

# P0300GA0A TSS

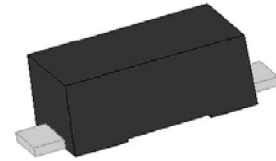
## P0300GA0A

### Description

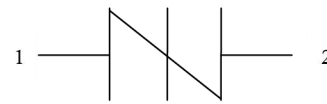
P0300GA0A protection devices are a type of semiconductor components. They are designed in applications: modems, Telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, OBXs and more

### Features

- ◆ Low profile package.
- ◆ Low on-state voltage.
- ◆ 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.
- ◆ Non degenerative.



SOD-123FL



Symbol

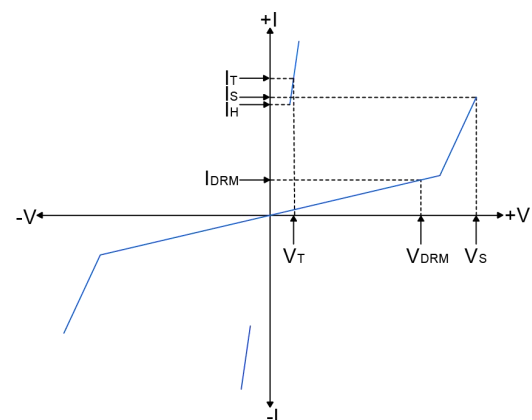
### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ , RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	$T_J$	-40 to +125	$^\circ\text{C}$
Repetitive peak pulse current@10×1000μs	$I_{PP}$	35	A

### Electrical Characteristics ( $T_A=25^\circ\text{C}$ )

Symbol	Parameter
$V_{DRM}$	Peak off-state voltage
$I_{DRM}$	Off-state current
$V_S$	Switching voltage
$I_S$	Switching current
$V_T$	On-state voltage
$I_T$	On-state current
$I_H$	Holding current
$C_o$	Off-state capacitance

V-I Curve



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### Marking

### 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>	C <sub>o</sub> <sup>②</sup>
	μA	V	V	mA	V	A	mA	pF
	max	min	max	max	max	max	min	max
P0300GA0A	1	25	40	800	4	2.2	50	60

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

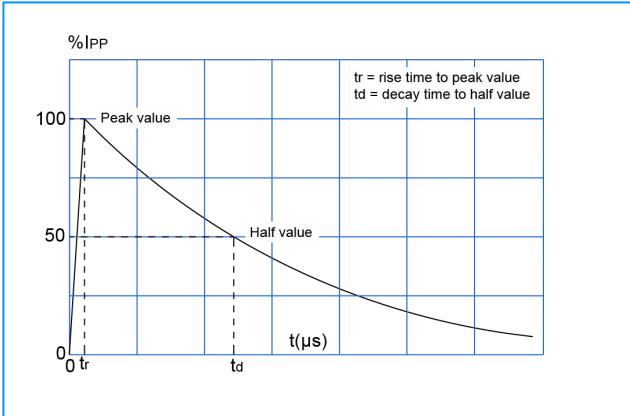
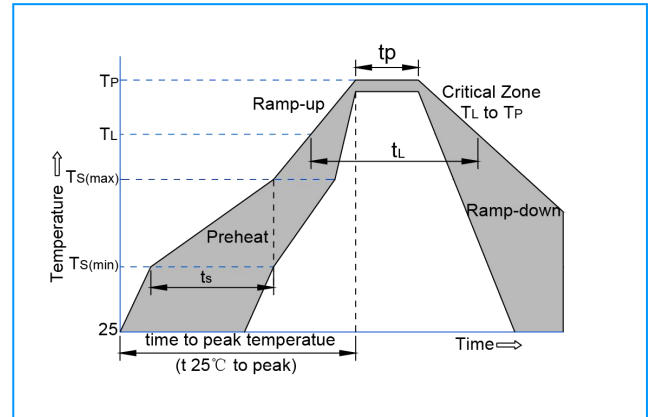
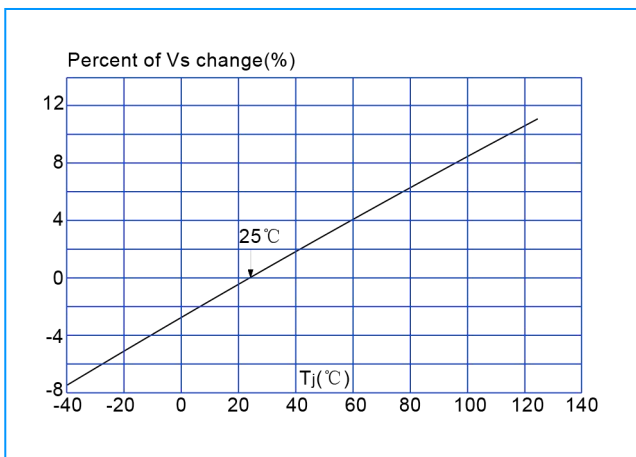
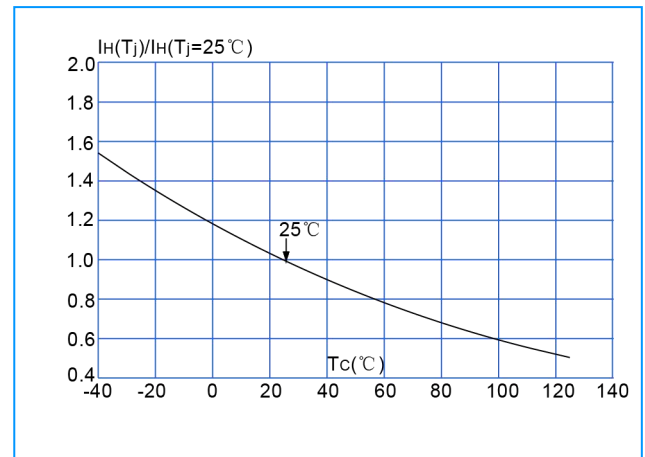
② Off-state capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz

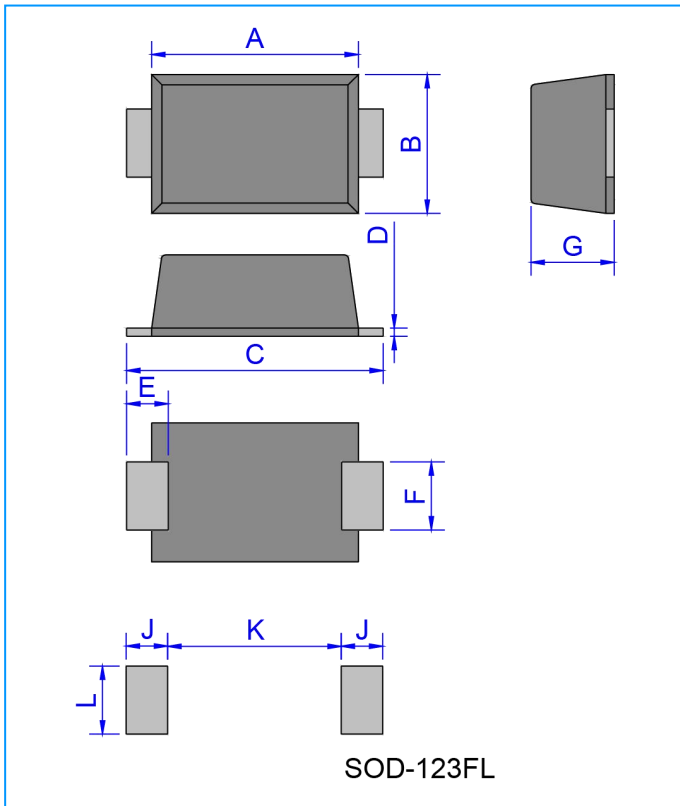
### Surge Ratings

Series	I <sub>PP</sub> (A) min			
	2×10μs	1.2×50/ 8×20μs	10×700/ 5×310μs	10×1000μs
A	100	90	50	35

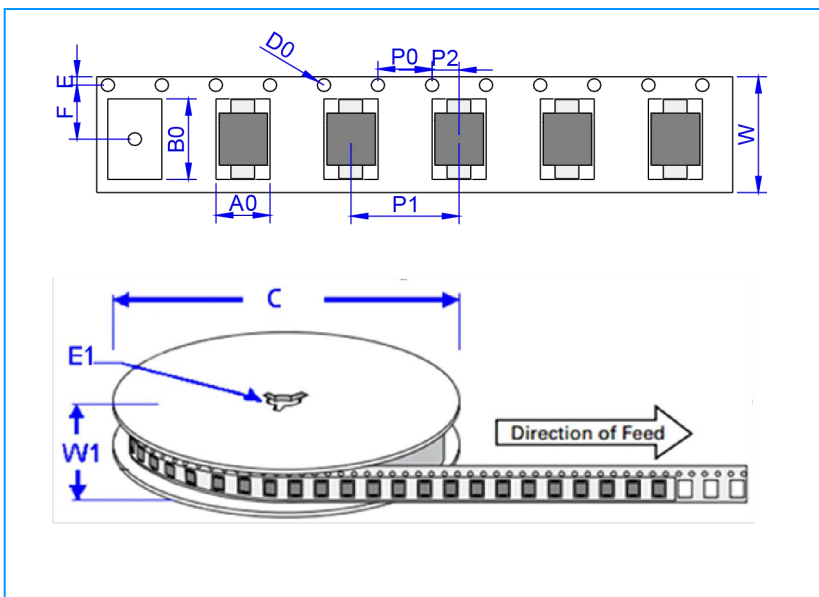
### Soldering Parameters

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min (T <sub>s(min)</sub> )	+150°C
	-Temperature Max(T <sub>s(max)</sub> )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T <sub>L</sub> )to peak)		3°C/sec. Max
T <sub>s(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T <sub>L</sub> ) (Liquidus)	+217°C
	-Temperature(t <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>p</sub> )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t <sub>p</sub> )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T <sub>P</sub> )		8 min. Max
Do not exceed		+260°C

**P0300GA0A TSS**
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**FIG.1:tr x td pulse waveform**

**FIG.2:Reflow condition**

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

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


**P0300GA0A TSS**
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**Package Mechanical Data**


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 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

**P0300GA0A TSS****P0300GA0A****Packaging**

PART No.	UNIT WEIGHT (g/PCS) typ.	PACKAGE TYPE	QUANTITY	DESCRIPTION
P0300GA0A	0.0135	SOD-123FL	3,000	7 inch reel pack