

CPxxxxSC Series

SMB Plastic-Encapsulate Diodes

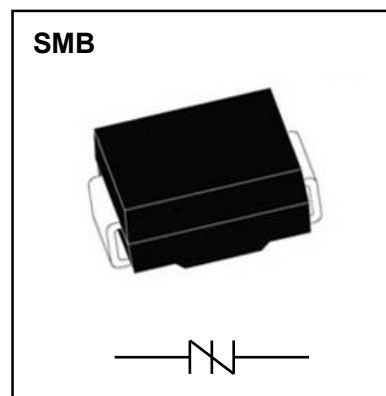
Thyristor Surge Suppressors

Features

- Low switching voltage
- Low on-state voltage
- Does not degrade surge capability after multiple surge Events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance

Applications

- Protect circuit

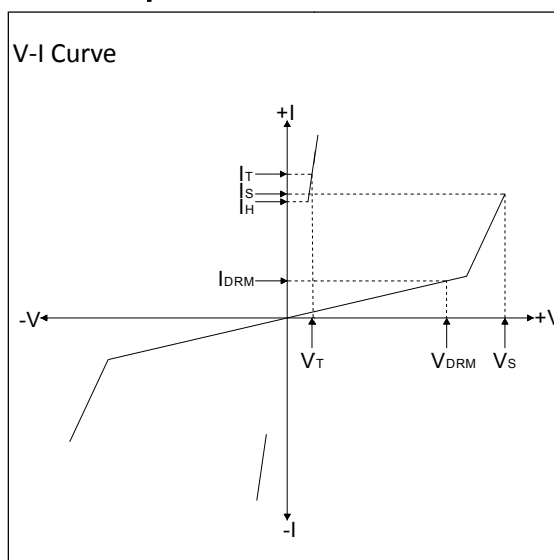


Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-60 to +150	°C
Operating junction temperature range	T_j	-40 to +150	°C
Repetitive peak pulse current	I_{PP}	100	A

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

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_S	Switching voltage
I_S	Switching current
V_T	On-state voltage
I_T	On-state current
I_H	Holding current
C_O	Off-state capacitance



Electrical Characteristics

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{S}}^{①}@I_{\text{S}}$		$V_{\text{T}}@I_{\text{T}}$		I_{H}	$C_{\text{O}}^{②}$	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
CP0080SC	5	6	25	800	4	2.2	30	60	CP-8C
CP0220SC	5	18	30	800	4	2.2	30	60	CP22C
CP0300SC	5	25	40	800	4	2.2	30	60	CP03C
CP0640SC	5	58	77	800	4	2.2	120	60	CP06C
CP0720SC	5	65	87	800	4	2.2	120	50	CP07C
CP0900SC	5	75	98	800	4	2.2	120	50	CP09C
CP1100SC	5	90	130	800	4	2.2	120	50	CP11C
CP1300SC	5	120	160	800	4	2.2	120	50	CP13C
CP1500SC	5	140	180	800	4	2.2	120	45	CP15C
CP1800SC	5	170	220	800	4	2.2	120	45	CP18C
CP2300SC	5	190	260	800	4	2.2	120	40	CP23C
CP2600SC	5	220	300	800	4	2.2	120	40	CP26C
CP3100SC	5	275	350	800	4	2.2	120	35	CP31C
CP3500SC	5	320	400	800	4	2.2	120	35	CP35C
CP3800SC	5	340	450	800	4	2.2	120	35	CP38C

① V_{S} is measured at 100KV/s

② Off-state capacitance is measured in $V_{\text{DC}}=2\text{V}$, $V_{\text{RMS}}=1\text{V}$, $f=1\text{MHz}$

Surge Ratings

Series	I_{PP} (A) min			
	2×10us	8×20us	10×360us	10×1000us
C	500	400	175	100

Typical Characteristics

FIG.1: $t_r \times t_d$ pulse waveform

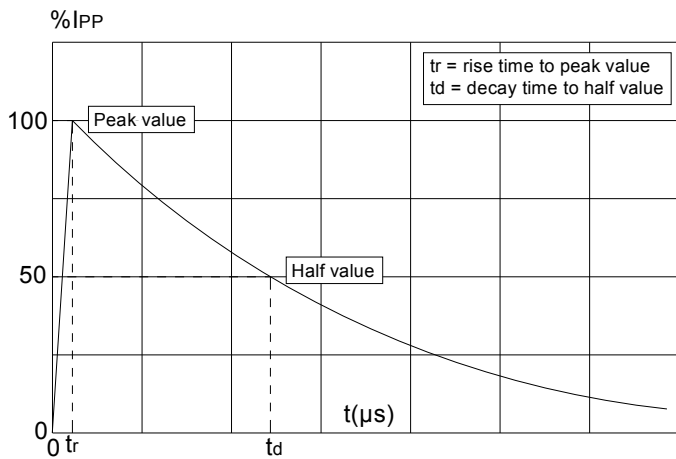


FIG.2: Reflow condition

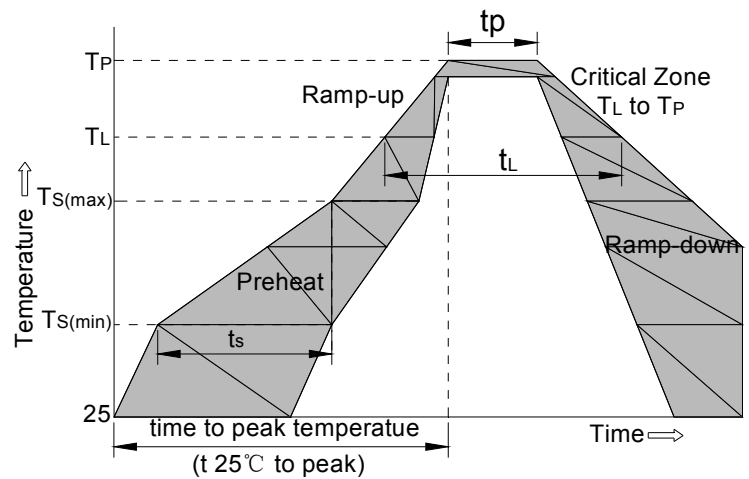


FIG.3: Normalized V_s change vs. junction temperature

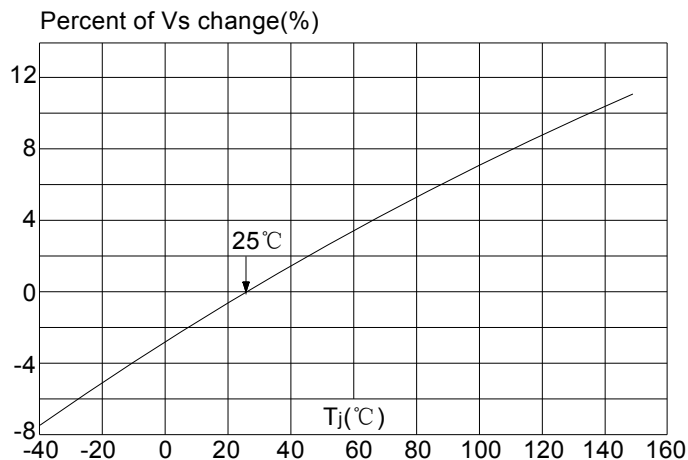
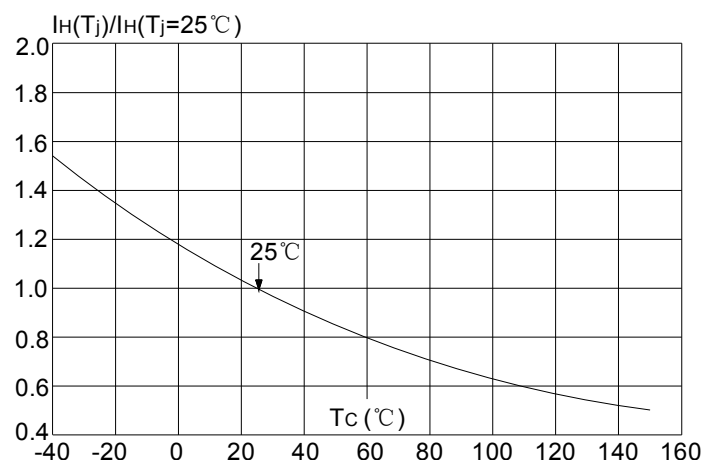
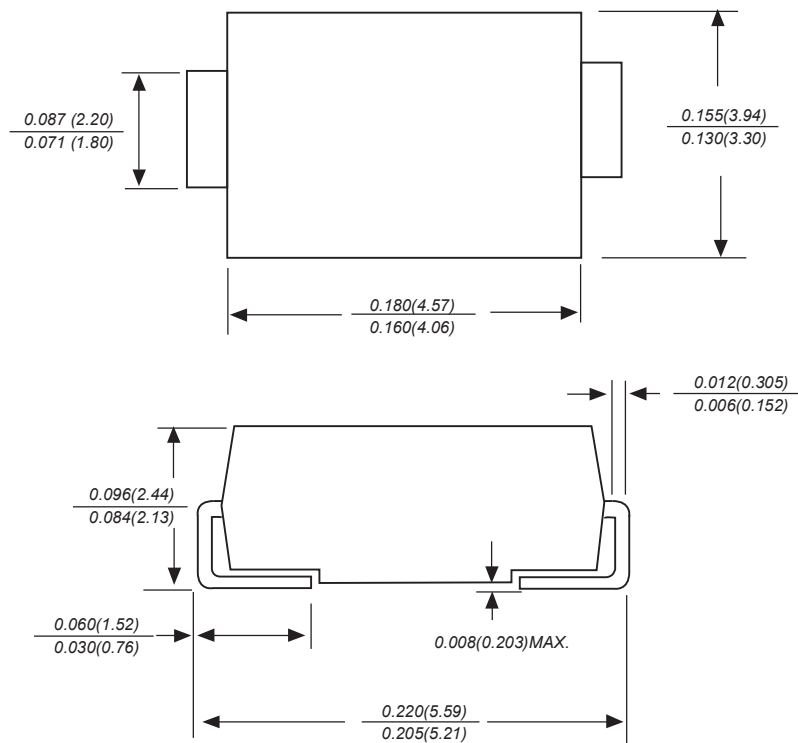


FIG.4: Normalized DC holding current vs. case temperature

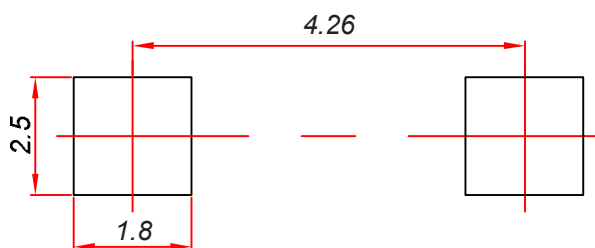


SMB Package Outline Dimensions



Dimensions in inches and (millimeters)

SMB 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.

NOTICE

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

Reel Taping Specifications For Surface Mount Devices–SMB

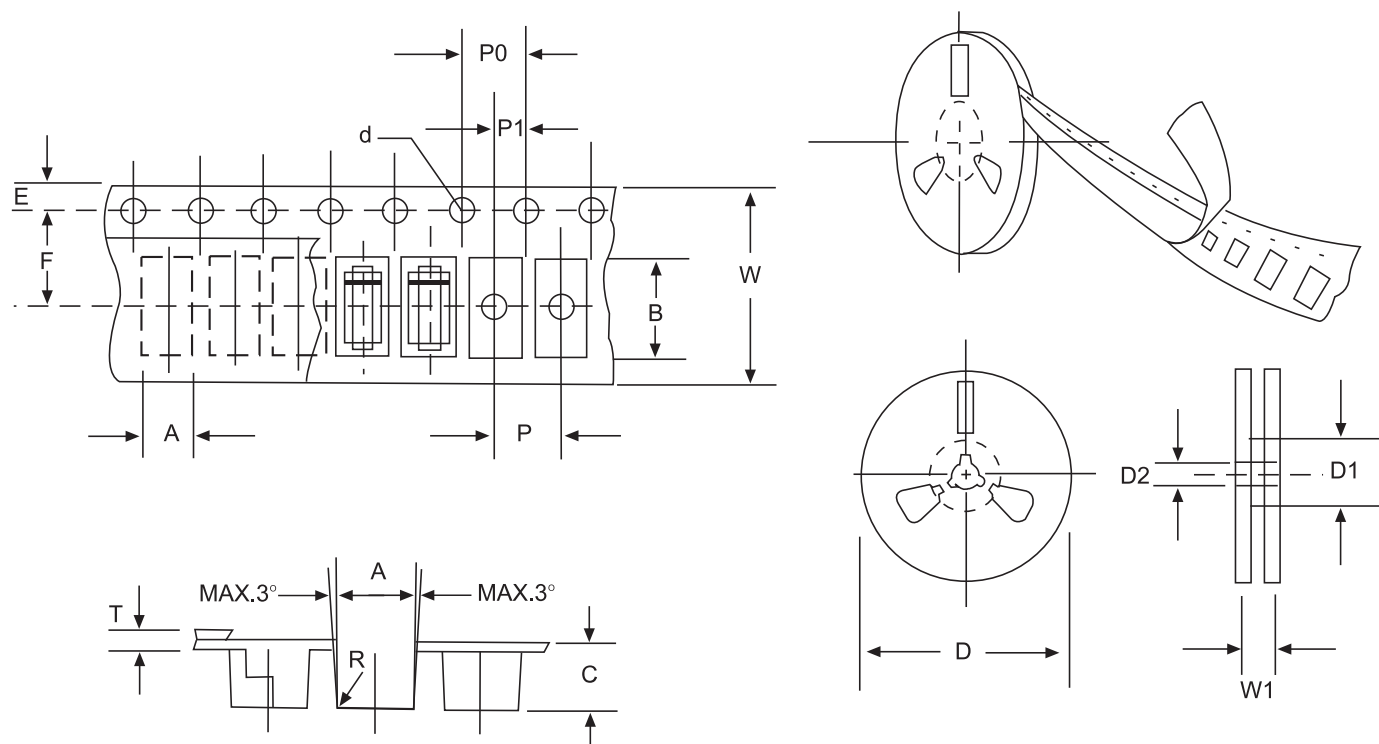


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SMB 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	3.33±0.1(0.131±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.0002)
Reel outside diameter	D	330/178±2.0(13/7.0±0.79)
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	1.75±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.