

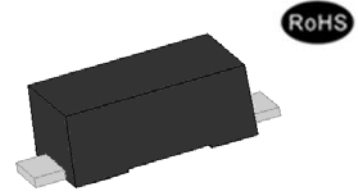


## PxxxxDM TSS

Rev.1.3

### DESCRIPTION

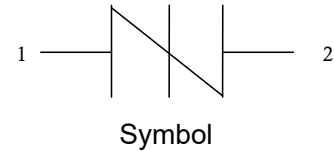
PxxxxDM series are a type of semiconductor component. They are designed to protect base band equipment from damaging overvoltage transients.



SOD-123FL

### FEATURES

- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Moisture sensitivity level: Level 1.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).
- ✧ Non degenerative.

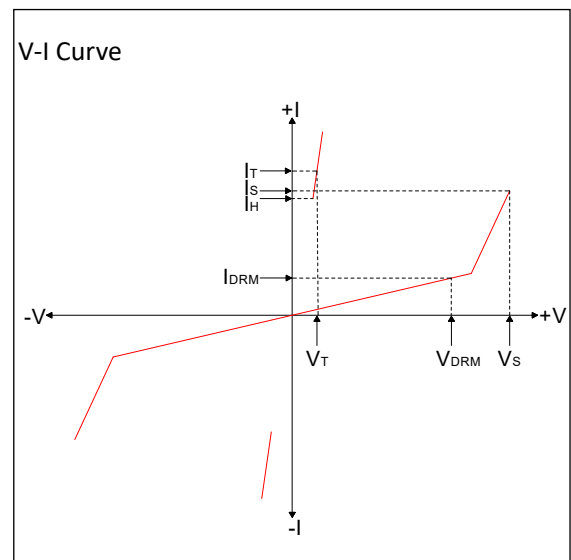


### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

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 +125	°C
Repetitive peak pulse current@10/1000μs	I <sub>PP</sub>	35	A

### ELECTRICAL CHARACTERISTICS (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



**MARKING**



P35DM : Device Marking Code

**ELECTRICAL CHARACTERISTICS** (T<sub>A</sub>=25°C, continued)

Part Number	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>	Co <sup>②</sup>	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max		max	
P0080DM	5	6	15	800	4	2.2	10(min)	10	P8AC
P0300DM	5	25	40	800	4	2.2	50(typ)	60	P03DA
P3500DM	5	280	400	800	4	2.2	10(min)	50	P35DM

①V<sub>s</sub> is measured at 100kV/s

②Off-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			
	2/10μs	8/20μs	10/360μs	10/1000μs
M	100	90	50	35

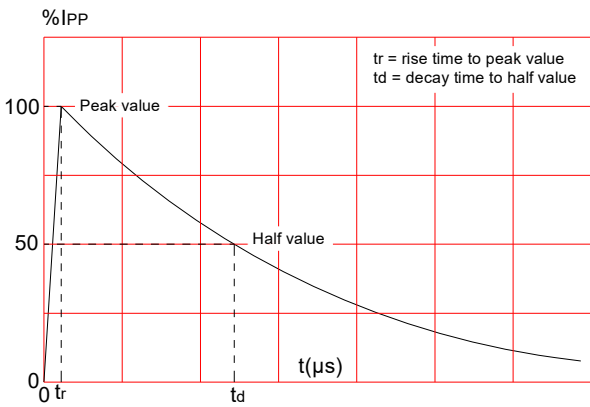
**ORDERING INFORMATION**

<b>P</b> Series code P: SIDAC	<b>008</b> Median voltage	<b>0</b> 0: Bi-direction	<b>D</b> Package type:SOD-123FL	<b>M</b> Surge ratings:2.0kV(10/700μs)
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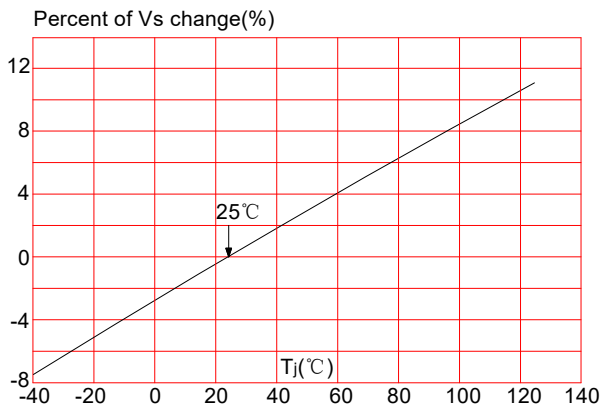
**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.2)
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 (Liquidus Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquidus)	+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

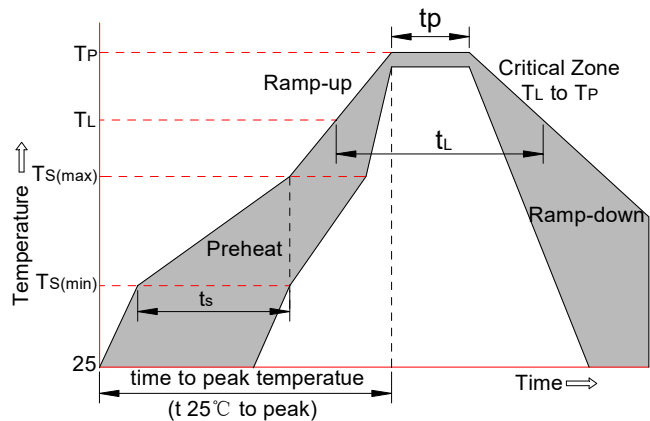
**FIG.1:**  $t_r \times t_d$  pulse waveform



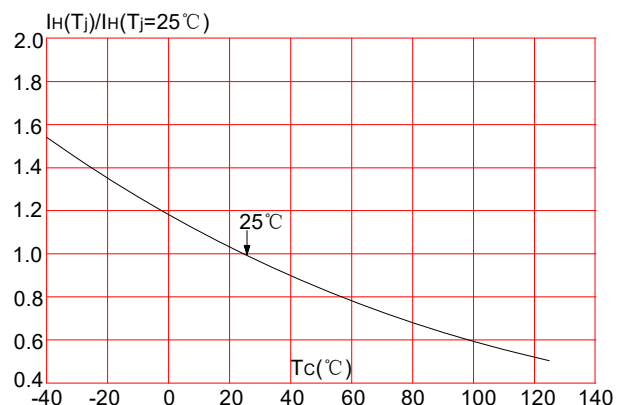
**FIG.3:** Normalized  $V_s$  change vs. junction temperature



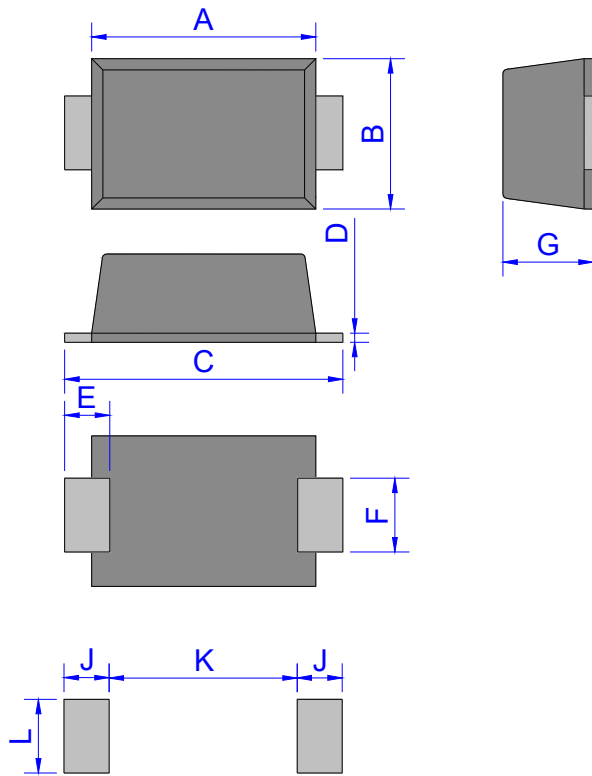
**FIG.2:** Reflow condition



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



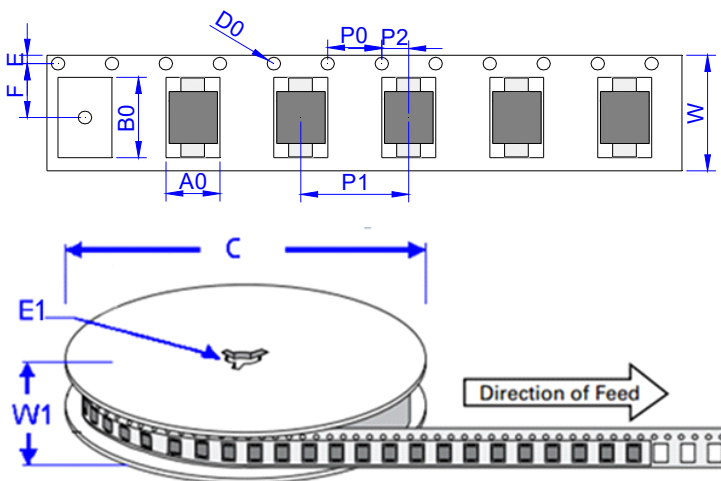
PACKAGE MECHANICAL DATA



SOD-123FL

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

TAPE AND REEL SPECIFICATION-SOD-123FL



Ref.	Dimensions	
	Millimeters	Inches
A0	1.95 ± 0.3	0.077 ± 0.012
B0	3.95 ± 0.3	0.156 ± 0.012
C	178	7.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	3.50 ± 0.2	0.138 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	4.00 ± 0.2	0.157 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	8.0 ± 0.2	0.315 ± 0.008
W1	11.5 ± 1.0	0.453 ± 0.039

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
PxxxxDM	0.0144	3,000	150,000	7 inch reel pack


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