

## SMC Plastic-Encapsulate Diodes

### Super Fast Recovery Rectifier Diode

#### Features

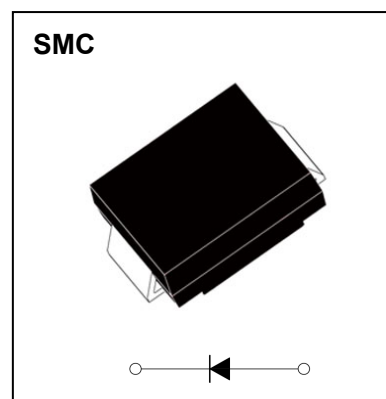
- $I_o$  3A
- $V_{RRM}$  200V-600V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

#### Applications

- Rectifier

#### Marking

- MURS3X0
- X : From 2 To 6



#### Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	MURS3			
				20	30	40	60
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		200	300	400	600
Maximum RMS Voltage	$V_{RMS}$	V		140	210	280	420
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 ( $T = 25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	MURS3			
				20	30	40	60
Peak Forward Voltage	$V_F$	V	$I_F=3.0\text{A}$	0.875	1.25		
Maximum reverse recovery time	$t_{rr}$	ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	25	50		
Peak Reverse Current	$I_{RRM1}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$	5		
	$I_{RRM2}$			$T_a=100^\circ\text{C}$	100		
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C/W}$	Between junction and ambient	55 <sup>1)</sup>			
	$R_{\theta J-L}$		Between junction and terminal	12 <sup>1)</sup>			

#### 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

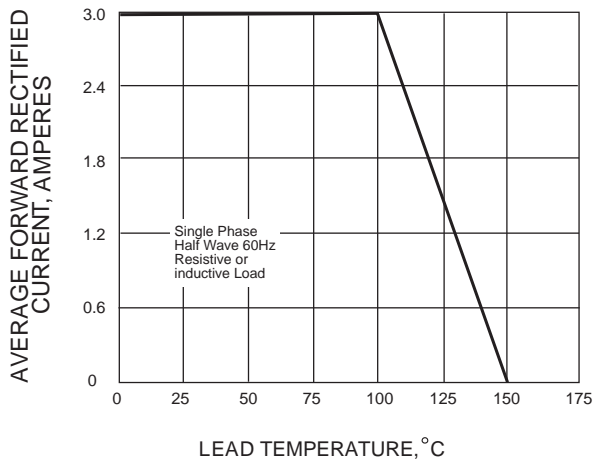


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

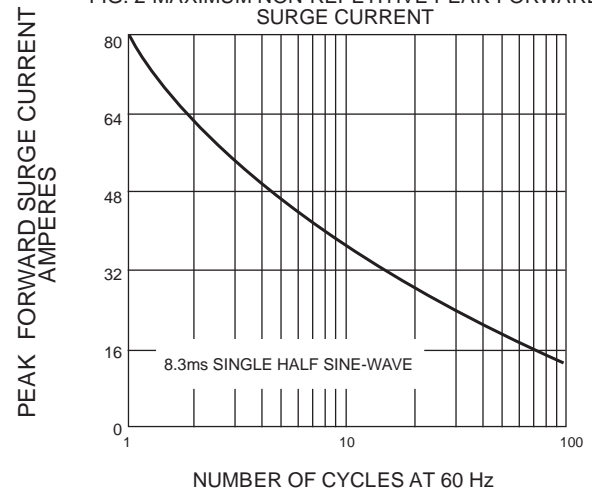


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

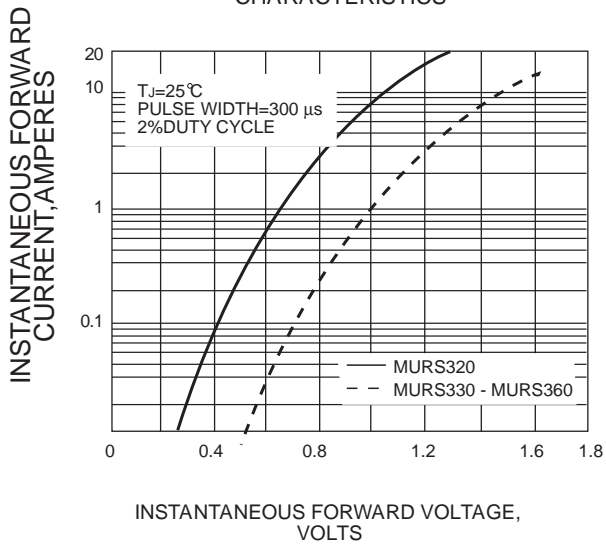
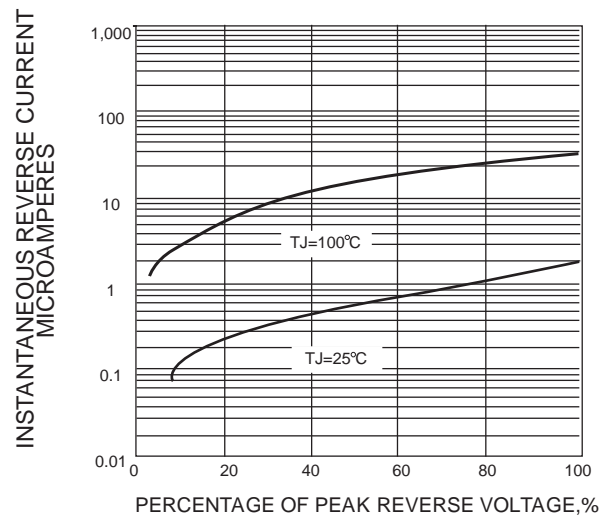
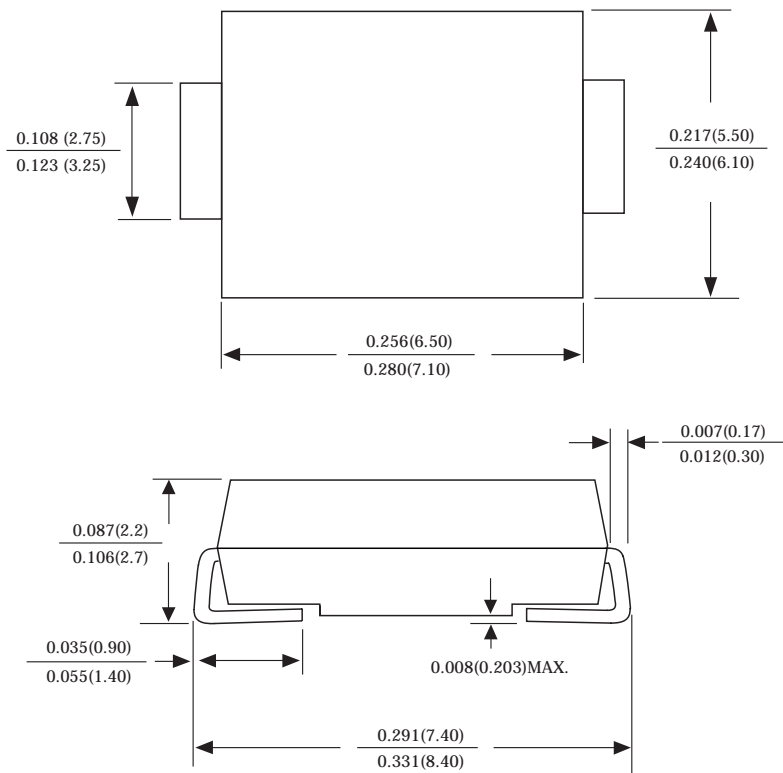


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

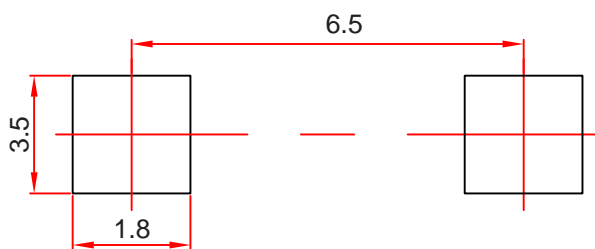


## SMC Package Outline Dimensions



Dimensions in inches and (millimeters)

## SMC Suggested Pad Layout



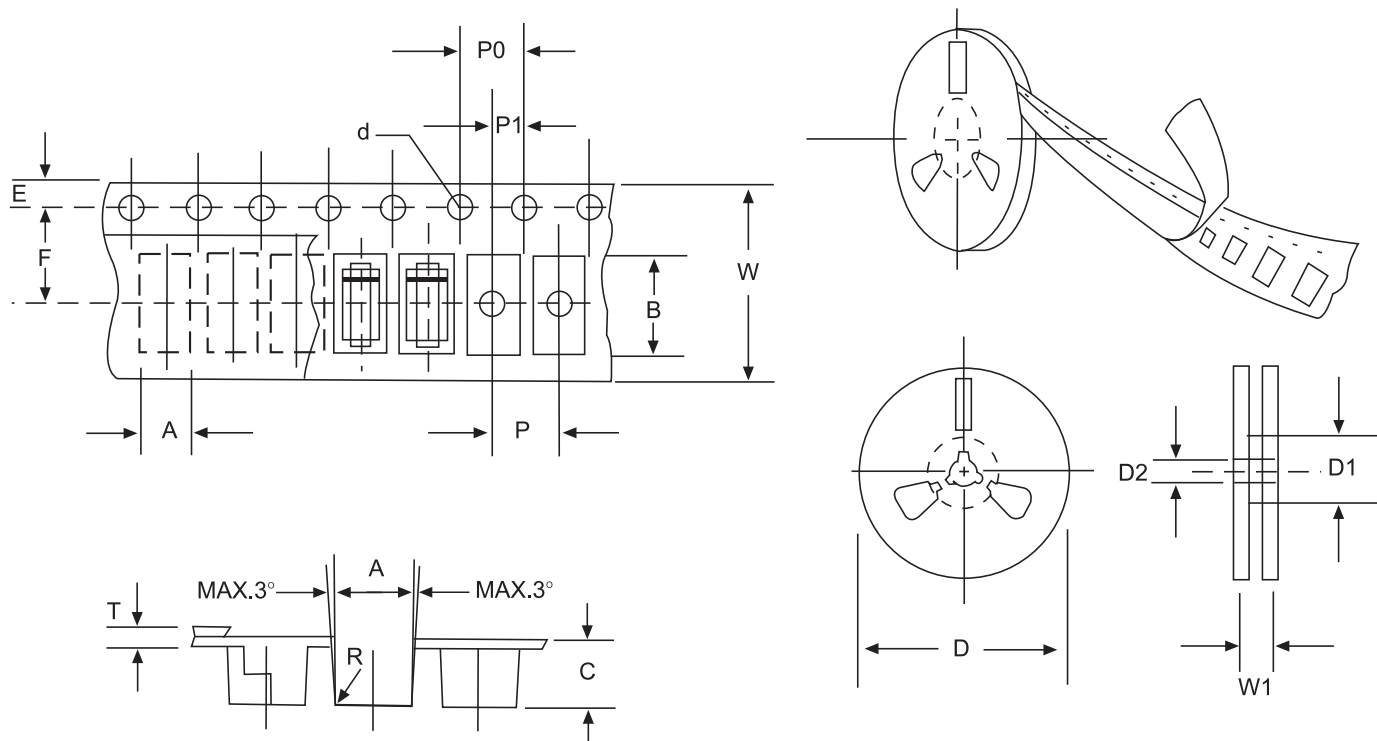
### Note:

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

### NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.

## Reel Taping Specifications For Surface Mount Devices–SMC



**FIG:CONFIGURATION OF AXIAL TAPING**

ITEM	SYMBOL	SMC 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)
Sprocket 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)
Total 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.