

SMBG Plastic-Encapsulate Diodes

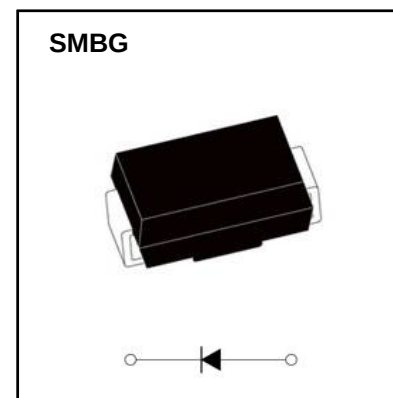
Fast Recovery Rectifier

Features

- I_O 3A
- VRRM 50V-1000V
- Low forward voltage drop
- High surge current capability
- Glass passivated chip junction

Mechical Data

- Case: JEDEC DO-214AA molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	RS						
				3A	3B	3D	3G	3J	3K	3M
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
Maximum DC blocking Voltage	V_{DC}	V		50	100	200	400	600	800	1000
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						
Junction Temperature	T_J	$^\circ\text{C}$		-55~+150						
Storage Temperature	T_{STG}	$^\circ\text{C}$		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition		RS						
					3A	3B	3D	3G	3J	3K	3M
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}	μA	V _{RM} =V _{RRM}	T _a =25°C	5						
	T _a =125°C			150							
Thermal Resistance(Typical)	R _{θJ-A}	°C/W	Between junction and ambient		65						
	R _{θJ-L}		Between junction and terminal		25						
	R _{θJ-C}		Between junction and case		23						
Juction Capacitance (Typical)	C _J	pF	Measured at 1.0MHz and applied reverse voltage of 4.0 volts.		35			27		23	

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

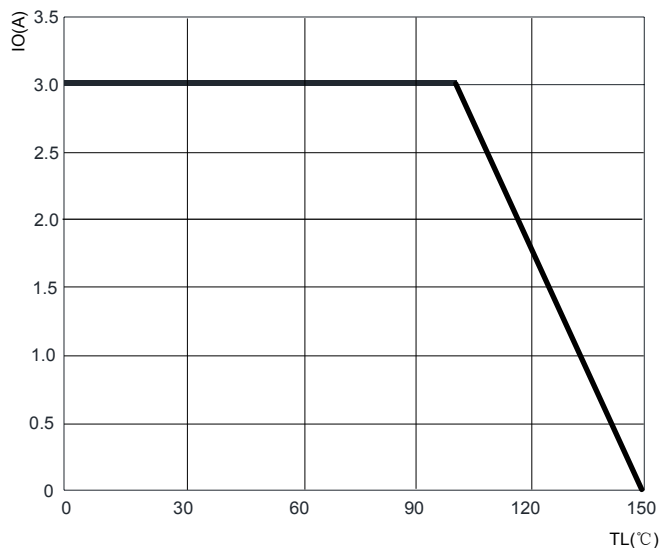


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

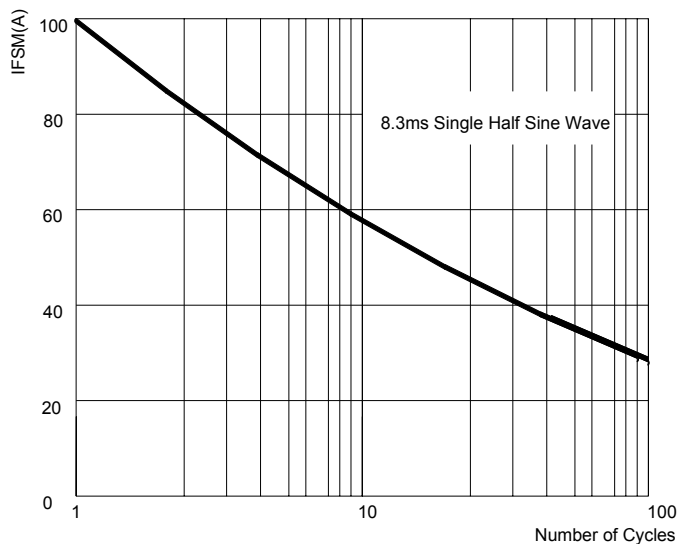


FIG.3: TYPICAL FORWARD CHARACTERISTICS

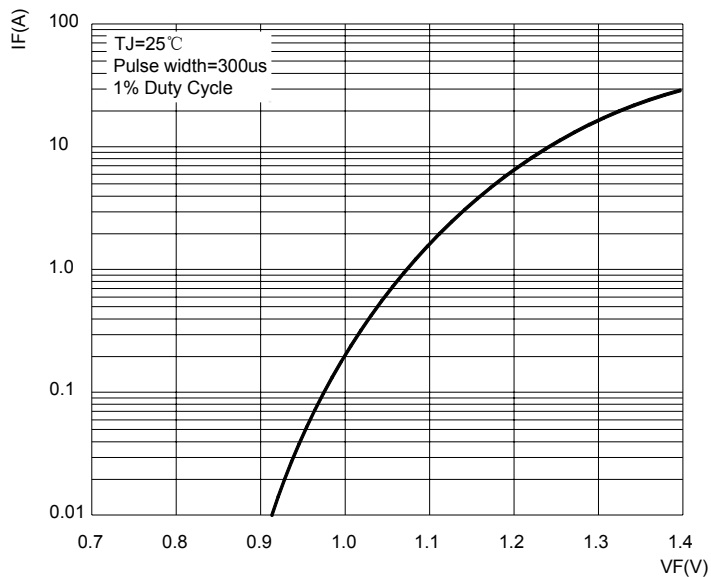


FIG.4: TYPICAL REVERSE CHARACTERISTICS

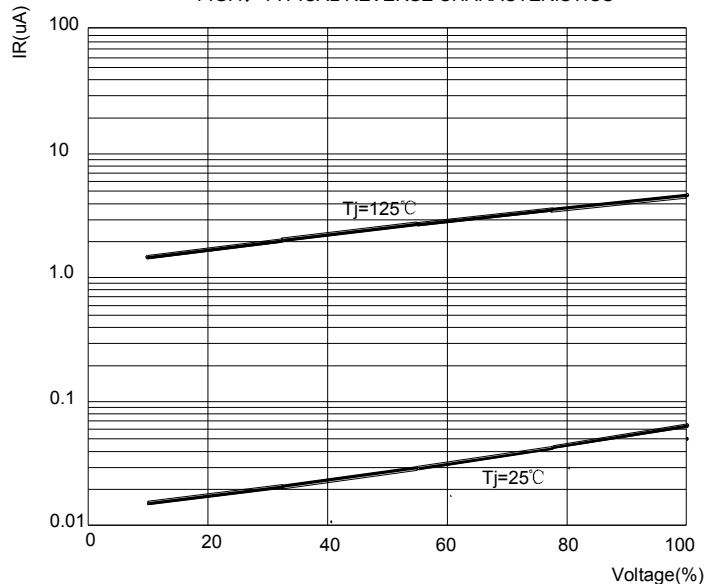
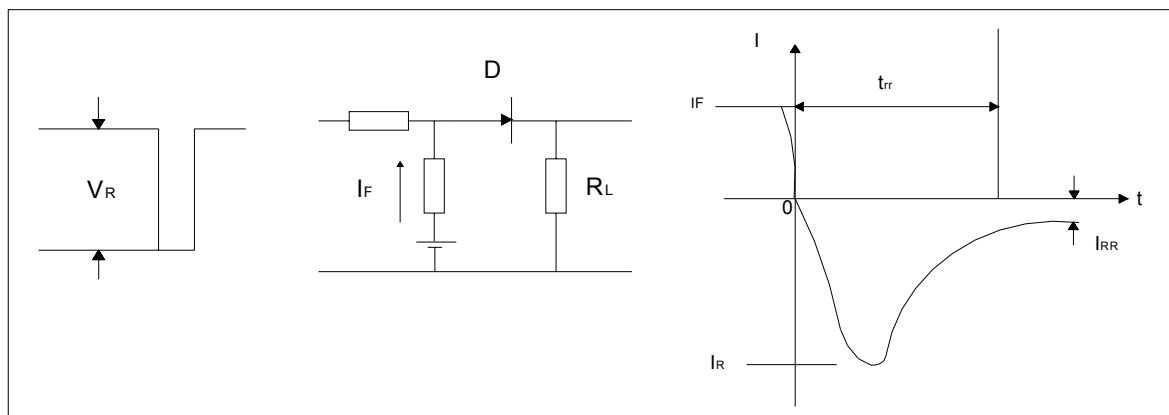
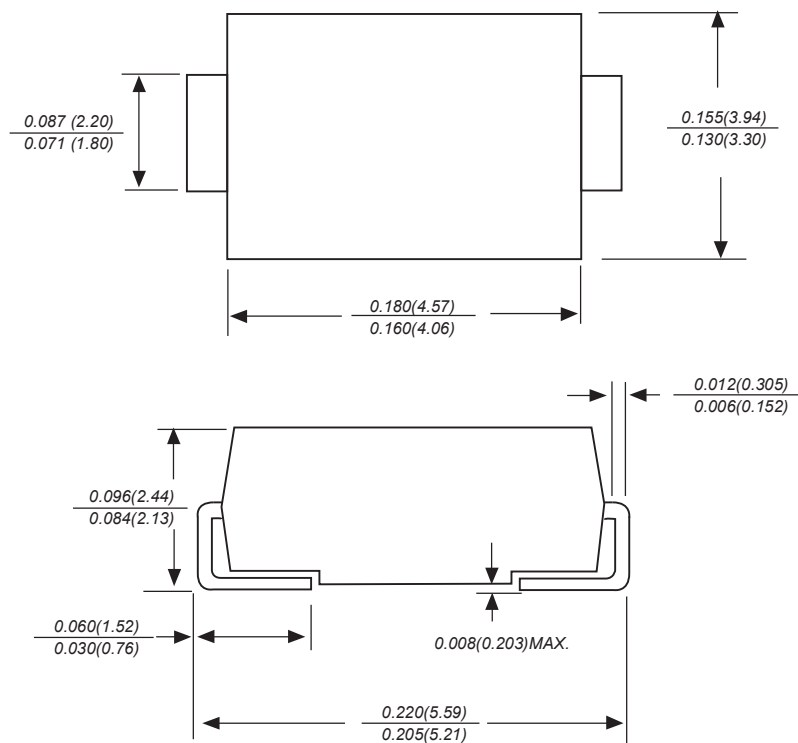


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

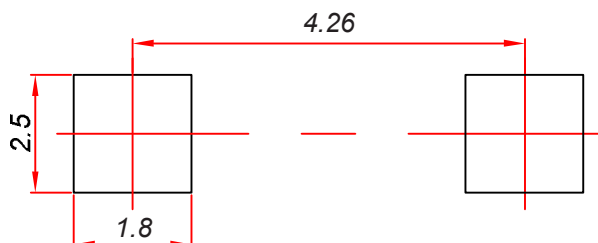


SMBG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBG Suggested Pad Layout



Note:

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

Ordering Information

Part Number	Package	Shipping Quantity
RS3A-RS3M	SMBG	3000/tape&Reel

Marking Diagram



X: From A To M

Reel Taping Specifications For Surface Mount Devices–SMBG

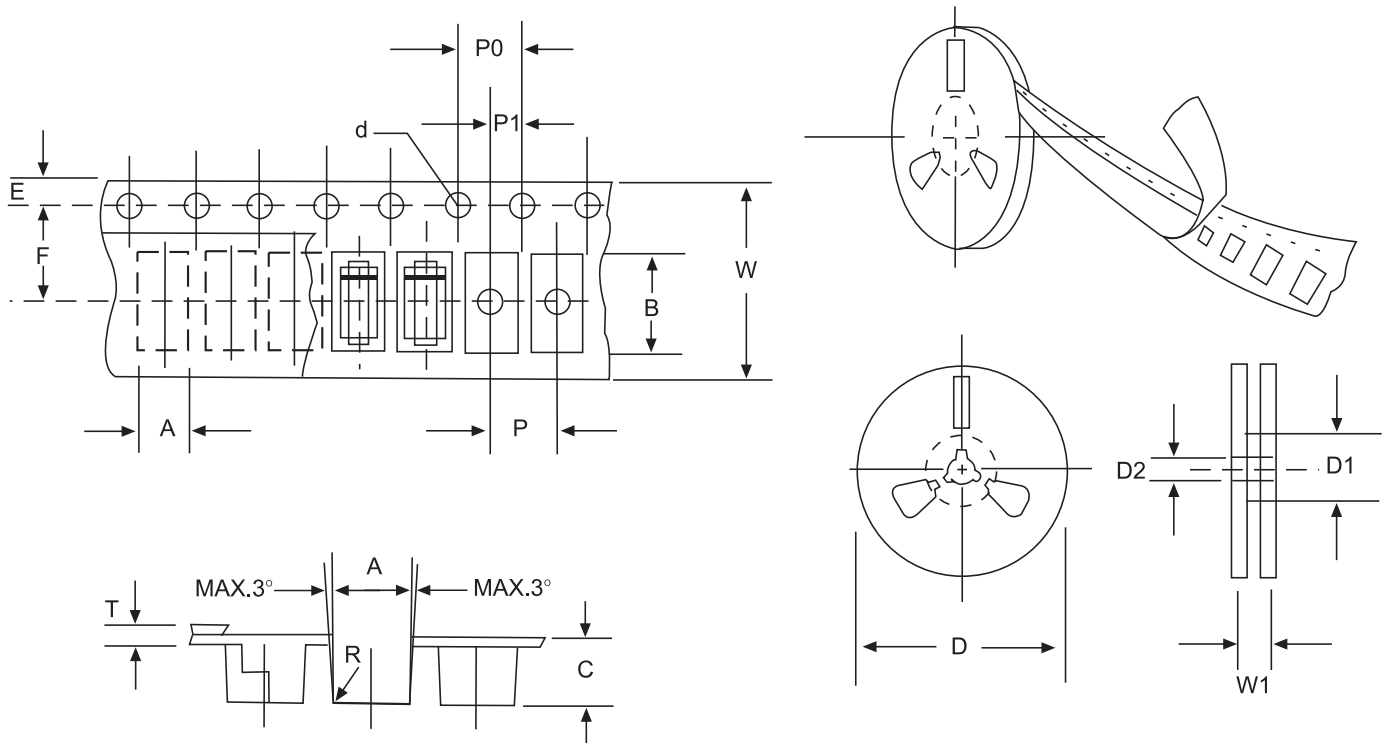


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMBG mm(inch)
Carrier width	A	4.09±0.1(0.161±0.004)
Carrier length	B	5.82±0.1(0.229±0.004)
Carrier depth	C	2.50±0.1(0.100±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	5.65±0.05(0.222±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	0.32±0.1 (0.013±0.004)
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 packde in accordance with EIA standard RS-481-A and specification given above.