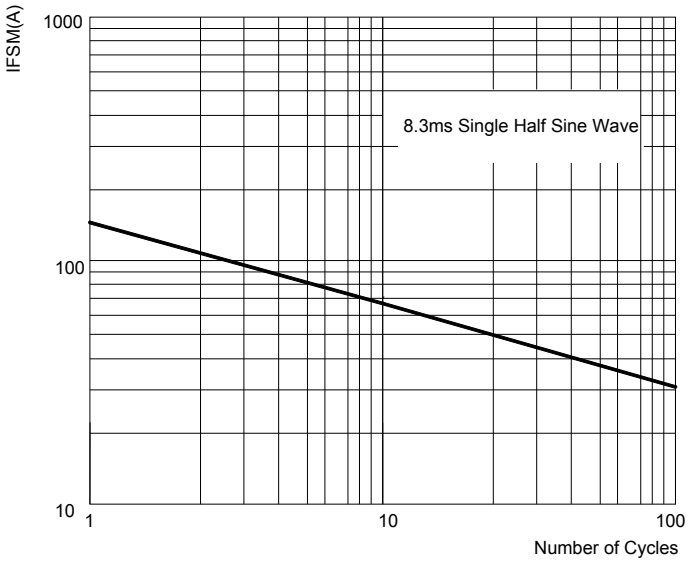


FIG.3: TYPICAL FORWARD CHARACTERISTICS

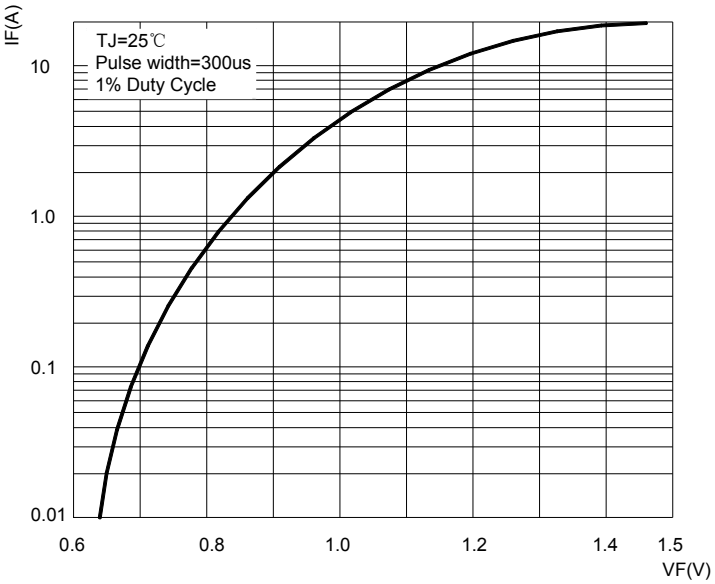


FIG.4：TYPICAL REVERSE CHARACTERISTICS

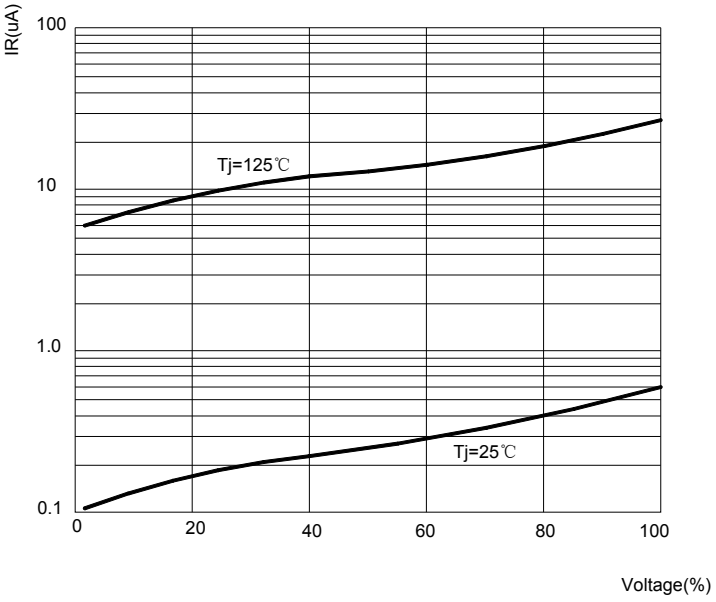
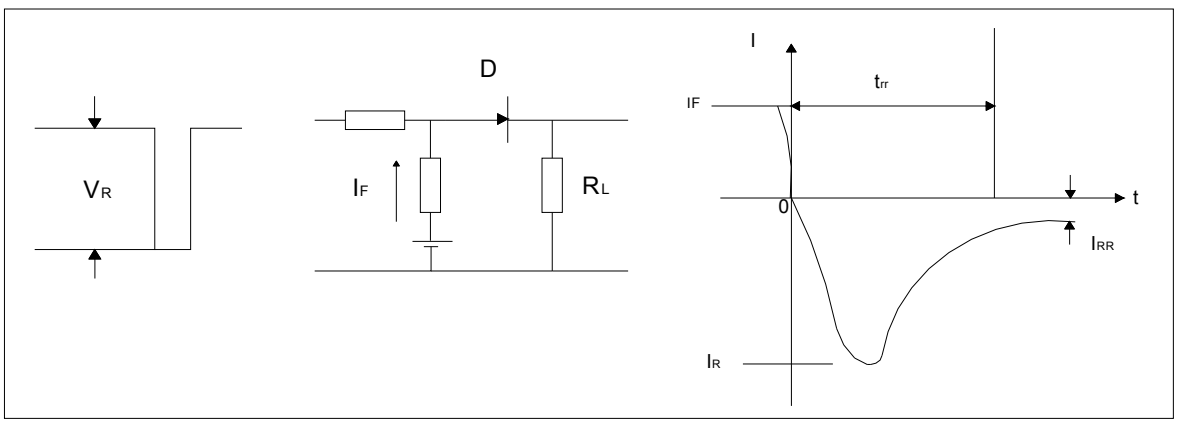
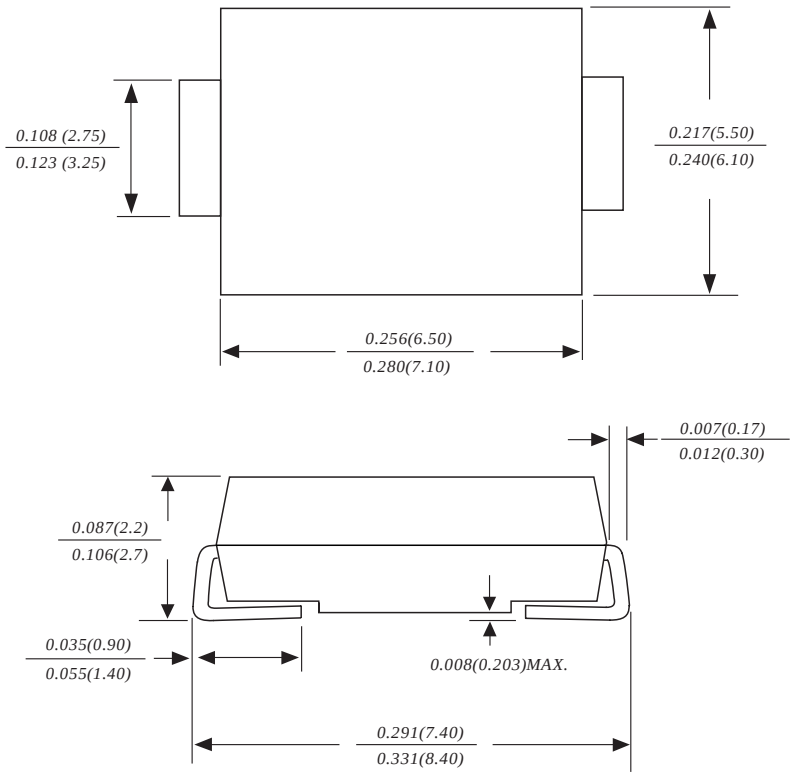


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

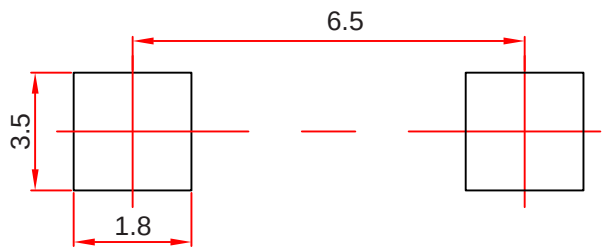


SMCG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMCG Suggested Pad Layout



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

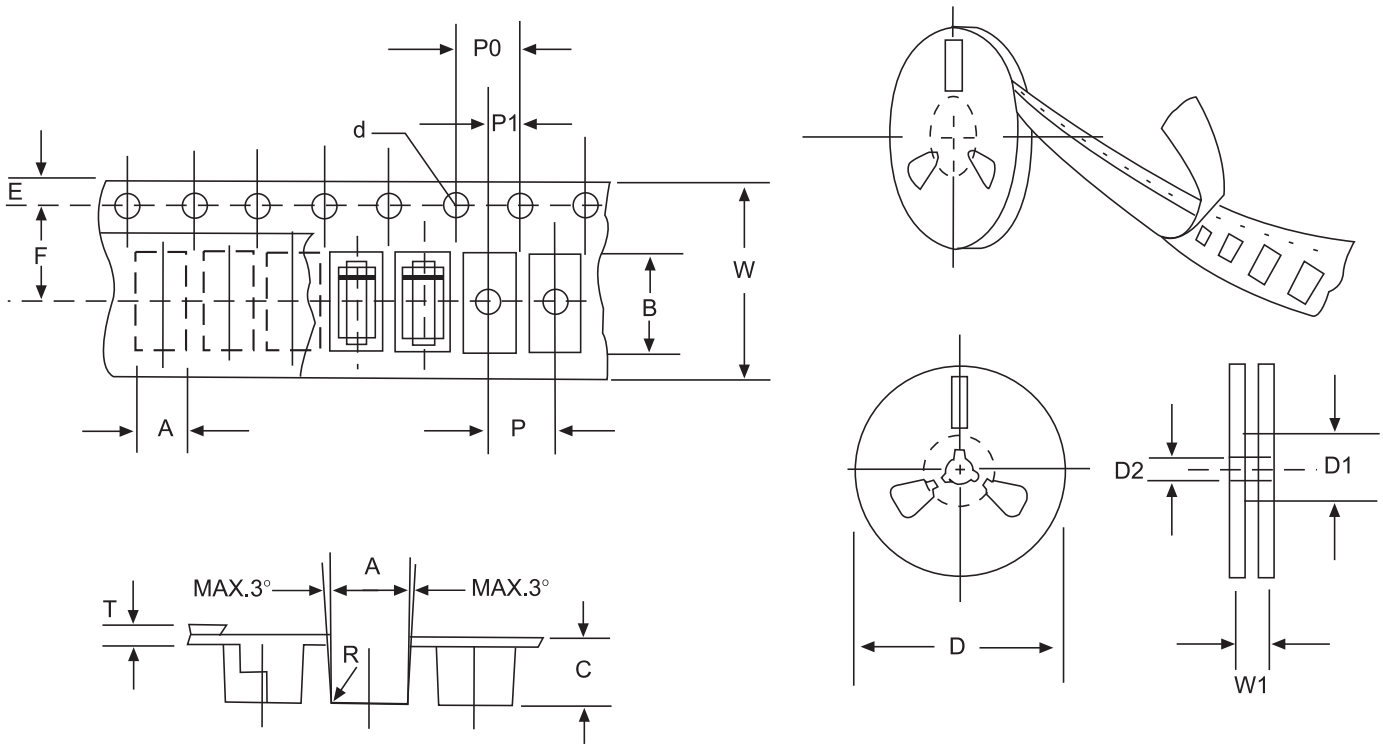


FIG:CONFIGURATION OF AXIAL TAPING

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	2.50±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)
Stroket 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)
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 packde in accordance with EIA standard RS-481-A and specification given above.