

## 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:6KV (10/700μs)

### 2. Application Information

- RS485/232/422

### 3. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
ES0080SCS-ES4200SCS	SMB	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	13 inches

Table-1 Ordering Information

### 4. Package and marking information



Circuit Diagram	Outline	Marking instructions
		ES = Manufacturer log
		XXXXX= Product type marking code (Refer to Table-3)
		ABBC = Date code marking

Table-2 Package and marking information

## 5. 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	$I_{\text{DRM}} @ V_{\text{DRM}}$		$V_S^{①} @ I_S$		$V_T @ I_T$		$I_H$	$C_o^{②}$
		$\mu\text{A}$	V	V	mA	V	A	mA	pF
		MAX		MAX		MAX		MIN	TYP
ES0080SCS	08SCS	5	6	25	800	4	2.2	10	100
ES0300SCS	30SCS	5	25	40	800	4	2.2	50	70
ES0640SCS	64SCS	5	58	77	800	4	2.2	125	125
ES0720SCS	72SCS	5	65	88	800	4	2.2	125	100
ES0900SCS	90SCS	5	75	98	800	4	2.2	125	100
ES1100SCS	11SCS	5	90	130	800	4	2.2	125	200
ES1300SCS	13SCS	5	120	160	800	4	2.2	125	200
ES1500SCS	15SCS	5	140	180	800	4	2.2	125	150
ES1800SCS	18SCS	5	170	220	800	4	2.2	125	120
ES2000SCS	20SCS	5	180	220	800	4	2.2	125	120
ES2300SCS	23SCS	5	190	260	800	4	2.2	125	100
ES2600SCS	26SCS	5	220	300	800	4	2.2	125	80
ES3100SCS	31SCS	5	275	350	800	4	2.2	125	55
ES3500SCS	35SCS	5	320	400	800	4	2.2	125	45
ES3800SCS	38SCS	5	340	450	800	4	2.2	125	45
ES4200SCS	42SCS	5	400	520	800	4	2.2	0	35

Table-3 Part Number and Electrical Parameter

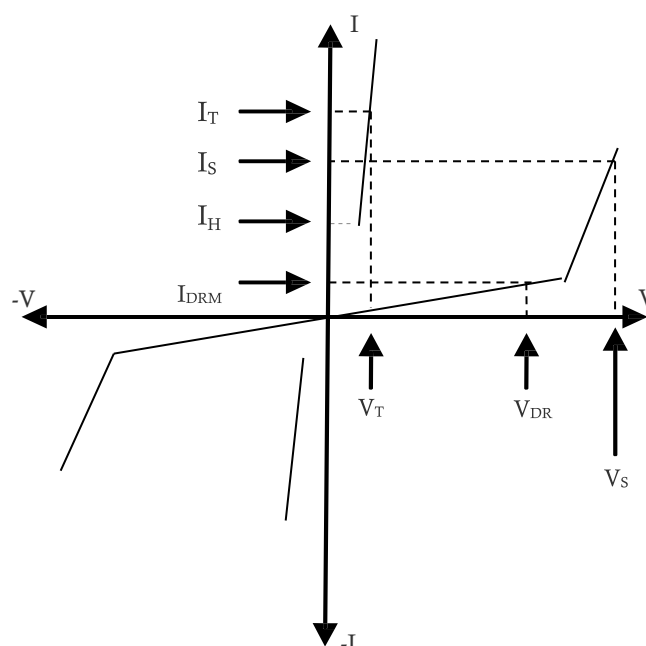
NOT:

①  $V_S$  is measured at 100KV/S

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

## 6. V-I Curve

Parameters	Definition
$V_{\text{DRM}}$	Peak Off-state Voltage
$I_{\text{DRM}}$	Off-state Current
$V_{\text{S}}$	Switching Voltage
$I_{\text{S}}$	Switching Current
$I_{\text{H}}$	Holding Current
$V_{\text{T}}$	On-state Voltage
$I_{\text{T}}$	On-state Current
$C_{\text{O}}$	Off-state Capacitance



## 7. Surge Ratings

Current Waveform	8/20 $\mu$ s	5/320 $\mu$ s*	10/1000 $\mu$ s
Voltage Waveform	1.2/50 $\mu$ s	10/700 $\mu$ s*	10/1000 $\mu$ s
I <sub>pp</sub>	400A	150A	100A

Table-4 Surge Ratings

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

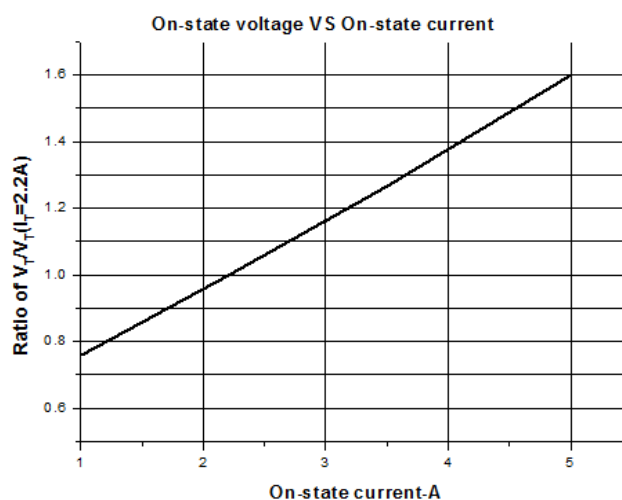
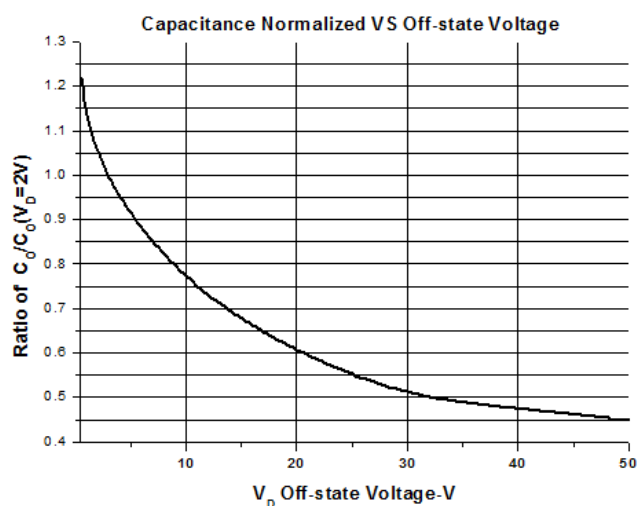
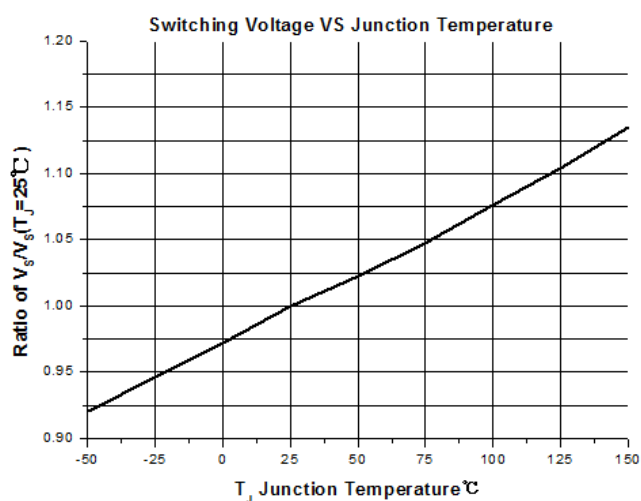
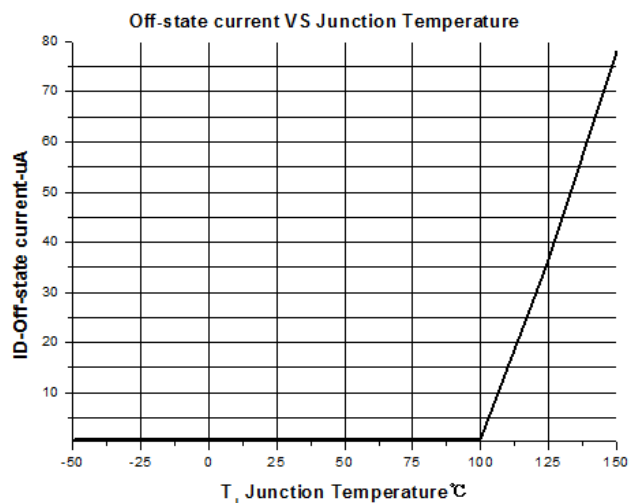
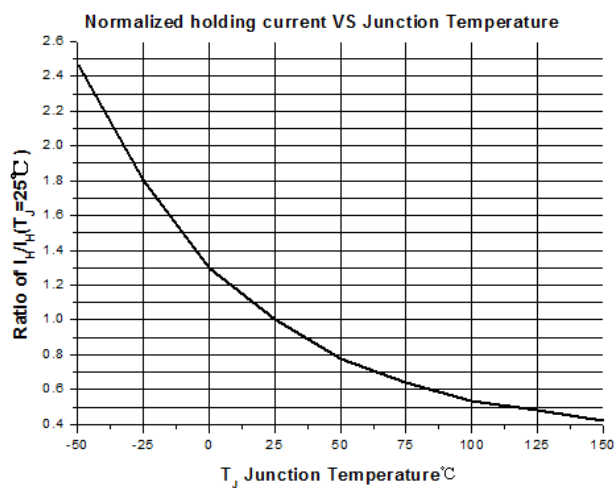
-Elecsuper only makes the test for 5/320 $\mu$ s@150A\* (10/700 $\mu$ s@6KV), but for other IPP value derived from experience is just for reference only. Elecsuper will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

## 8. Thermal Considerations

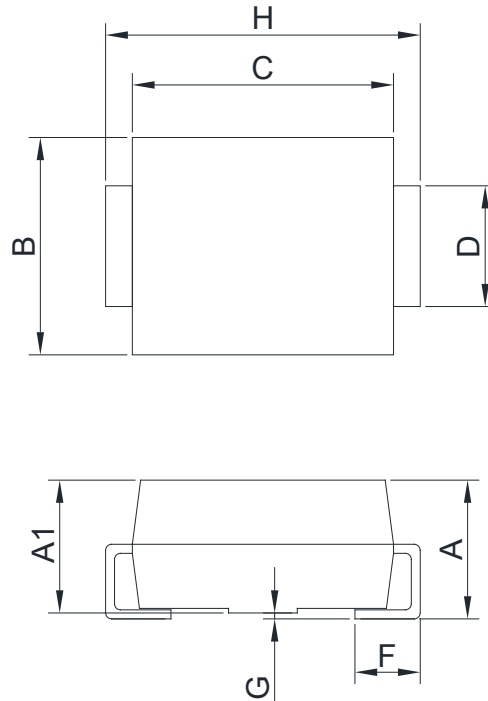
Symbol	Parameter	Value	Unit
$T_{\text{J}}$	Operating Junction Temperature Range	-40 to +150	$^{\circ}\text{C}$
$T_{\text{S}}$	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$

Table-5 Thermal Considerations

## 9. Typical Characteristics



## 10. 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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