

## SuperTSS –Thyristor Surge Suppressor

### 1. Features

- Excellent capability of absorbing transient surge
- Eliminates overvoltage caused by fast rising transients
- Quick response to surge voltage (ns Level)
- Bi-directional
- Non degenerative
- Rating Surge Voltage:8KV (10/700µs)

### 2. Application Information

- RS485/232/422

### 3. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
ES0080SDS-ES3500SDS	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
		<p><b>ES</b> = Manufacturer log</p> <p>XXXXX= Product type marking code (Refer to Table-3)</p> <p>ABBC = Date code marking</p>

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	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_S^{\text{①}}@I_S$		$V_T@I_T$		$I_H$		$C_o^{\text{②}}$
		$\mu\text{A}$	V	V	mA	V	A	mA		pF
		MAX		MAX		MAX		MIN	MAX	TYP
ES0080SDS	08SDS	5	6	25	800	4	2.2	10	150	90
ES0300SDS	30SDS	5	25	40	800	4	2.2	50	350	80
ES0640SDS	64SDS	5	58	77	800	4	2.2	120	350	90
ES3100SDS	31SDS	5	275	350	800	4	2.2	125	350	75
ES3500SDS	35SDS	5	320	400	800	4	2.2	125	350	60

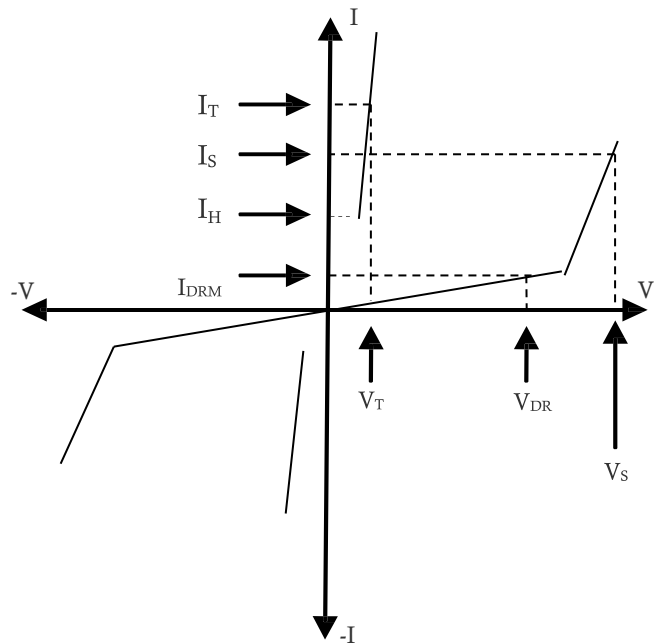
Table-3 Part Number and Electrical Parameter

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
$V_{DRM}$	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



### 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>	500A	200A	150A

Table-4 Surge Ratings

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

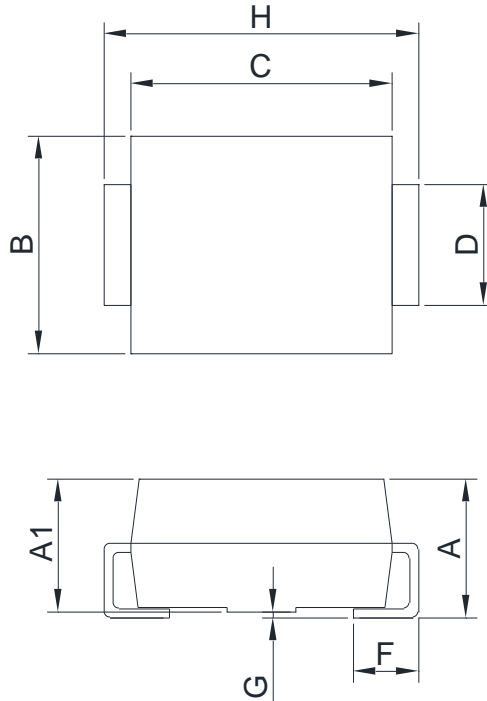
-Elecsuper only makes the test for 5/320 $\mu$ s@200A\* (10/700 $\mu$ s@8KV), but for other IPP value derived from experience is just for reference only. Elecsuper will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

### 8. Thermal Considerations

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

Table-5 Thermal Considerations

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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