

## Thyristor Surge Suppressors

**DO-214AA/SMB**

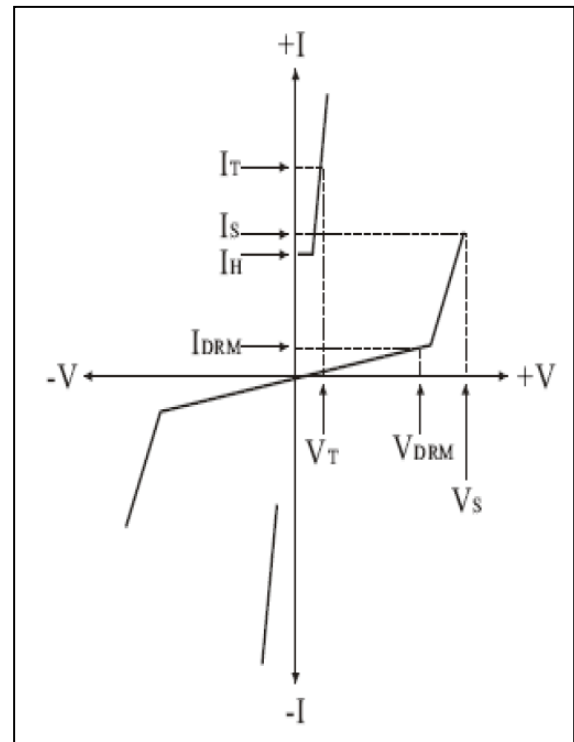


### Features

- Low switching voltage
- Low on-state voltage
- Does not degrade surge capability after multiple surge Events within limit
- Fails short circuit when surged in excess of ratings
- Low Capacitance

### ■Electrical Parameters

Parameter	Definition
CO	Off-state Capacitance—typical capacitance measured in off state @ 2 V bias and 1 MHz
di/dt	Rate of Rise of Current—maximum rated value of the acceptable rate of rise in current over time
IS	Switching Current —maximum current required to switch to on state
IDRM	Leakage Current—maximum peak off-state current measured at VDRM
IH	Holding Current—minimum current required to maintain on state
IPP	Peak Pulse Current—maximum rated peak impulse current
IT	On-state Current—maximum rated continuous on-state current
ITSM	Peak One-cycle Surge Current—maximum rated one-cycle AC current
VS	Switching Voltage—maximum voltage prior to switching to on state during 100V/ $\mu$ s surge
VDRM	Peak Off-state Voltage—maximum voltage that can be applied while maintaining off state
VF	On-state Forward Voltage—maximum forward voltage measured at rated on-state current
VT	On-state Voltage—maximum voltage measured at rated on-state current





## P0080SB THRU P5000SB

### ■ Limiting Values (Absolute Maximum Rating)

Parameter	Symbol	Value	Unit
Operating Junction Temperature	TJ	-40 to+150	°C
Storage Temperature Range	TS	-40 to+150	°C
Junction to Ambient on printed circuit	RθJA	90	°C/W

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Part Number*	VDRM Volts	VS Volts	VT Volts	IDRM μAmps	IS mAmps	IT Amps	IH mAmps	CO pF
P0080SB	6	25	4	5	800	2.2	50	60
P0300SB	25	40	4	5	800	2.2	50	65
P0640SB	58	77	4	5	800	2.2	150	45
P0720SB	65	88	4	5	800	2.2	150	45
P0900SB	75	98	4	5	800	2.2	150	40
P1100SB	90	130	4	5	800	2.2	150	40
P1300SB	120	160	4	5	800	2.2	150	40
P1500SB	140	180	4	5	800	2.2	150	35
P1800SB	170	220	4	5	800	2.2	150	65
P2000SB	180	220	4	5	800	2.2	150	60
P2300SB	190	260	4	5	800	2.2	150	60
P2600SB	220	300	4	5	800	2.2	150	45
P3100SB	275	350	4	5	800	2.2	150	45
P3500SB	320	400	4	5	800	2.2	150	40
P4000SB	360	460	4	5	800	2.2	150	40
P4500SB	400	540	4	5	800	2.2	150	40



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P5000SB	440	600	4	5	800	2.2	150	40
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## Notes:

\*For surge ratings, see table below.

Notes:

- All measurements are made at an ambient temperature of 25°C. IPP applies to -40°C through +85°C temperature range.
- Off-state capacitance (CO) is measured at 1 MHz with a 2V bias and is typical value.

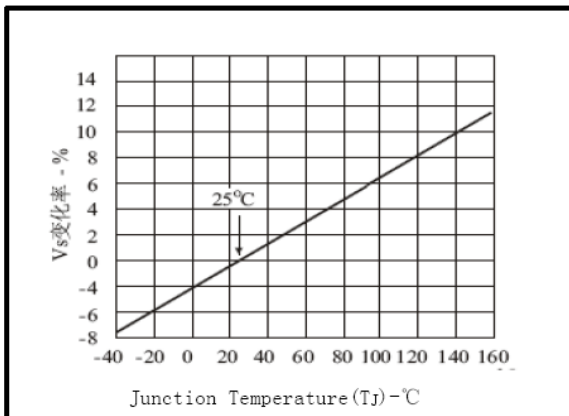
## ■Surge Ratings

Series	IPP 2x10μs	IPP 8x20μs	IPP 10x160μs	IPP 10x560μs	IPP 10x1000μs	ITSM 60Hz	di/dt
B	Amps 250	Amps 250	Amps 150	Amps 100	Amps 80	Amps 20	Amps/μs 500

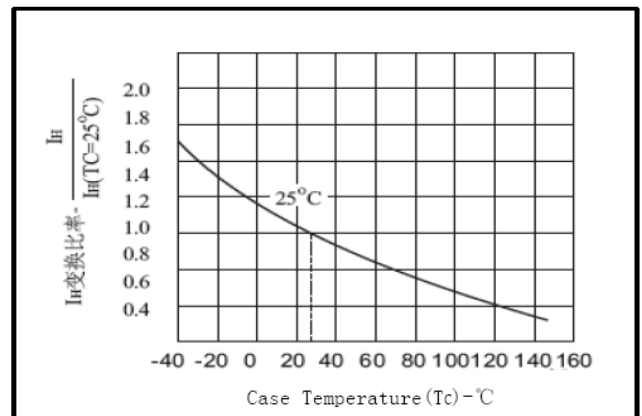
## ■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
P0080SB THRU P5000SB	F1	Approximate 0.065	5000	10000	100000	13" reel

## ■Characteristics(Typical)



Normalized VS Change versus Junction Temperature

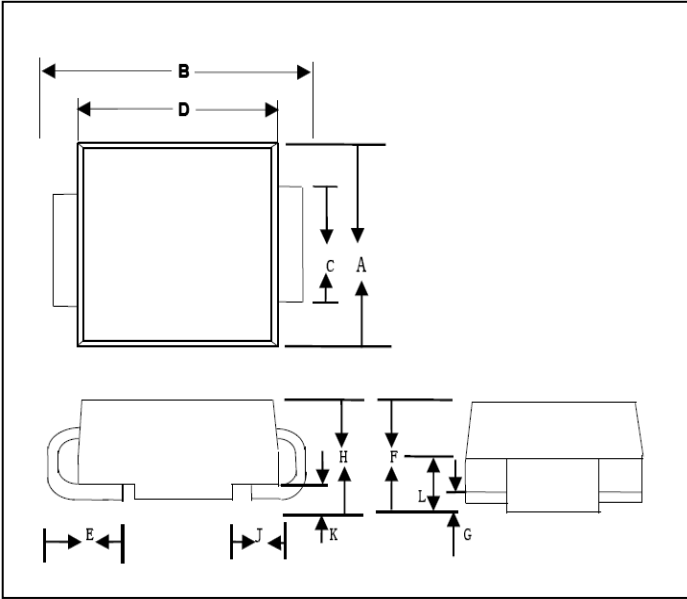


Normalized DC Holding Current versus Case Temperature



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## ■Dimensions



Dim	Millimeters		Inches	
	Min	Max	Min	Max
<b>A</b>	3.40	3.94	0.134	0.155
<b>B</b>	5.21	5.59	0.205	0.22
<b>C</b>	1.90	2.11	0.075	0.083
<b>D</b>	4.22	4.70	0.166	0.185
<b>E</b>	0.91	1.42	0.036	0.056
<b>F</b>	1.85	2.2	0.073	0.087
<b>G</b>	0.05	0.20	0.002	0.008
<b>H</b>	1.95	2.40	0.077	0.094
<b>J</b>	1.09	1.35	0.043	0.053
<b>K</b>	0.20	0.35	0.008	0.014
<b>L</b>	0.99	1.24	0.039	0.049



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