

Thyristor Surge Suppressors (TSS) Data Sheet

Description

TSS-SMF (SOD-123FL) Series are low capacitance devices designed to protect broadband equipment such as VOIP, DSL modems and DSLAMs from damaging overvoltage transients.

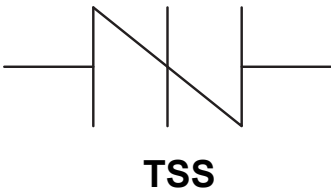
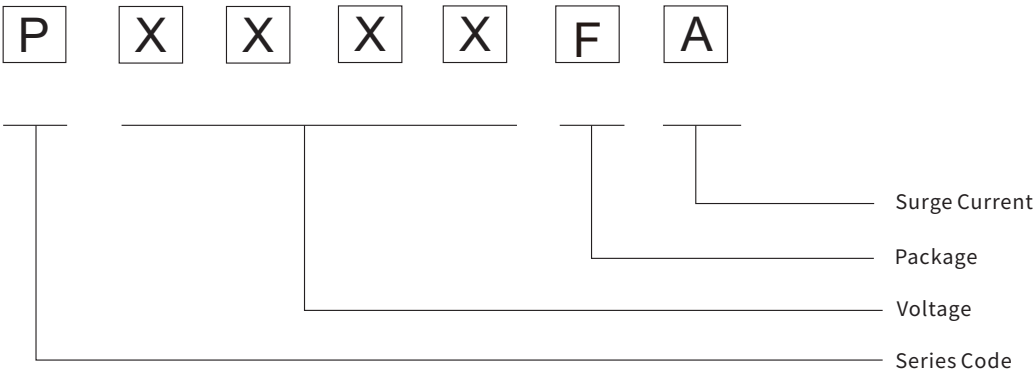
Features

- For surface mounted applications in order to optimize board space
- Low Capacitance
- Excellent capability of absorbing transient surge
- Quick response to surge voltage
- Eliminates overvoltage caused by fast rising transients
- Non degenerative
- Moisture sensitivity level: Level 1

Applications

- T1/E1 Trunk & Line Card
- RS-485/RS-232/RS-422
- Audio/Video line,Network and telecom
- Data lines and security systems

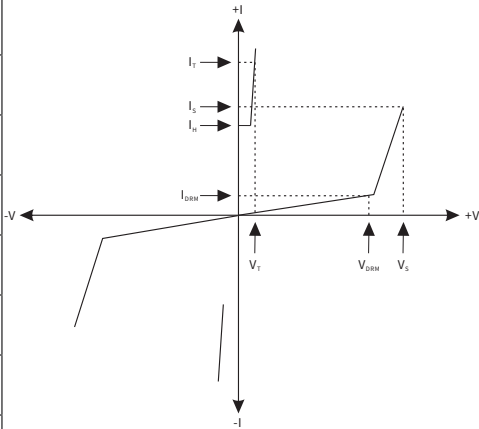
Part Numbering



Thermal Considerations

Symbol	Parameter	Value	Unit
V _{pp}	Peak Pulse Voltage(@10/700μs)	2000	V
T _J	Operating Junction Temperature	-40 to +150	°C
T _S	Storage Temperature Range	-40 to +150	°C
R _{θJA}	Junction to Ambient on printed circuit	90	°C /W

● Electrical Parameters

Symbol	Parameter	Unit
V_{DRM} (Off-state Voltage)	Maximum voltage that can be applied while maintaining off state	
V_{S} (Switching Voltage)	Maximum voltage prior to switching to on state	
V_{T} (On-state Voltage)	Maximum voltage measured at rated on-state current	
I_{DRM} (Leakage Current)	Maximum peak off-state current measured at V_{DRM}	
I_{S} (Switching Current)	Maximum current required to switch to on state	
I_{T} (On-state Current)	Maximum rated continuous on-state current	
I_{H} (Holding Current)	Typical current required to maintain on state	
C_{O} (Off-state Capacitance)	Typical capacitance measured in off state	

● Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	Marking	V_{DRM}	V_{S}	V_{T}	I_{DRM}	I_{S}	I_{T}	I_{H}	C_{O}
		(V)	(V)	(V)	(μA)	(mA)	(A)	(mA)	(pF)
P0080FA	P008A	6	25	4	5	800	2.2	20	50

Notes :
(1) V_{S} is measured at 100kV/S ;
(2)Off-state capacitance(C_{O}) is measured at 1 MHz with a 2V bias and is typical value

● Surge Ratings

Part Number	$I_{\text{PP}} 8 \times 20\mu\text{s}$ (A)	$I_{\text{PP}} 10 \times 1000\mu\text{s}$ (A)	$V_{\text{PP}} 10 \times 700\mu\text{s}$ (V)
P0080FA	150	40	2000

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

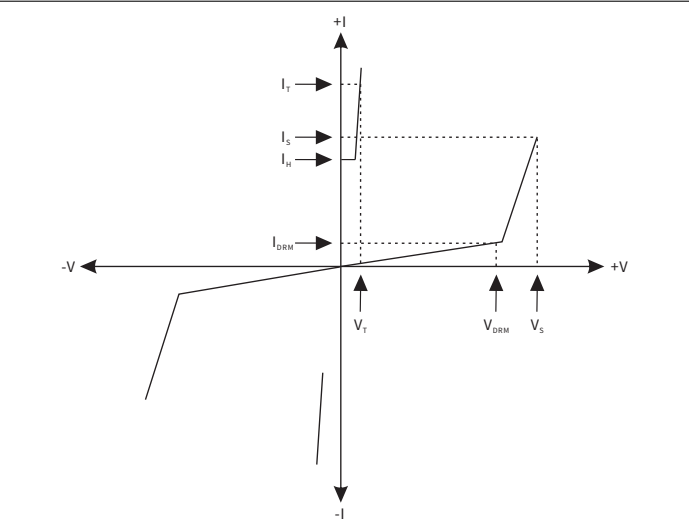


Fig. 1 I-V Characteristics

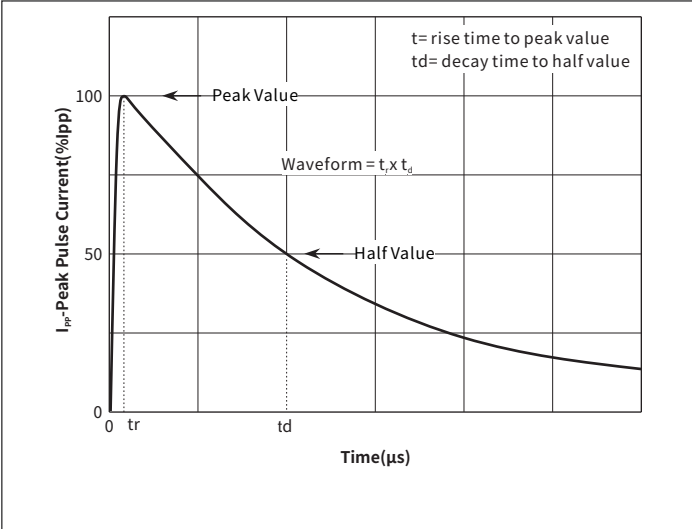


Fig.2 tr X td Pulse Waveform

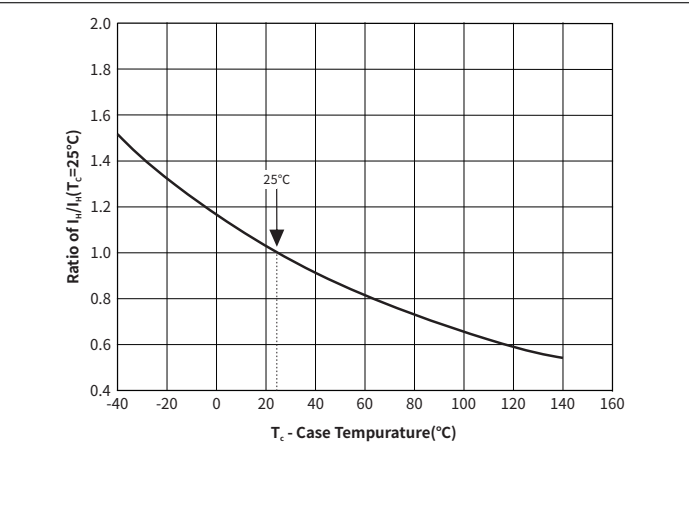


Fig.3 Tj-Junction Temperature(°C)

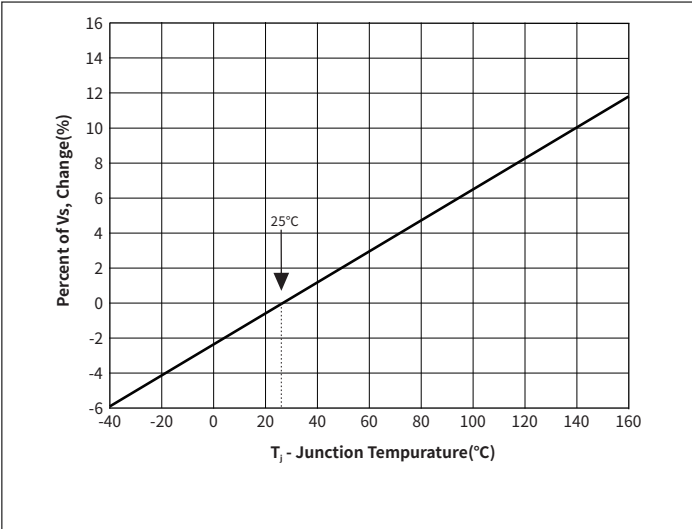
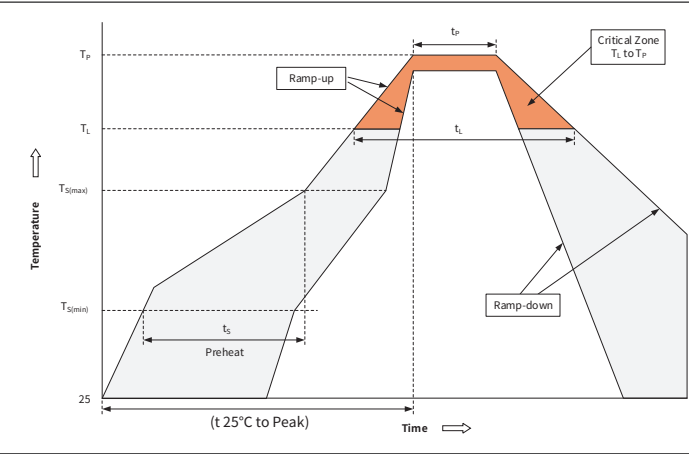


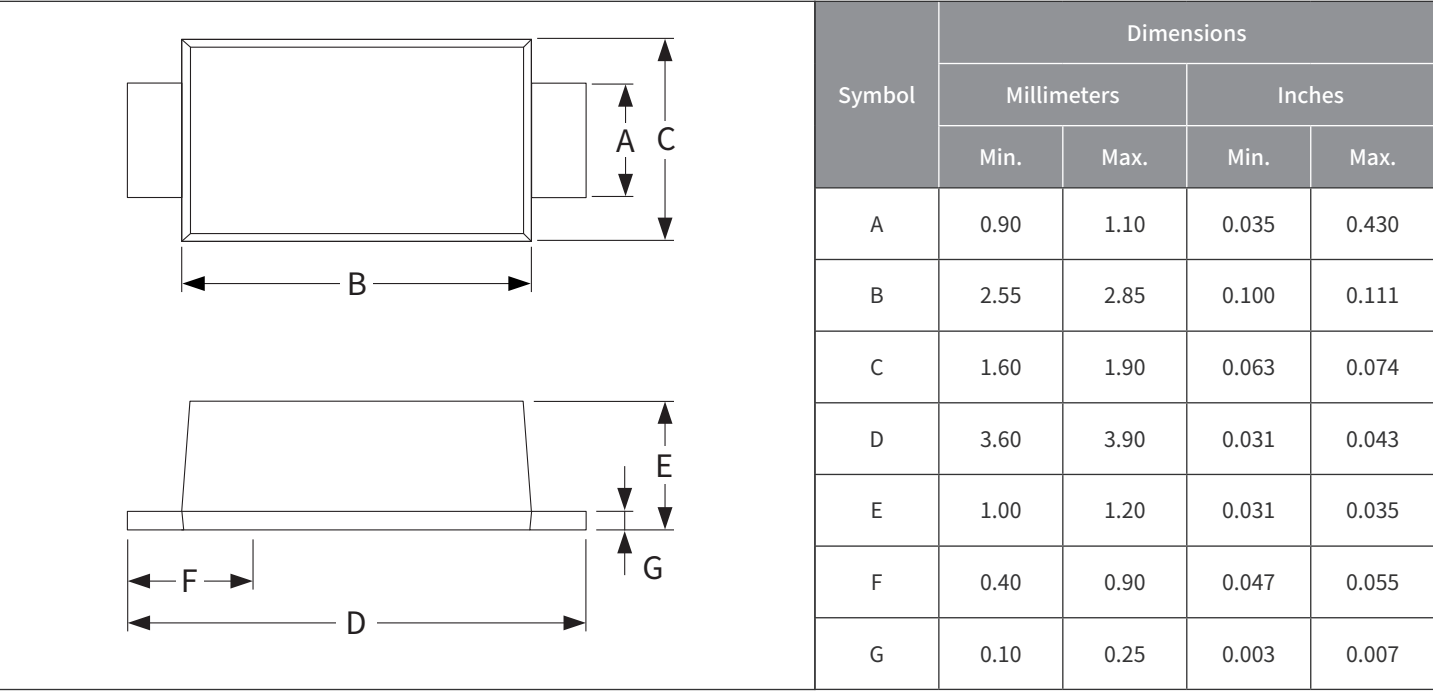
Fig.4 Normalized DC Holding Current vs. Case Temperature

● Soldering Parameters



Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min (T _{S(min)})	+150°C
	Temperature Max(T _{S(max)})	+200°C
	Time (Min to Max) (t _S)	60-180 secs.
Average ramp up rate (Liquid us Temp (T _L) to peak)		3°C /sec. Max
T _{S(max)} to T _L - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(T _L)(Liquid us)	+217°C
	Temperature(t _L)	60-150 secs.
Peak Temp (T _P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (T _P)		30 secs. Max
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (T _P)		8 min. Max
Do not exceed		+260°C

● Package Outline Dimensions (SMF/SOD-123FL)



● Ordering Information

PACKAGE	DELIVERY MODE	REEL(pcs)
SOD-123FL	7"	3000

● Packaging (SMF/SOD-123FL)

