

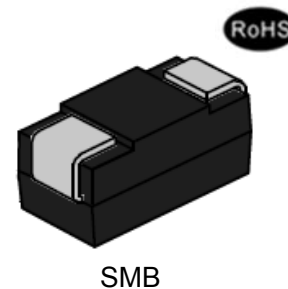


P0300AMBS TSS

Rev.3.1

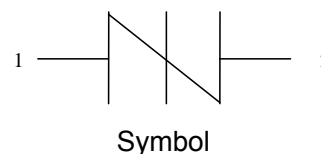
DESCRIPTION:

P0300AMBS thyristor is a type of semiconductor component. This device is especially designed to protect carrier communication and PLC module, effectively suppress all kinds of interference pulse from the powerline. Low V_c , strong ability to withstand surge.



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.
- ✧ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact).
- ✧ Non degenerative.

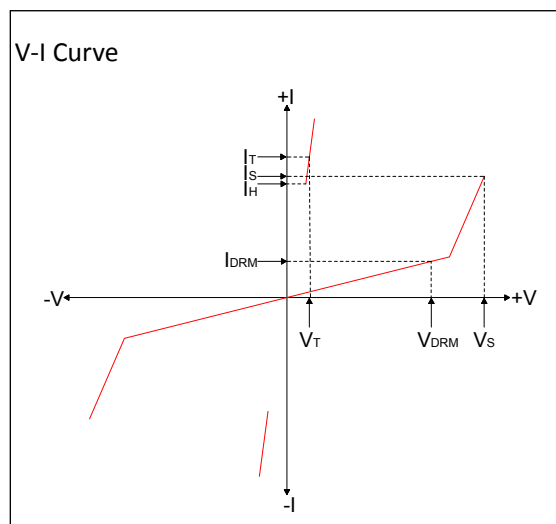


ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

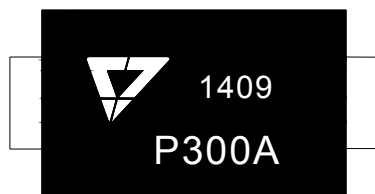
Parameter	Symbol	Value	Unit
Storage temperature range	T_{STG}	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	T_J	-40 to +125	$^\circ\text{C}$
Repetitive peak pulse current@10/1000 μs	I_{PP}	80	A

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



MARKING



P300A: Device Marking Code
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS (T_A=25°C, continued)

Part Number	I _{DRM} @V _{DRM}		V _S ^① @I _S		V _T @I _T		I _H	Co ^②	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	max	max	
P0300AMBS	1	25	40	800	4	2.2	50	100	P300A

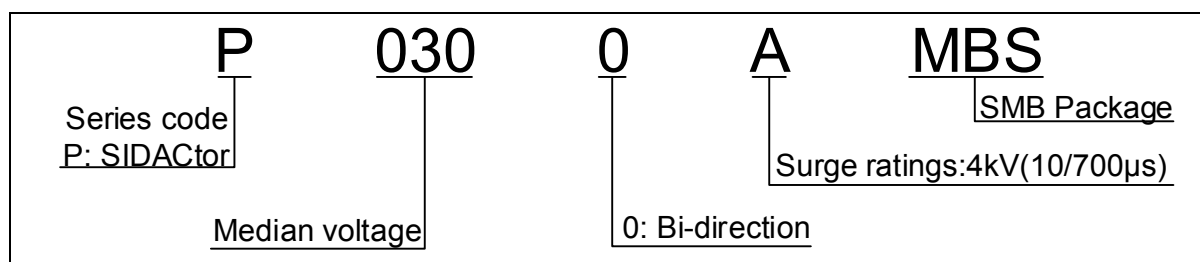
① V_S is measured at 100kV/s

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

SURGE RATINGS

Series	I _{PP} (A) min			
	2/10μs	8/20μs	10/360μs	10/1000μs
A	250	250	125	80

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
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30secs. 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

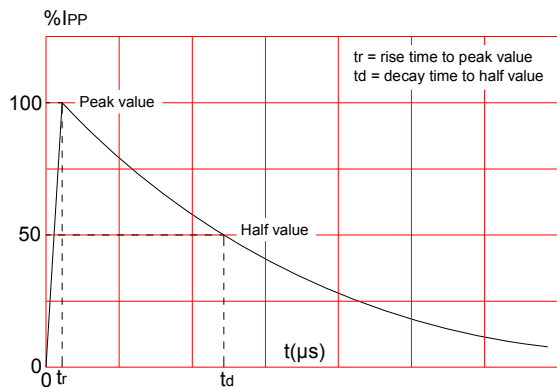


FIG.3: Normalized Vs change vs. junction temperature

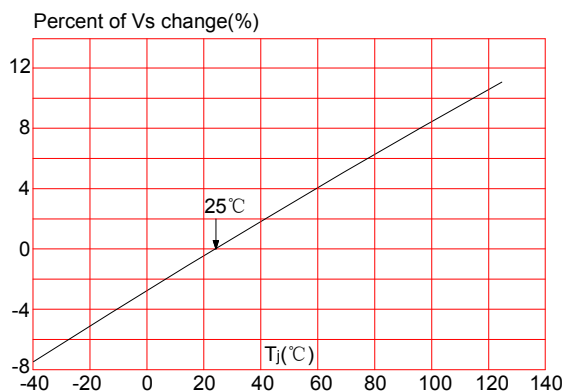


FIG.2: Reflow condition

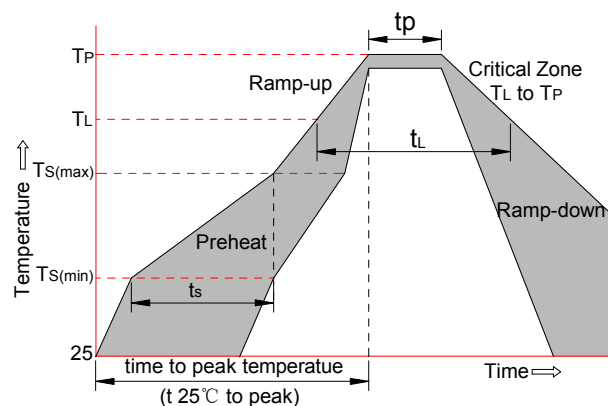
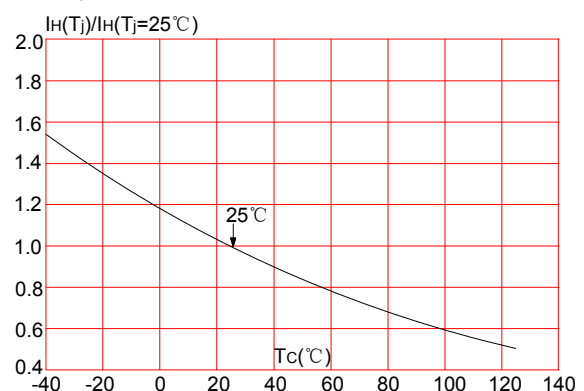
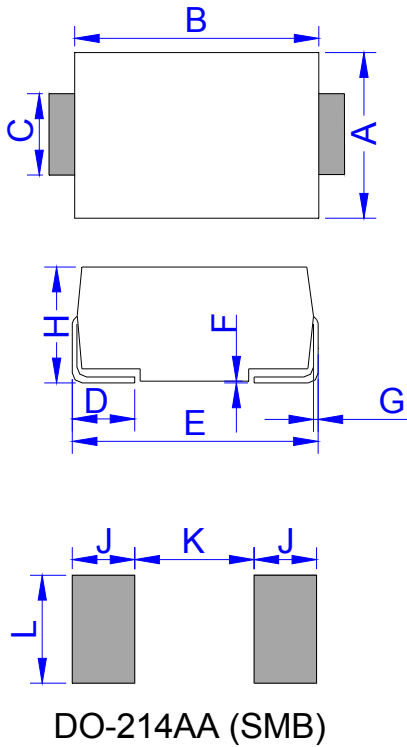


FIG.4: Normalized DC holding current vs. case temperature

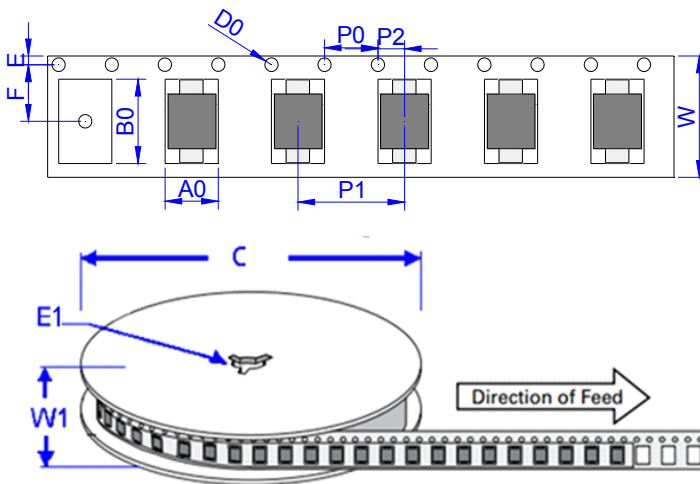


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	


TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 0.012
C	330.0	13.0
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	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
P0300AMBS	0.098	3,000	48,000	13 inch reel pack

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