

# Thyristor Surge Suppressors (TSS)

**P0080DV    SOD-123FL    @10/700 $\mu$ s, 1.0KV**

## Description

P0080DV low capacitance series protection devices are a type of semi-conduct component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.

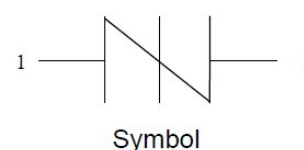


SOD-123FL

## Features

- u Excellent capability of absorbing transient surge
- u Quick response to surge voltage (ns Level)
- u Eliminates overvoltage caused by fast rising transients
- u Moisture sensitivity level: Level 1
- u Non degenerative

## Schematic Symbol



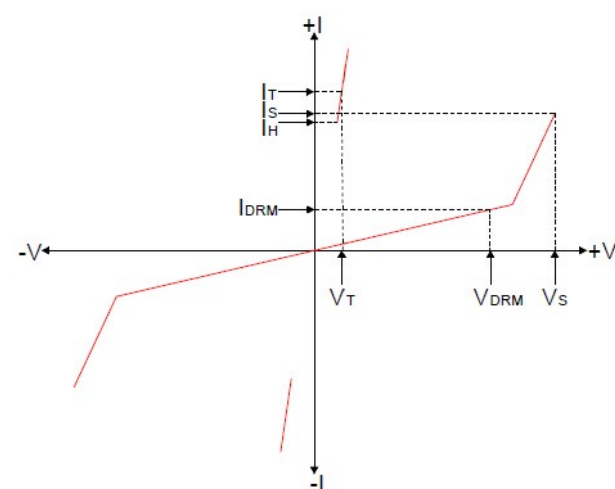
## Absolute Maximum Ratings (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage Temperature Range	T <sub>stg</sub>	-60 to +150	°C
Operating Junction Temperature Range	T <sub>j</sub>	-40 to +150	°C
Repetitive peak pulse current	I <sub>PP</sub>	18	A

## Electrical Parameters (T<sub>A</sub>=25°C)

Symbol	Parameter
V <sub>DRM</sub>	Peak Off-state Voltage
I <sub>DRM</sub>	Off-state Current
V <sub>S</sub>	Switching Voltage
I <sub>S</sub>	Switching Current
V <sub>T</sub>	On-state Voltage
I <sub>T</sub>	On-state Current
I <sub>H</sub>	Holding Current
C <sub>O</sub>	Off-state Capacitance

V-I Curve



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### Electrical Characteristics (T<sub>A</sub>=25 $^{\circ}$ C)

Part Number	Marking	I <sub>DRM</sub> @ V <sub>DRM</sub>		V <sub>S</sub> <sup>①</sup> @ I <sub>S</sub>		V <sub>T</sub> @ I <sub>T</sub>		I <sub>H</sub>	C <sub>o</sub> <sup>②</sup>
		$\mu$ A	V	V	mA	V	A	mA	pF
		max		max	max	max	max	min	max
P0080DV	P08DV	5	6	15	800	4	2.2	50	10

#### Notes:

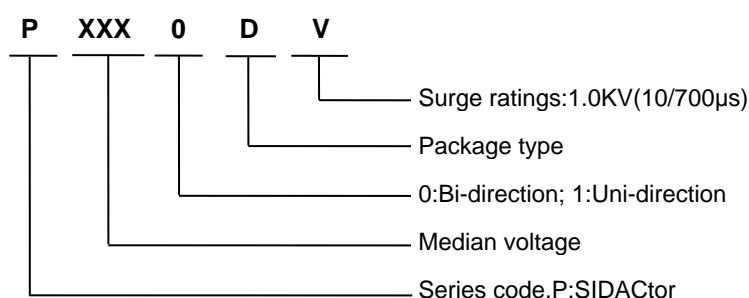
① V<sub>S</sub> is measured at 100KV/s;

② Off-state Capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz.

### Surge Ratings

Series	I <sub>PP</sub> (A) min			
	2 $\times$ 10 $\mu$ s	1.2 $\times$ 50 / 8 $\times$ 20 $\mu$ s	10 $\times$ 700 / 5 $\times$ 310 $\mu$ s	10 $\times$ 1000 $\mu$ s
V	50	40	25	18

### Ordering Information



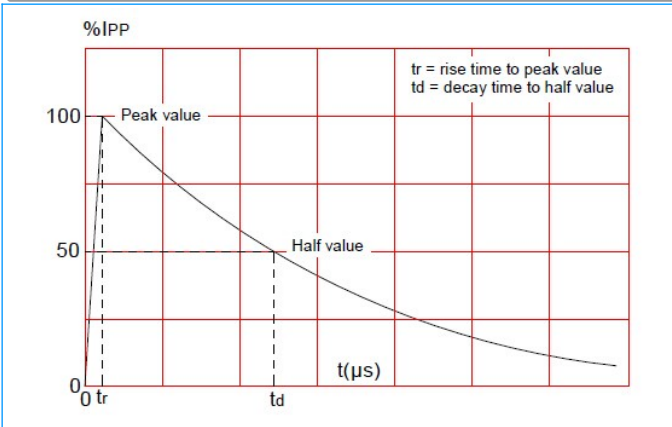
### Soldering Parameters

Reflow Condition		Pb-Free assembly (see Fig.2)
Pre Heat	-Temperature Min (T <sub>s(min)</sub> )	+150 $^{\circ}$ C
	-Temperature Max(T <sub>s(max)</sub> )	+200 $^{\circ}$ C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T <sub>L</sub> ) to peak)		3 $^{\circ}$ C/sec. Max
T <sub>s(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3 $^{\circ}$ C/sec. Max
Reflow	-Temperature(T <sub>L</sub> ) (Liquid $\mu$ s)	+217 $^{\circ}$ C
	-Temperature(t <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>p</sub> )		+260(+0/-5) $^{\circ}$ C
Time within 5 $^{\circ}$ C of actual Peak Temp (t <sub>p</sub> )		8-15 secs.
Ramp-down Rate		6 $^{\circ}$ C/sec. Max
Time 25 $^{\circ}$ C to Peak Temp (T <sub>P</sub> )		8 min. Max
Do not exceed		+260 $^{\circ}$ C

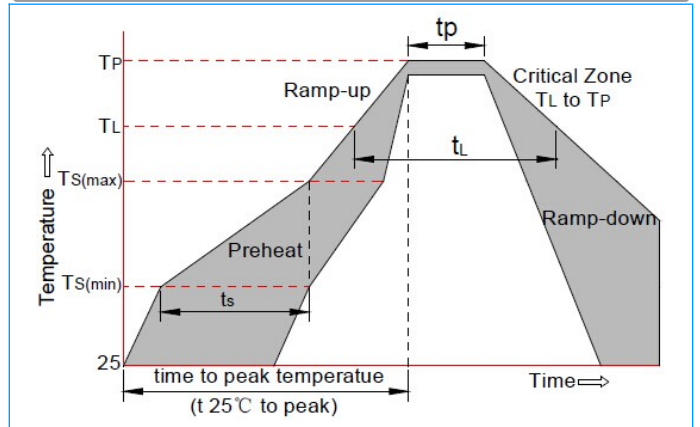
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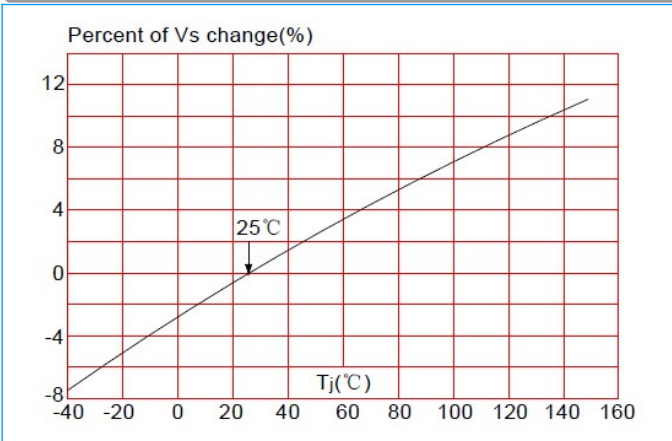
**Fig.1: tr × td pulse waveform**



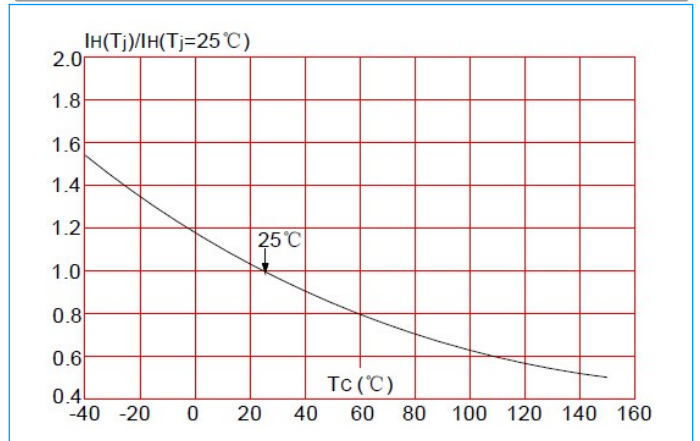
**Fig.2: Reflow condition**



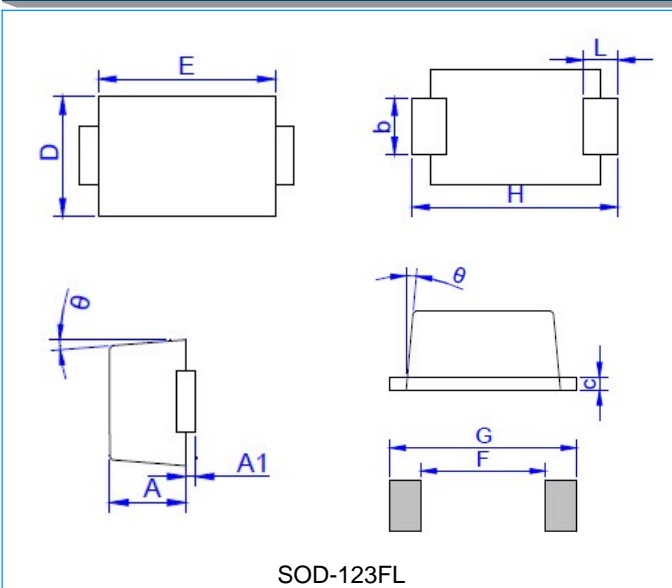
**Fig.3: Normalized Vs change vs. junction temperature**



**Fig.4: Normalized DC holding current vs. case temperature**



## Package Mechanical Data



Ref.	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.00	0.035	0.039
A1	0.00	0.10	0.000	0.004
b	0.70	1.10	0.028	0.043
c	0.10	0.20	0.004	0.008
D	1.50	1.80	0.059	0.071
E	2.50	2.90	0.098	0.114
F	2.36	—	0.093	—
G	4.19	—	0.165	—
H	3.40	3.80	0.134	0.150
L	0.55	0.95	0.022	0.037
θ	0	8°	0	8°

## Thyristor Surge Suppressors (TSS)

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### Marking



P08DV : Device Marking Code

### Package Information

Outline	Package Type	Quantity	Description
Taping	SOD123-FL	3,000	7 inch Reel Pack
Taping	SOD123-FL	10,000	13 inch Reel Pack