

SMBG Plastic-Encapsulate Diodes

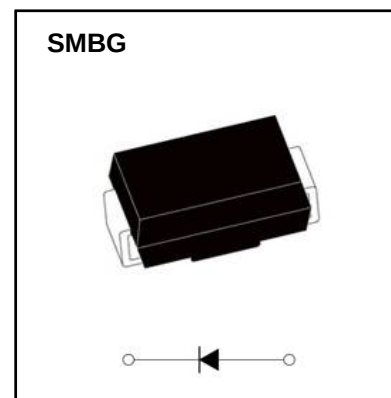
Super Fast Recovery Rectifier Diode

Features

- I_O 1A
- VRRM 200V-600V
- 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: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	MUR		
				S120	S140	S160
Repetitive Peak Reverse Voltage	V_{RRM}	V		200	400	600
Maximum RMS Voltage	V_{RMS}	V		140	280	420
Maximum DC blocking Voltage	V_{DC}	V		200	400	600
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_L = 100^\circ\text{C}$	1.0		
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a = 25^\circ\text{C}$	30		
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		MUR		
					S120	S140	S160
Peak Forward Voltage	V _{FM}	V	I _{FM} =1.0A		0.875	1.25	
Peak Reverse Current	I _{RRM1}	μA	V _{RM} =V _{RRM}	T _a =25℃	2	5	
	T _a =125℃			50			
Reverse Recovery time	t _{rr}	ns	I _F =0.5A I _R =1A I _{RR} =0.25A		25	50	
Thermal Resistance(Typical)	R _{θJ-A}	℃/W	Between junction and ambient		65		
	Between junction and lead		20				
	R _{θJ-L}		Between junction and case		25		

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

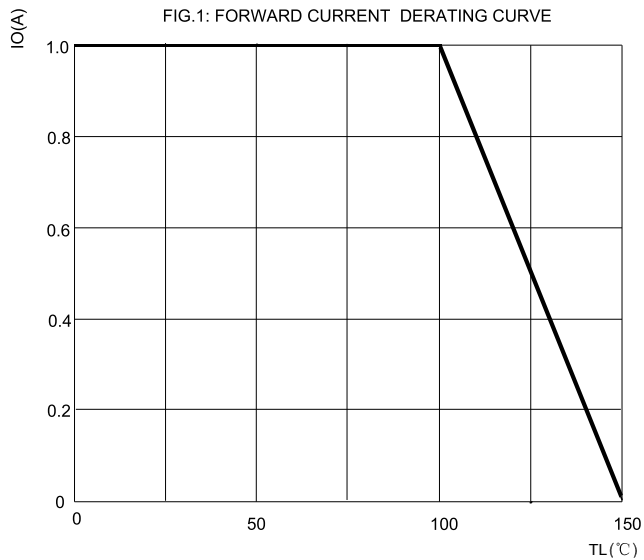


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

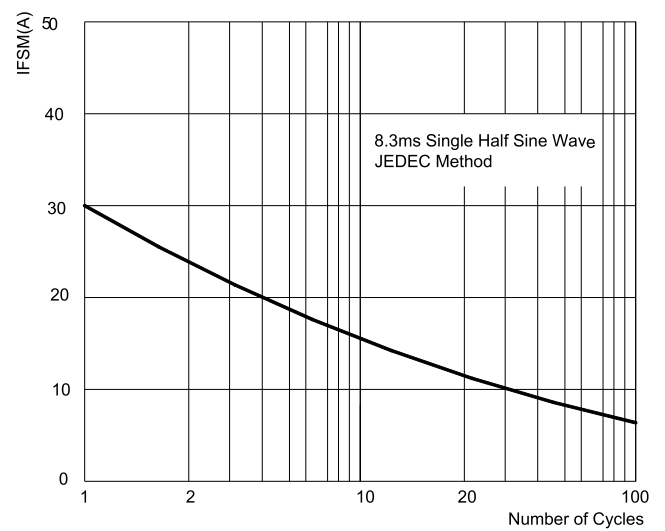


FIG.3: TYPICAL FORWARD CHARACTERISTICS

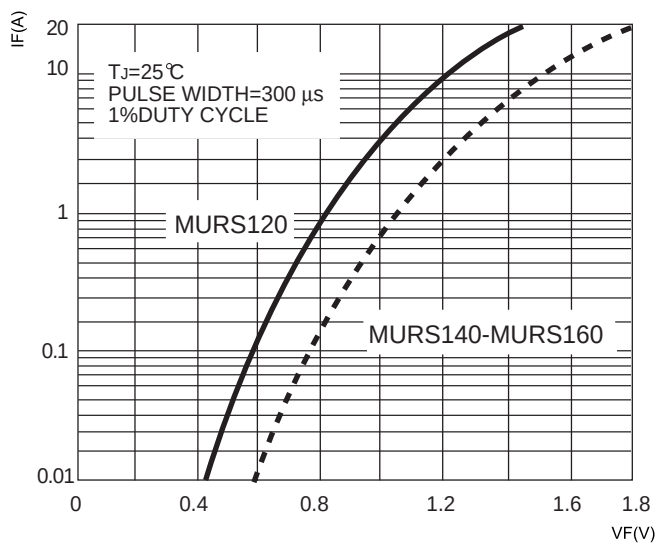


FIG.4: TYPICAL REVERSE CHARACTERISTICS

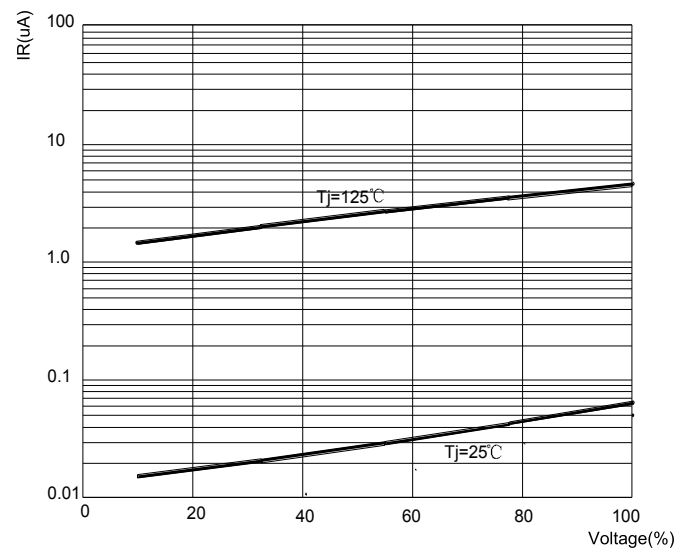
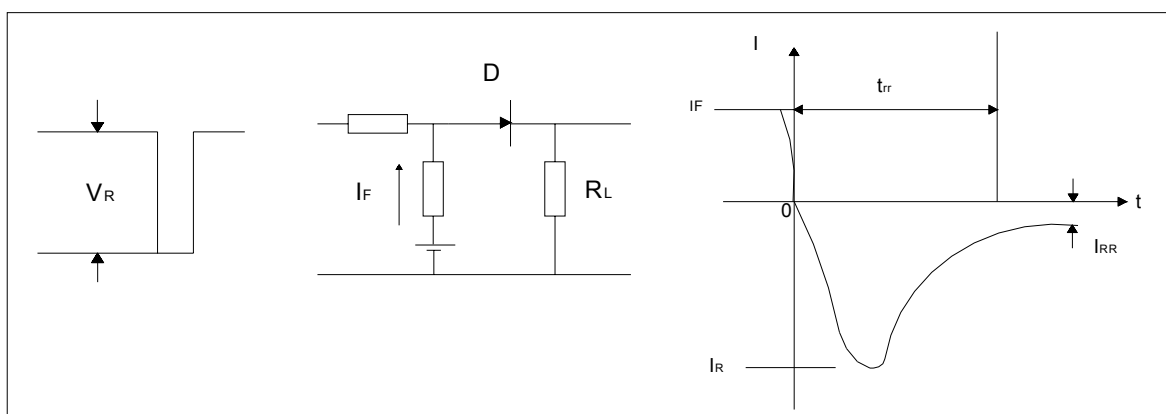
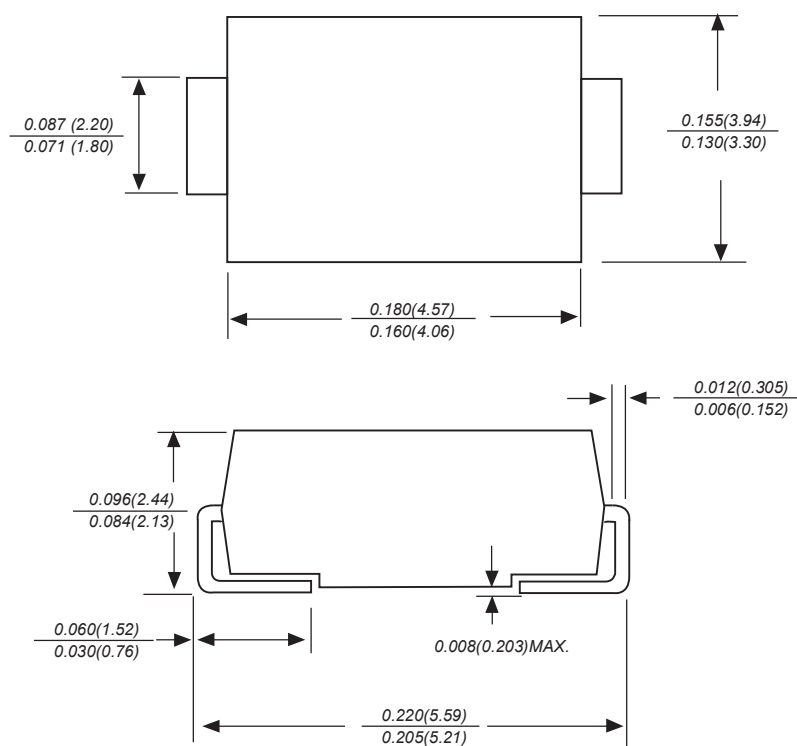


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

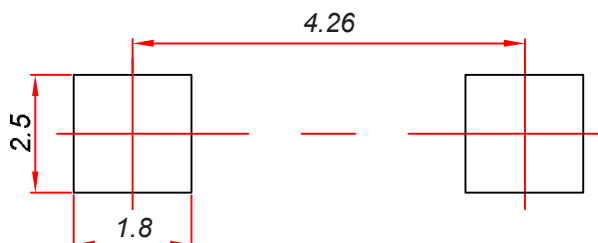


SMBG Package Outline Dimensions



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
MURS120-MURS160	SMBG	3000/tape&Reel

Marking Diagram



XX: From 20 To 60

Reel Taping Specifications For Surface Mount Devices–SMBG

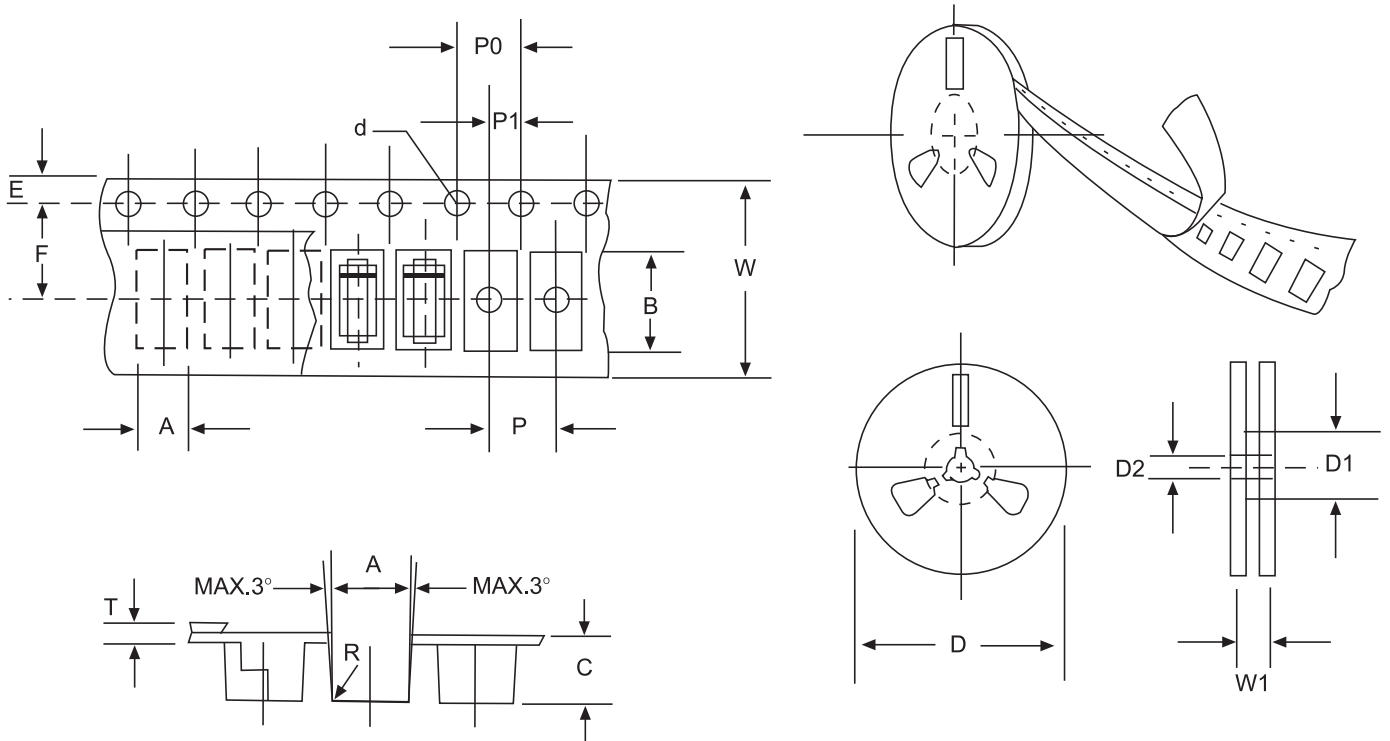


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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 packed in accordance with EIA standard RS-481-A and specification given above.