

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: 2KV (10/700μs)

2. Application Information

- RS485/232/422

3. Ordering Information

Part Number	Package	Marking	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
ES0300TAS	SOD123-F	30TAS/LOT	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches

Table-1 Ordering Information

4. Package information

Outline	Circuit Diagram
	

Table-2 Package 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	$I_{\text{DRM}} @ V_{\text{DRM}}$		$V_s^{\circledR} @ I_s$		$V_T @ I_T$		I_H		C_o^{\circledR}
	μA	V	V	mA	V	A	mA		pF
	MAX		MAX		MAX		MIN	MAX	TYP
ES0300TAS	5	25	40	800	4	2.2	20	150	60

Table-3 Part Number and Electrical Parameter

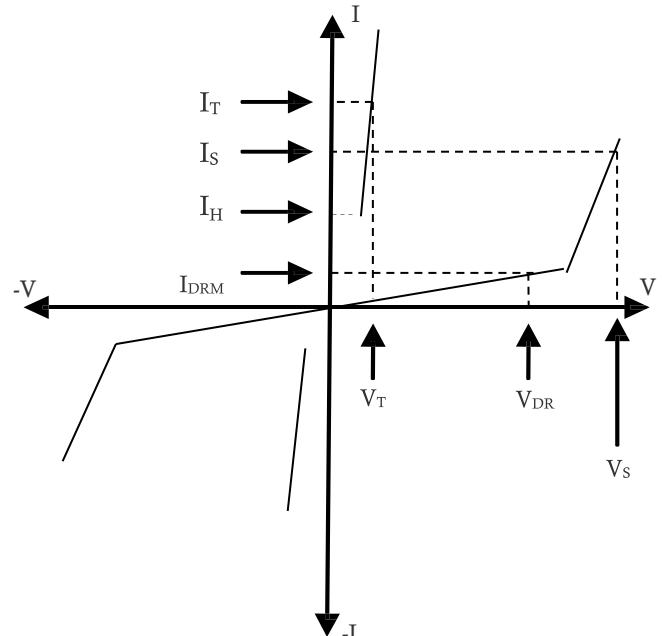
NOT:

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	8/20μs	5/320μs*	10/1000μs
Voltage Waveform	1.2/50μs	10/700μs*	10/1000μs
I _{pp}	90A	50A	35A

Table-4 Surge Ratings

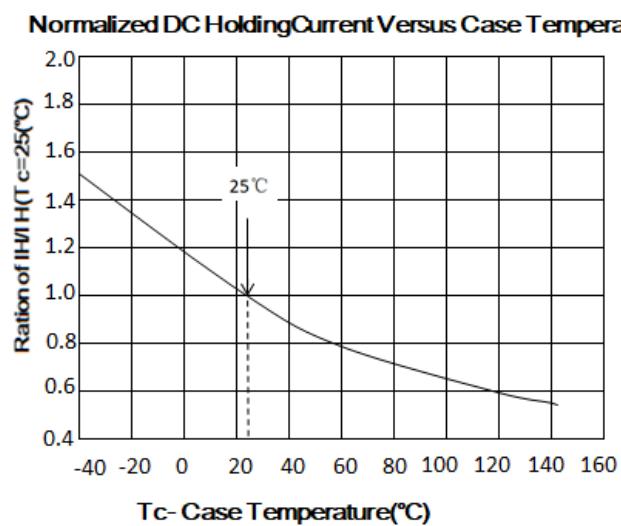
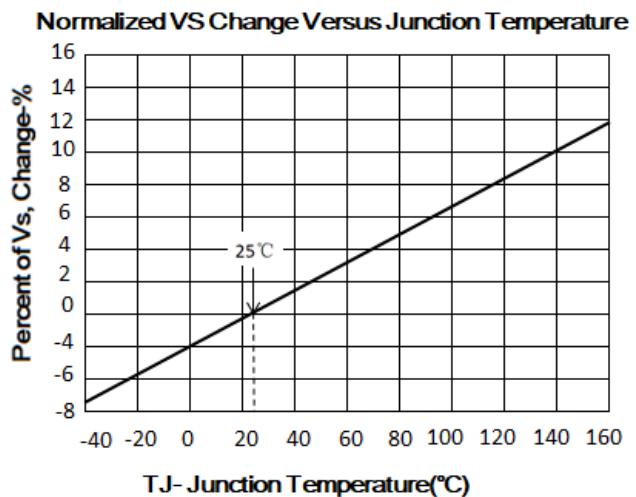
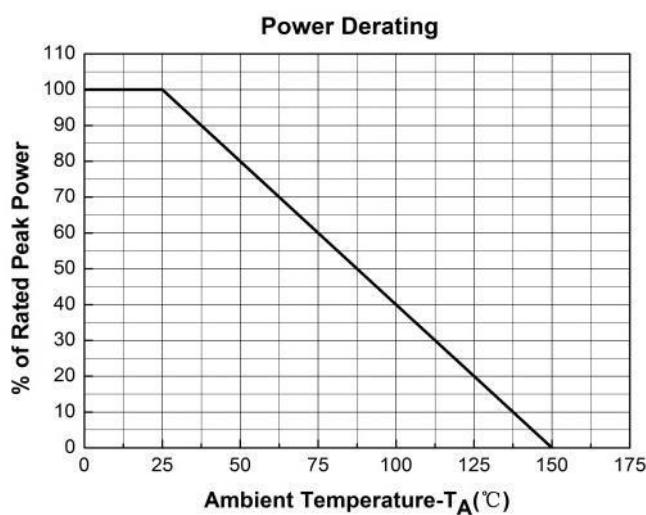
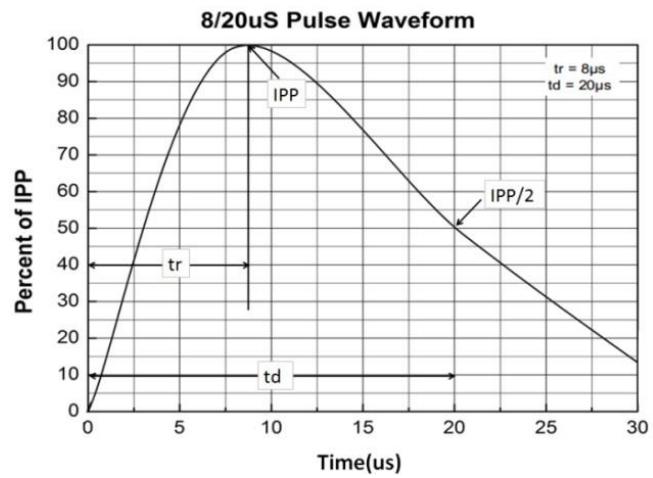
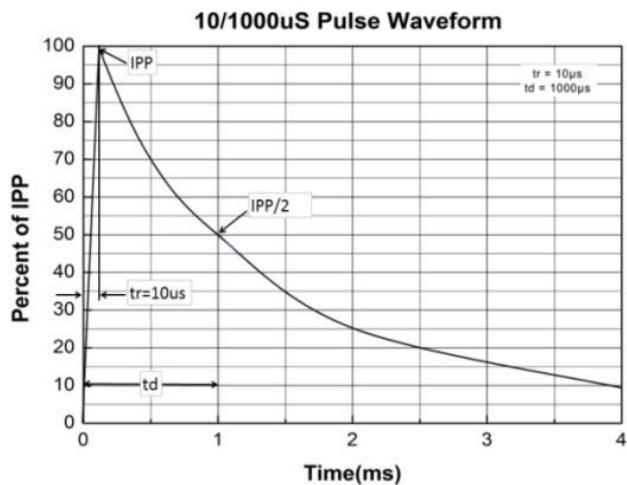
- Peak pulse current rating (IPP) is repetitive and guaranteed for the life of the product;
- Elecsuper only makes the test for 5/320μs @50A*(10/700μs 2KV,40Ω), but for other IPP value derived from experience is just for reference only. Elecsuper will not take any obligation for these parameters, so before applying our parts, please make sure to verify the parameters listed in the above table.

8. Thermal Considerations

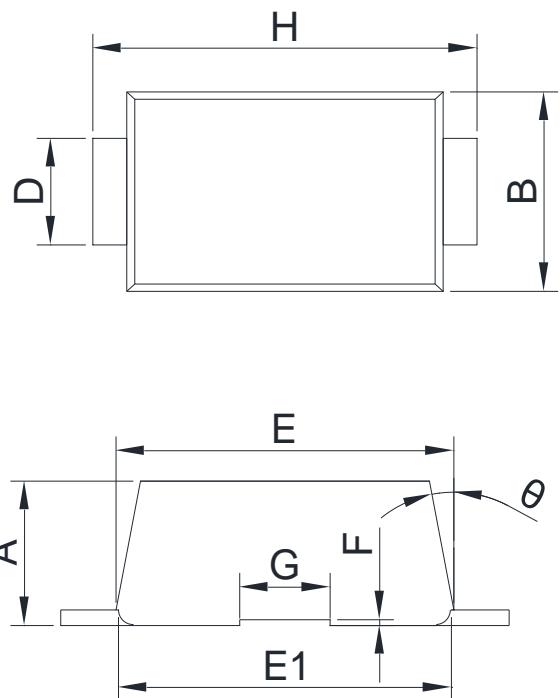
Symbol	Parameter	Value	Unit
T _J	Operating Junction Temperature Range	-40 to +150	°C
T _S	Storage Temperature Range	-55 to +150	°C

Table-5 Thermal Considerations

9. Typical Characteristics



10. Dimension (SOD123-F)



REF	Millimeters		REF	Millimeters	
	MIN	MAX		MIN	MAX
A	1.05	1.25	F	-0.15	0.05
B	1.70	1.90	G	1.10	1.30
D	0.90	1.10	H	3.60	3.80
E	2.90	3.10	θ	6° REF	
E1	2.85	3.05			

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