

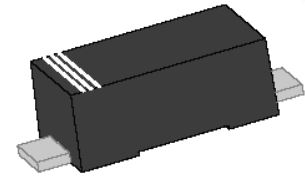


## Pxxx1DM TSS

Rev.1.4

### DESCRIPTION

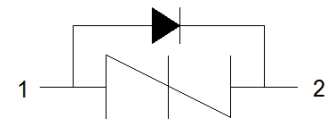
Pxxx1DM devices are a type of semiconductor component. They are designed for transient surge protection.



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.
- ✧ Fails short circuit when surged in excess of ratings.
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).
- ✧ Non degenerative.



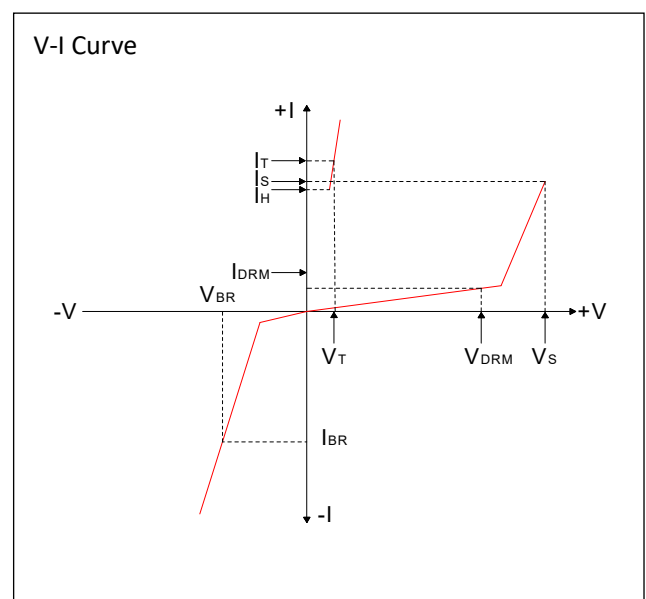
Symbol

### 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 +125	°C
Repetitive peak pulse current@10/1000μs	I <sub>PP</sub>	50	A
Typical thermal resistance junction to ambient	R <sub>θJA</sub>	220	°C/W

### 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
V <sub>BR</sub>	Reverse breakdown voltage
I <sub>BR</sub>	Reverse breakdown current



**MARKING**



1DM130: Device Marking Code

**ELECTRICAL CHARACTERISTICS**( $T_A=25^{\circ}C$ , continued)

Part Number	IDRM@VDRM PIN2-1		Vs <sup>①</sup> @Is PIN2-1		VT@IT PIN2-1		IH PIN2-1	Co <sup>②</sup> PIN2-1	VBR@IBR PIN1-2		Marking
	$\mu A$	V	V	mA	V	A	mA	pF	V	A	
	max		max	max	max	max	min	max	max	max	
P1301DM	1	120	160	800	5	1.0	120	35	5	1	1DM130
P1801DM	1	170	250	800	5	1.0	120	35	5	1	1DM180

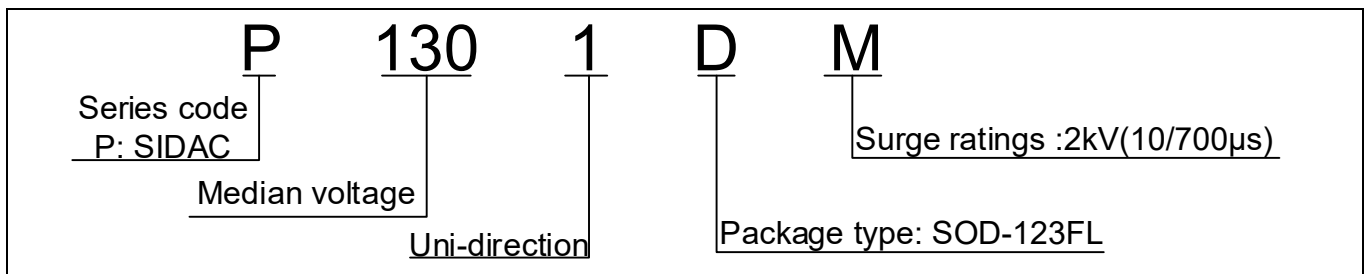
①Vs is measured at 100kV/s

②Off-state capacitance is measured in  $V_{DC}=2V$ ,  $V_{RMS}=1V$ ,  $f=1MHz$

**SURGE RATINGS**

Series	IPP (A) min (PIN2-1)			
	2/10 $\mu s$	8/20 $\mu s$	10/360 $\mu s$	10/1000 $\mu s$
M	150	150	75	50
Series	IPP (A) min (PIN1-2)			
	2/10 $\mu s$	8/20 $\mu s$	10/360 $\mu s$	10/1000 $\mu s$
M	150	150	75	50

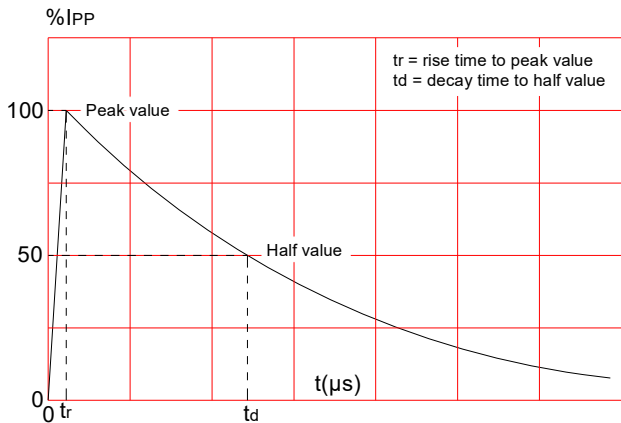
**ORDERING INFORMATION**



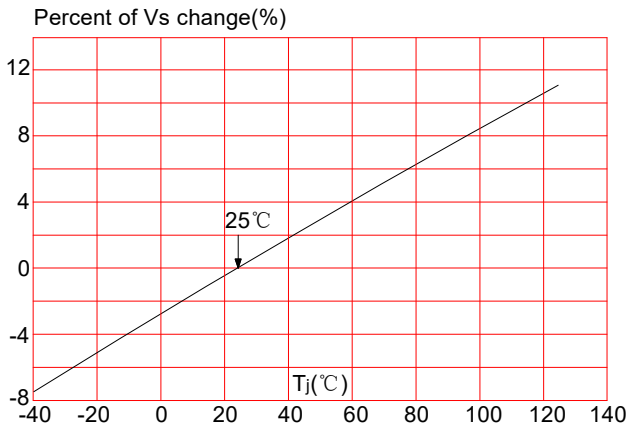
**SOLDERING PARAMETERS**

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) (ts)	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
	-Time( $t_L$ )	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

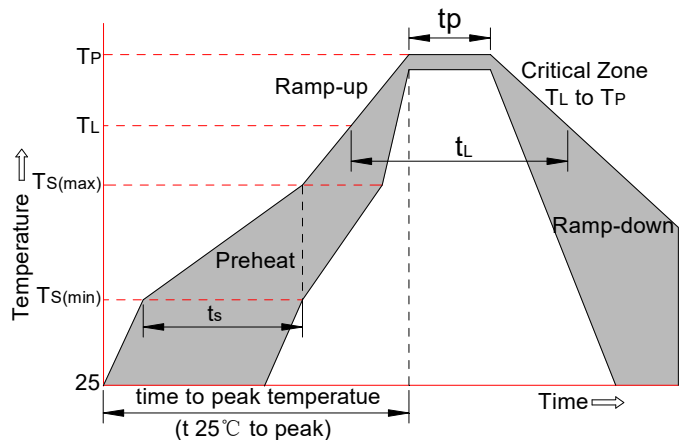
**FIG.1:** tr × td pulse waveform



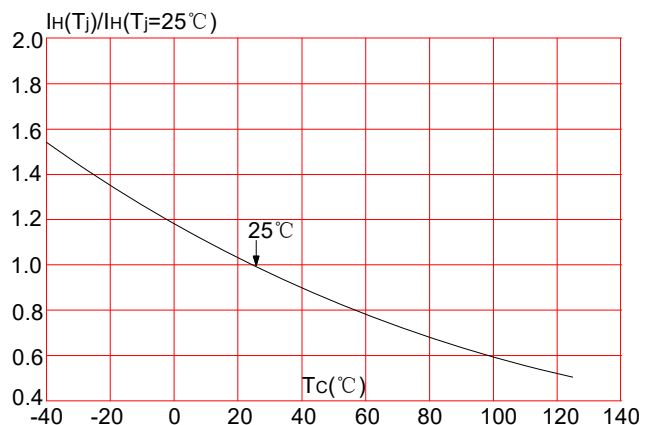
**FIG.3:** Normalized  $V_s$  change vs. junction temperature



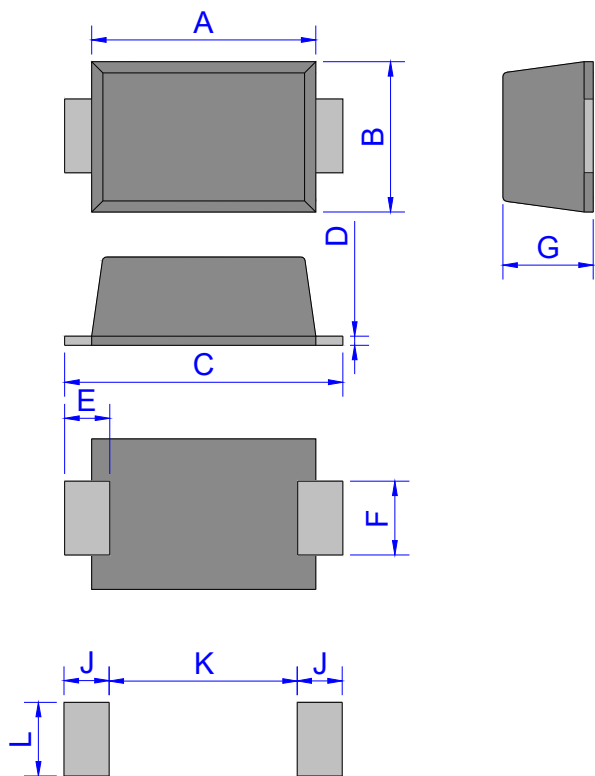
**FIG.2:** Reflow condition



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



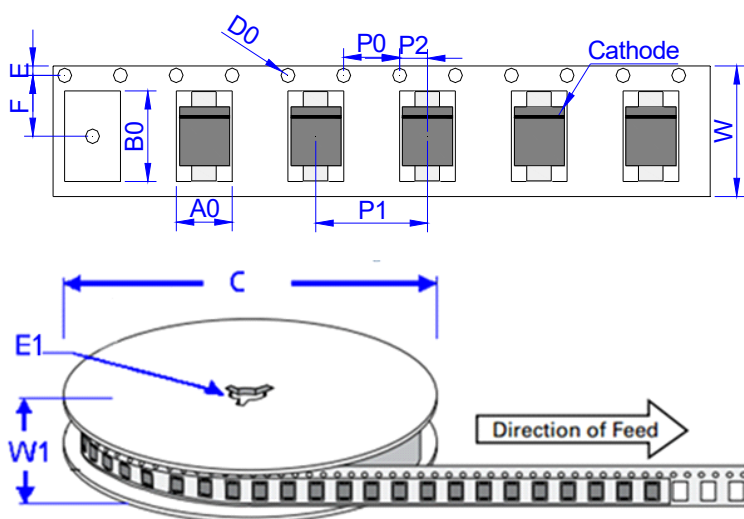
**PACKAGE MECHANICAL DATA**



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
Pxxx1DM	0.0144	3,000	150,000	7 inch reel pack

JieJie products are not designed for, and shall not be used for, any purpose (including, without limitation, automotive, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable JieJie product documentation. Warranties granted by JieJie shall be deemed void for products used for any purpose not expressly set forth in applicable JieJie documentation. JieJie shall not be liable for any claims or damages arising out of products used in applications not expressly intended by JieJie as set forth in applicable JieJie documentation. The sale and use of JieJie products is subject to JieJie terms and conditions of sale, unless otherwise agreed by JieJie.

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.4th version which is made in 27-Aug.-2024. This document supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co., Ltd.

Copyright ©2024 Jiangsu JieJie Microelectronics Co., Ltd. Printed All rights reserved.