

Thyristor Surge Suppressors (TSS)

P0080BE/P0080CE

DO-214AA(SMB)

@10/700 μ s 4KV/6KV

Description

P0080BE/P0080CE are a type of semi-conduct component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.

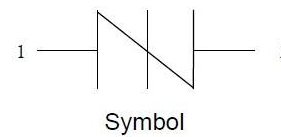


SMB

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
- ◆ Non degenerative

Schematic Symbol



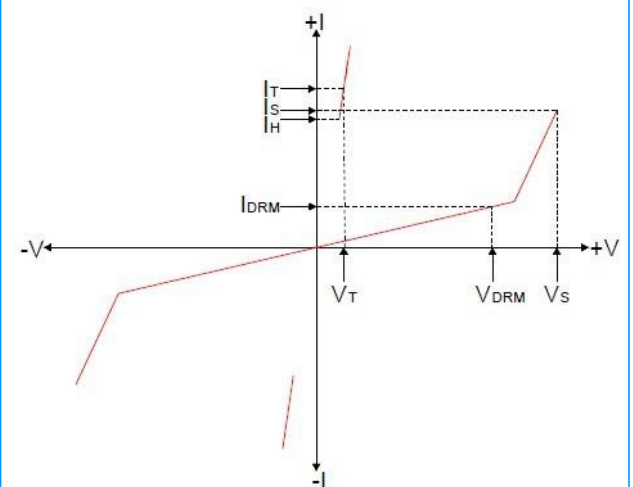
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage Temperature Range	T_{stg}	-60 to +150	$^\circ\text{C}$
Operating Junction Temperature Range	T_j	-40 to +150	$^\circ\text{C}$
Repetitive peak pulse current	I_{PP}	80	A
ESD Rating per IEC61000-4-2: Contact Air		15	KV

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

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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Electrical Characteristics (T_A=25 °C)

Part Number	Marking	I _{DRM} @ V _{DRM}		V _S @ I _S		V _T @ I _T		I _H	C _o
		μ A	V	V	mA	V	A	mA	pF
		max		max	max	max	max	min	max
P0080BE	P08BE	5	6	25	800	4	2.2	50	110
P0080CE	P08CE	5	6	25	800	4	2.2	50	120

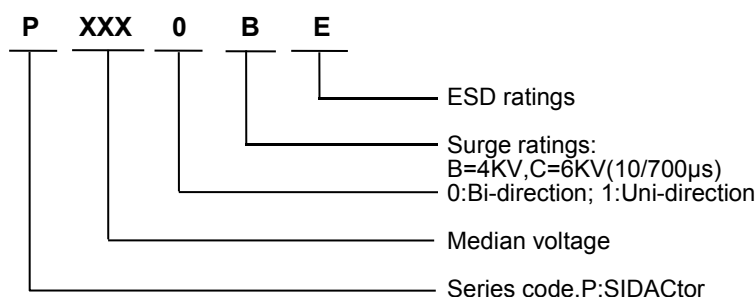
Notes:

- 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			
	2×10 μ s	8×20 μ s	10 360 μ s	10×1000 μ s
B	250	250	125	80
C	400	400	175	100

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 (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 μ s)	+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)		8-15 secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T _P)		8 min. Max
Do not exceed		+260°C

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Fig.1: $t_r \times t_d$ pulse waveform

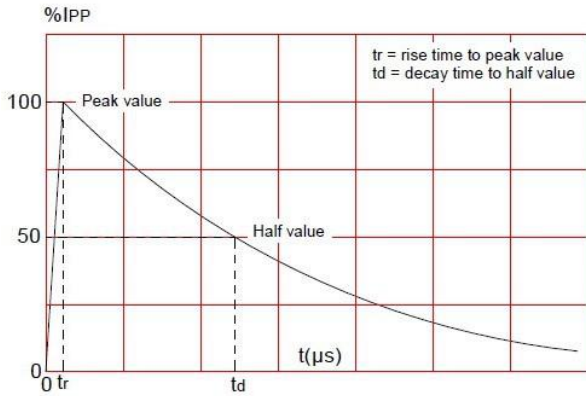


Fig.2: Reflow condition

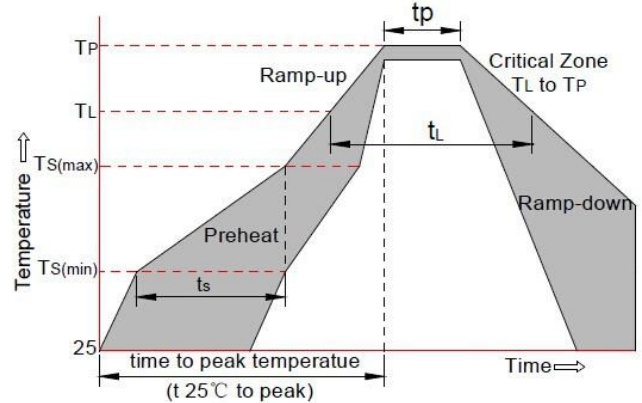


Fig.3: Normalized Vs change vs. junction temperature

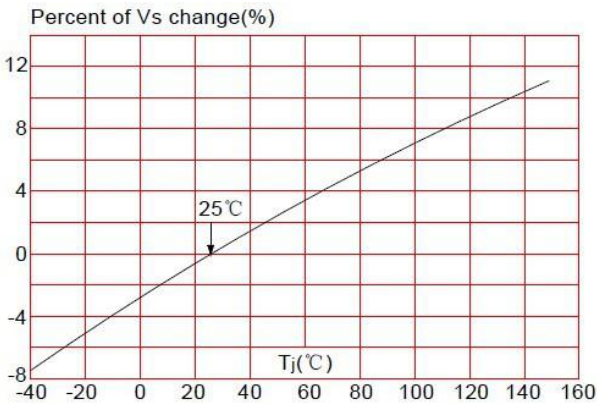
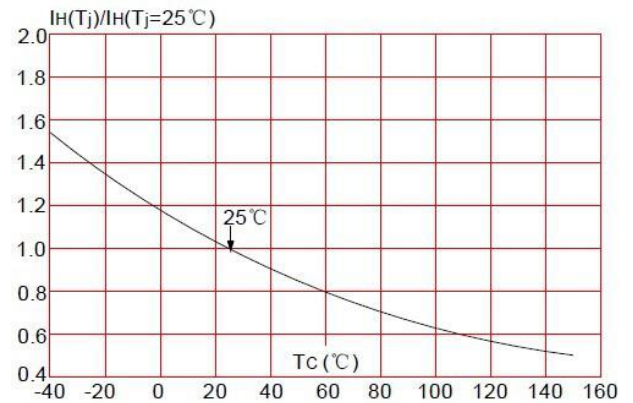
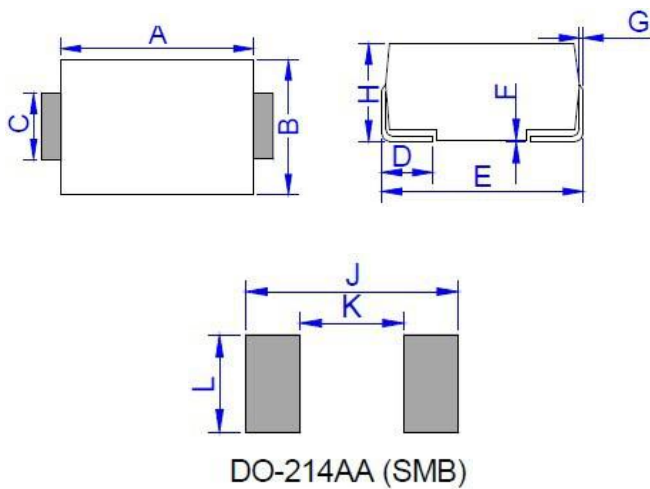


Fig.4: Normalized DC holding current vs. case temperature



Package Mechanical Data

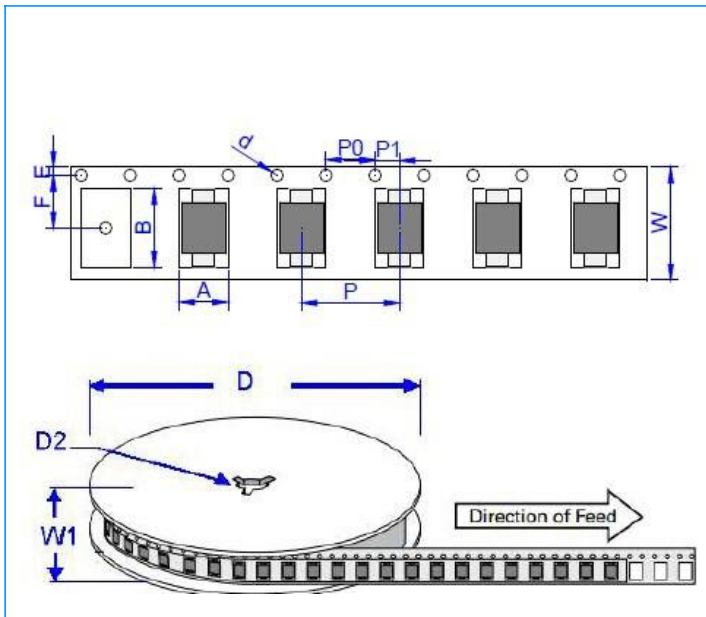


Ref.	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80	—	0.270	—
K	—	2.60	—	0.100
L	2.40	—	0.090	—

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P08BE:Device Marking Code

Marking
Tape and Reel Specification-SOT23-


Ref.	Dimensions	
	Millimeters	Inches
A	3.76 \pm 0.2	0.144 \pm 0.012
B	5.69 \pm 0.2	0.244 \pm 0.012
d	1.5 \pm 0.25	0.059 \pm 0.004
D	330.0	13.0
D2	13 \pm 1	0.512 \pm 0.039
E	1.75 \pm 0.2	0.059 \pm 0.008
F	5.5 \pm 0.1	0.222 \pm 0.008
P	8.0 \pm 0.2	0.315 \pm 0.008
P0	4.0 \pm 0.2	0.157 \pm 0.008
P1	2.0 \pm 0.2	0.079 \pm 0.008
W	12.0 \pm 0.3	0.472 \pm 0.008
W1	16.8 \pm 2.0	0.661 \pm 0.079

Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters
Taping	3,000	48,000	330