

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
ES0640SC	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	$C_o^{②}$
		μA	V	V	mA	V	A	mA	pF
		MAX		MAX		MAX		MIN	TYP
ES0640SC	64SCS	5	58	77	800	4	2.2	125	125

Table-3 Part Number and Electrical Parameter

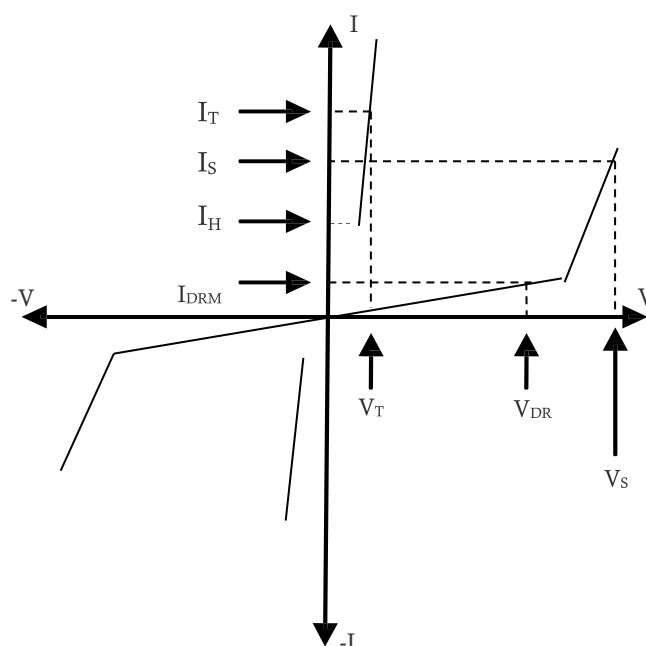
NOT:

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 μ s	5/320 μ s*	10/1000 μ s
Voltage Waveform	1.2/50 μ s	10/700 μ s*	10/1000 μ s
I_{pp}	400A	150A	100A

Table-4 Surge Ratings

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

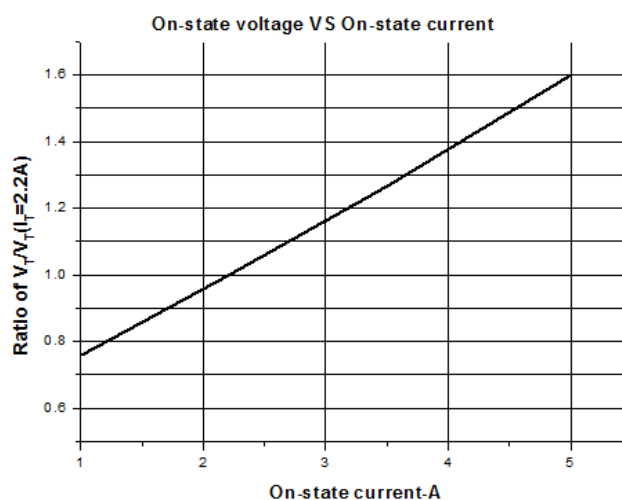
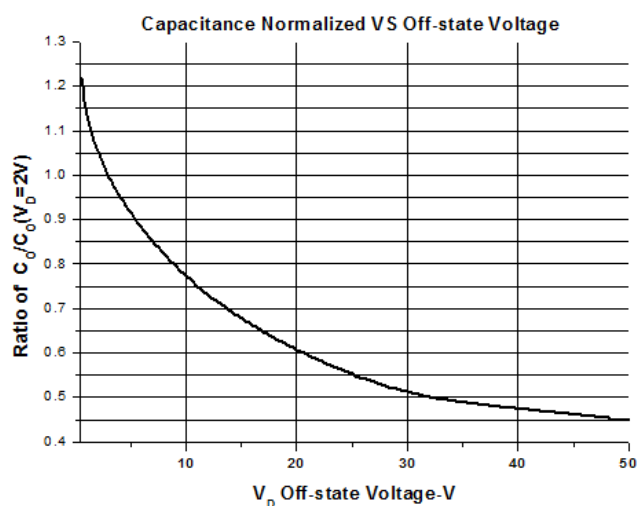
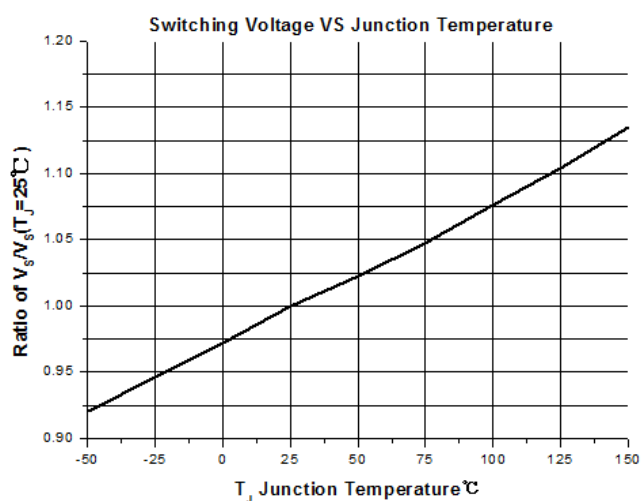
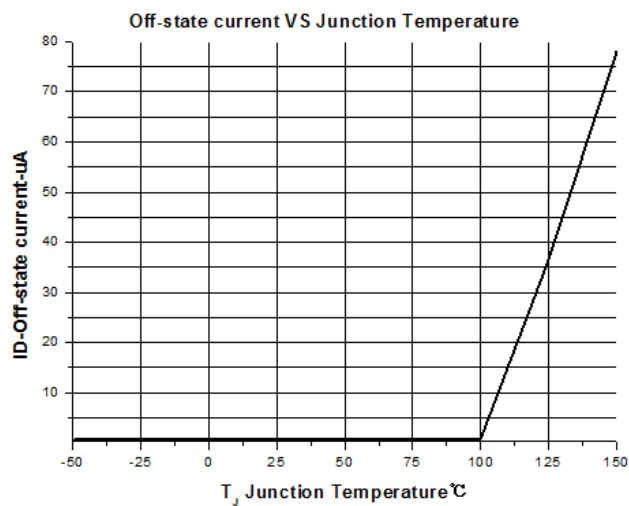
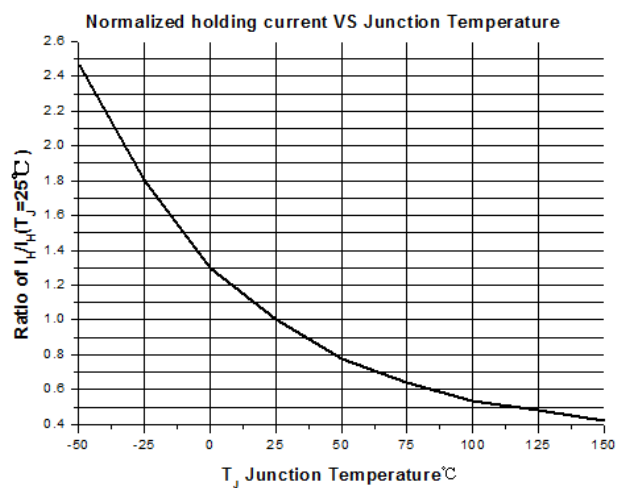
-Elecsuper only makes the test for 5/320 μ s@150A* (10/700 μ s@6KV), but for other IPP value derived from experience is just for reference only. Elecsuper will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

8. Thermal Considerations

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

Table-5 Thermal Considerations

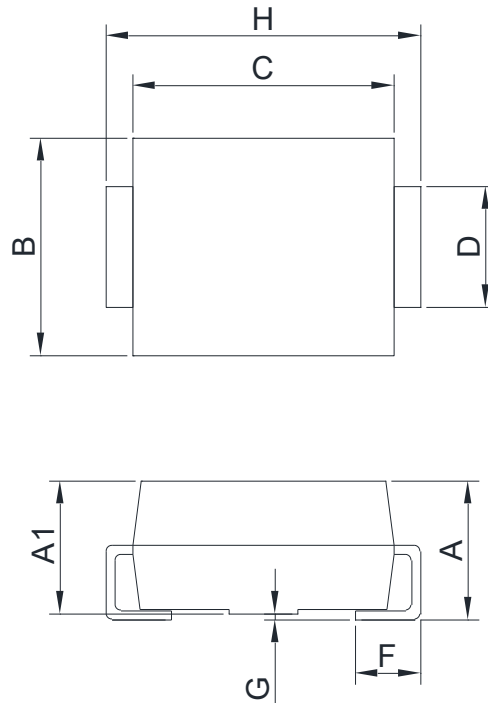
9. Typical Characteristics



ES0640SC

Rev-1.1

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

DISCLAIMER

ELECSUPER SUPERTVS PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with ElecSuper products. You are solely responsible for

(1) selecting the appropriate ElecSuper products for your application;

(2) designing, validating and testing your application;

(3) ensuring your application meets applicable standards, and any other safety, security, or other requirements.

These resources are subject to change without notice. ElecSuper grants you permission to use these resources only for development of an application that uses the ElecSuper products described in the resource. Other reproduction and display of these resources are prohibited. No license is granted to any other ElecSuper intellectual property right or to any third party intellectual property right. ElecSuper disclaims responsibility for, and you will fully indemnify ElecSuper and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources. ElecSuper's products are provided subject to ElecSuper's Terms of Sale or other applicable terms available either on www.elecsuper.com or provided in conjunction with such ElecSuper products. ElecSuper's provision of these resources does not expand or otherwise alter ElecSuper's applicable warranties or warranty disclaimers for ElecSuper products.