

## SuperTSS –Thyristor Surge Suppressor

### 1. Features

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns Level)
- Non degenerative
- Eliminates overvoltage caused by fast rising transients
- Bi-directional
- Rating Surge Voltage:4KV (10/700µs)

### 2. Application Information

- RS485/232/422

### 3. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
P0080SB-P4200SB	SMB	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	13 inches

Table-1 Ordering Information

### 4. Part Number and Electrical Parameter

Absolute maximum ratings measured at  $T_A= 25^{\circ}\text{C}$  RH = 45%-75% (unless otherwise noted).

Part Number	Marking Code	$I_{DRM}@ V_{DRM}$		$V_s^{①}@ I_s$		$V_T@ I_T$		$I_H$		$C_o^{②}$
		$\mu\text{A}$	V	V	mA	V	A	mA		pF
		MAX		MAX		MAX		MIN	MAX	TYP
P0080SB		5	6	25	800	4	2.2	10	150	60
P0300SB		5	25	40	800	4	2.2	50	150	55
P0640SB		5	58	77	800	4	2.2	125	350	55
P3100SB		5	275	350	800	4	2.2	120	350	45
P3500SB		5	320	400	800	4	2.2	120	350	35
P4200SB		5	408	480	800	4	2.2	0	50	35

Table-2 Part Number and Electrical Parameter

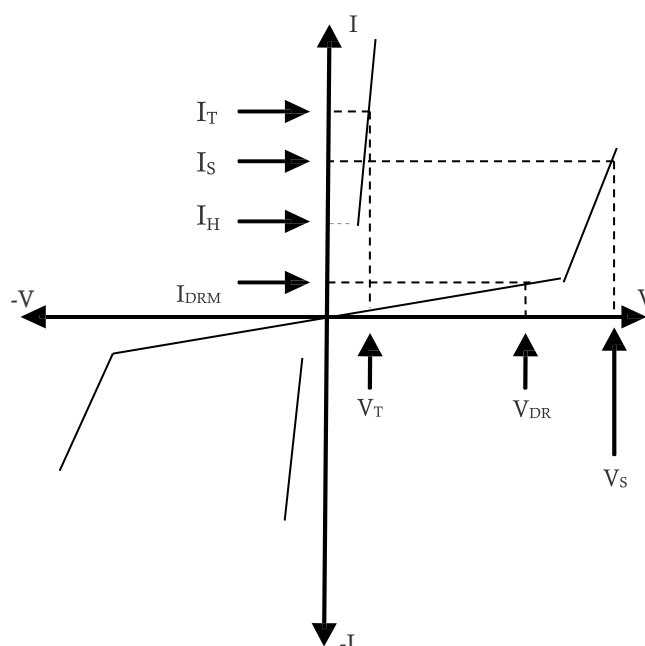
NOT:

①  $V_s$  is measured at 100KV/S

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

## 5. V-I Curve

Parameters	Definition
$V_{DRM}$	Peak Off-state Voltage
$I_{DRM}$	Off-state Current
$V_S$	Switching Voltage
$I_S$	Switching Current
$I_H$	Holding Current
$V_T$	On-state Voltage
$I_T$	On-state Current
$C_o$	Off-state Capacitance



## 6. Surge Ratings

Current Waveform	8/20 $\mu$ s	5/320 $\mu$ s*
Voltage Waveform	1.2/50 $\mu$ s	10/700 $\mu$ s*
$I_{pp}$	250A	100A

Table-3 Surge Ratings

-Peak pulse current rating (IPP) is repetitive and guaranteed for the life of the product;

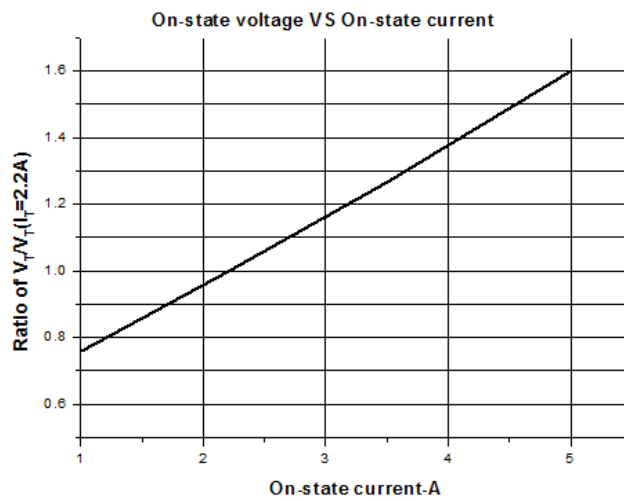
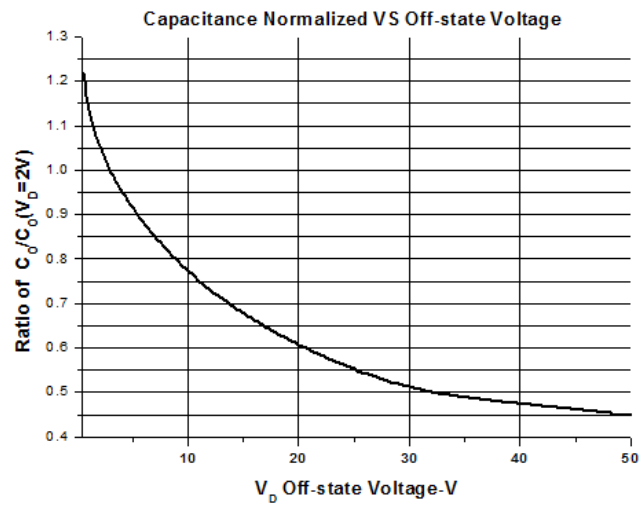
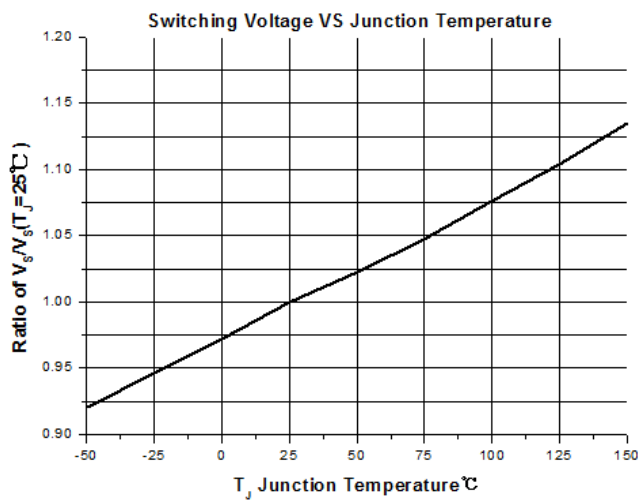
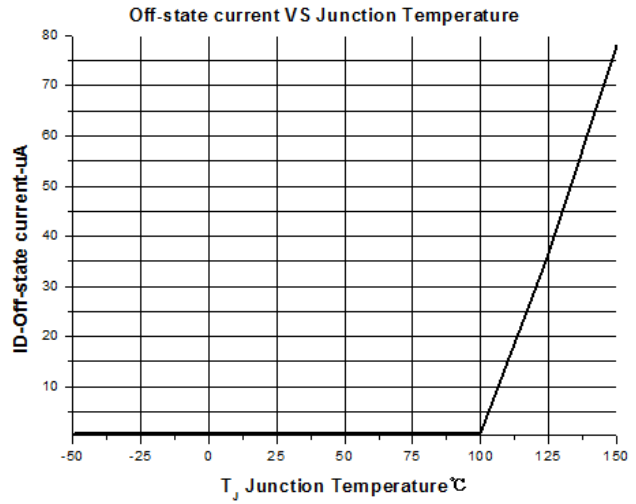
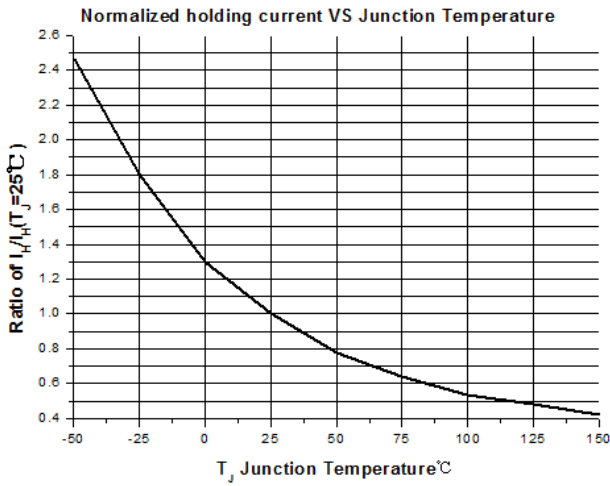
-Elecsuper only makes the test for 5/320 $\mu$ s@100A\* (10/700 $\mu$ s@4KV), but for other IPP value derived from experience is just for reference only. Elecsuper will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

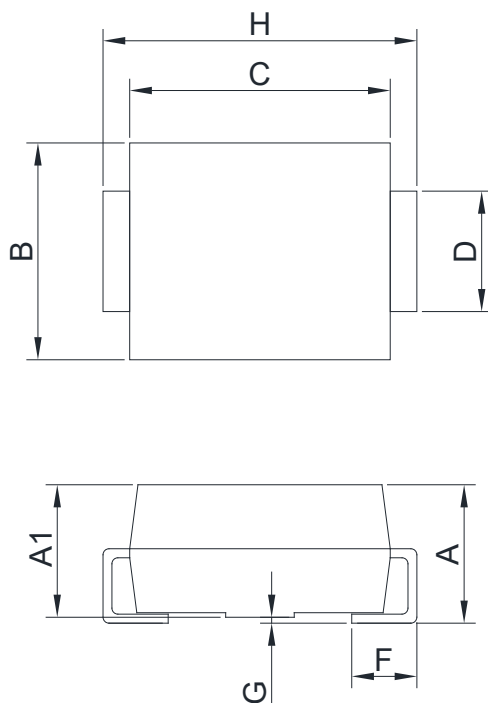
## 7. Thermal Considerations

Symbol	Parameter	Value	Unit
$T_J$	Operating Junction Temperature Range	-40 to +150	$^{\circ}$ C
$T_S$	Storage Temperature Range	-55 to +150	$^{\circ}$ C

Table-4 Thermal Considerations

### 8. Typical Characteristics



**9. Dimension (SMB)**


REF	Millimeters		REF	Millimeters	
	MIN	MAX		MIN	MAX
A	2.15	2.45	D	1.90	2.10
A1	2.10	2.30	F	0.90	1.30
B	3.40	3.80	G	0.00	0.20
C	4.25	4.65	H	5.10	5.50

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