

SMBG Plastic-Encapsulate Diodes

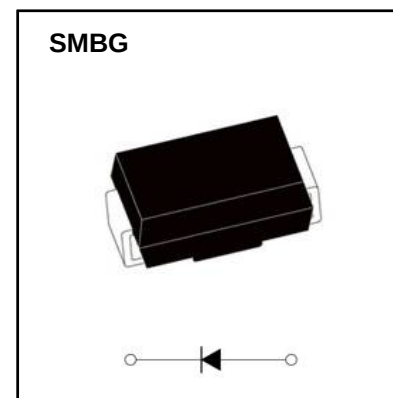
General Purpose Rectifier

Features

- I_O 3A
- V_{RRM} 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	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
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	3						
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		Max
Peak Forward Voltage	V_{FM}	V	$I_{FM}=3.0A$		1.1
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^{\circ}C$	5
	I_{RRM2}			$T_a=125^{\circ}C$	100
Reverse Recovery Time (Typical)	T_{rr}	us	$I_F=0.5A$ $I_R=1A$ $I_{RR}=0.25A$		2.0
Juction Capacitance (Typical)	C_j	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.		23
Thermal Resistance (Typical)	$R_{\theta JA}$	$^{\circ}C/W$	Between junction and ambient		65
	$R_{\theta JL}$		Between junction and lead		13

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

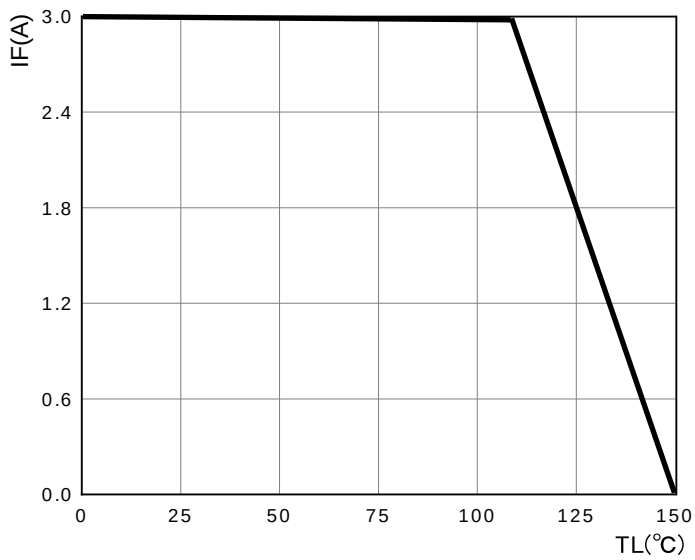


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

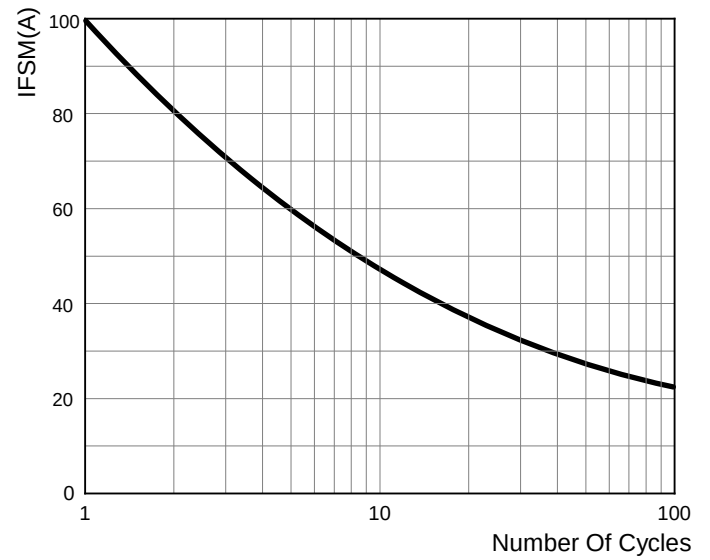


FIG.3 : TYPICAL FORWARD CHARACTERISTICS

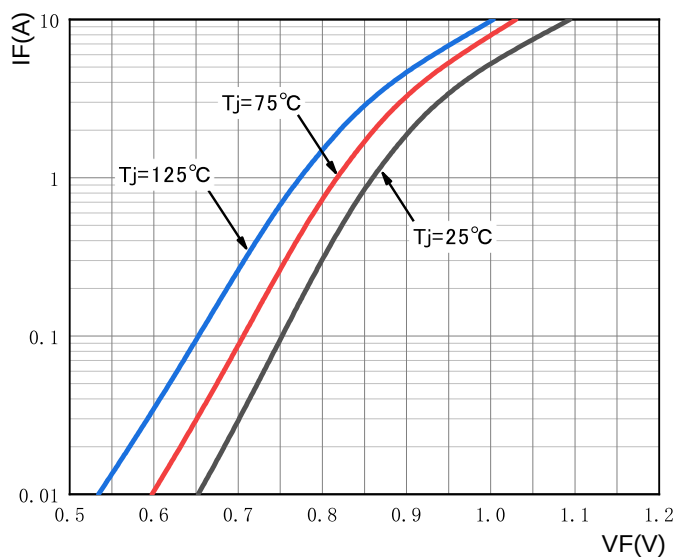
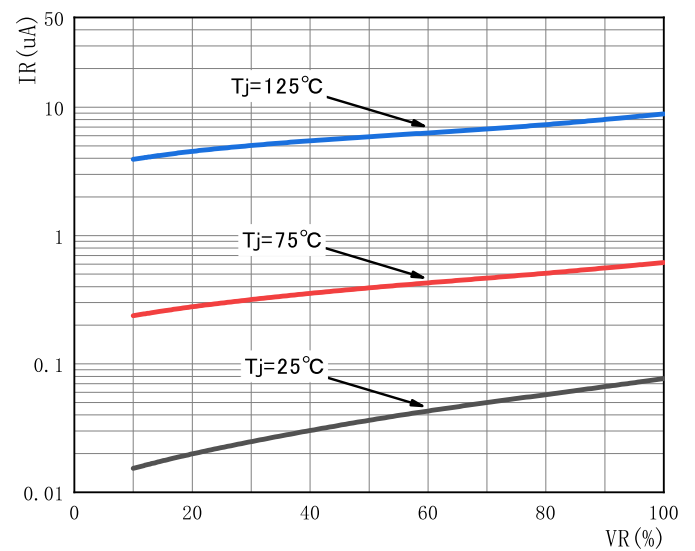
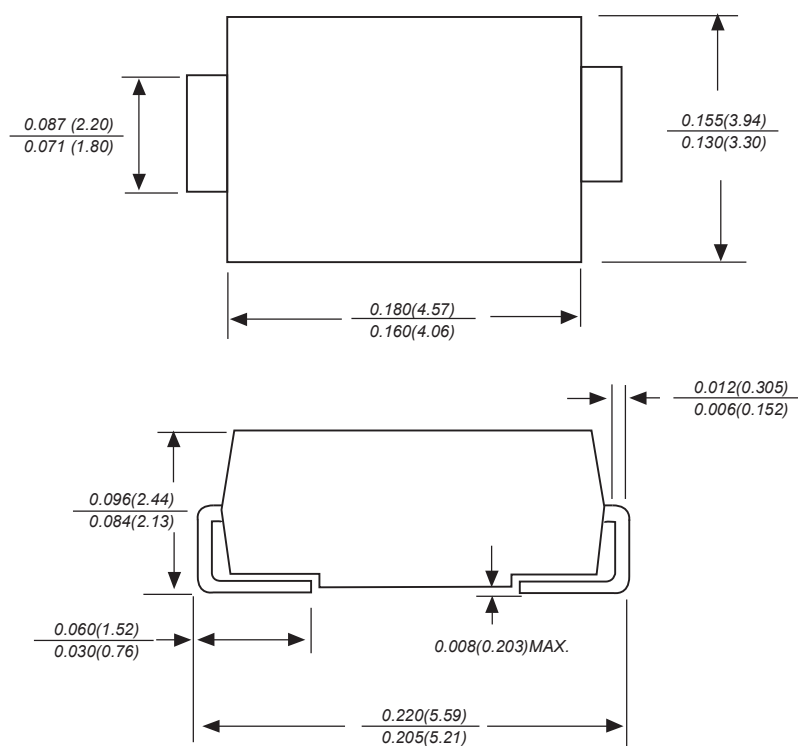


FIG.4 TYPICAL REVERSE CHARACTERISTICS

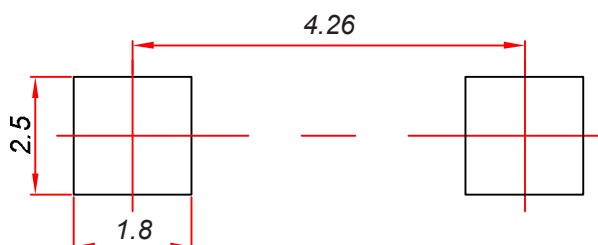


SMBG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMBG Suggested Pad Layout



Note:

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

Ordering Information

Part Number	Package	Shipping Quantity
S3A-S3M	SMBG	3000/tape&Reel

Marking Diagram



X: From A To M

Reel Taping Specifications For Surface Mount Devices–SMBG

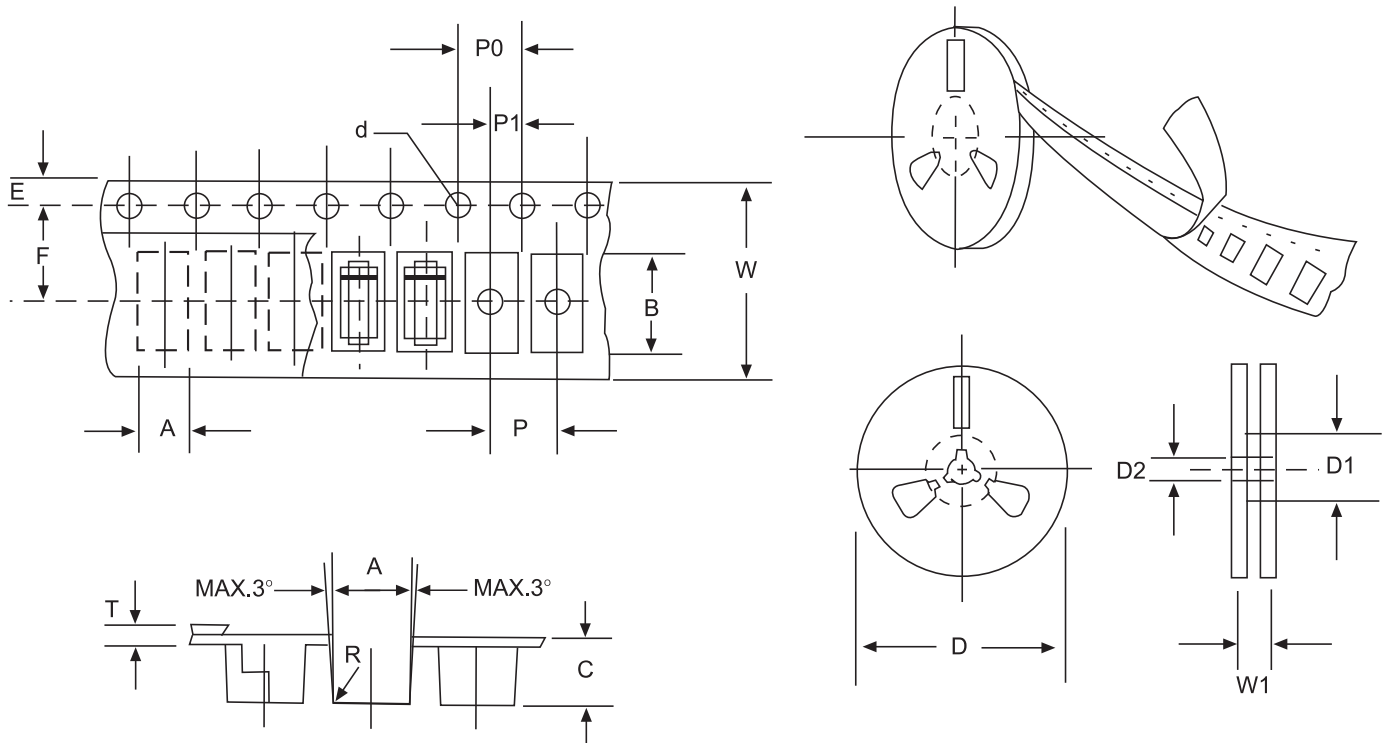


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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.