

## Thyristor Surge Suppressors

**DO-214AA/SMB**

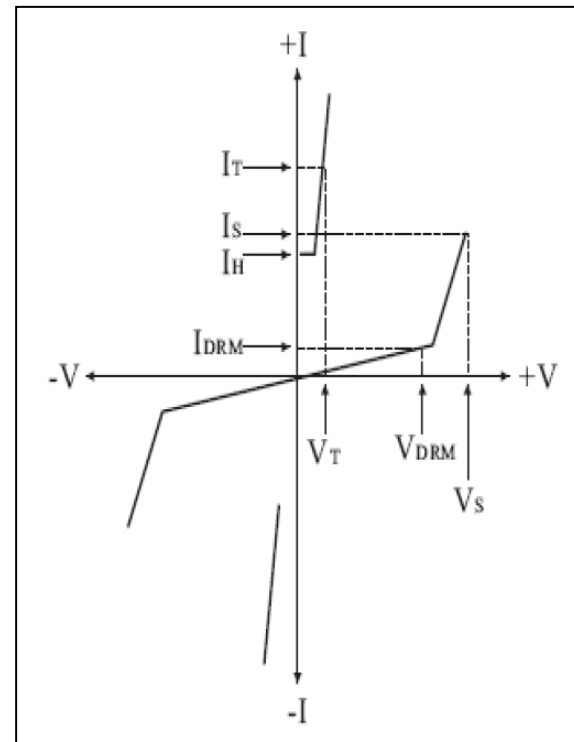


### Features

- 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





## P0080SC THRU P5000SC

### ■ 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
P0080SC	6	25	4	5	800	2.2	50	75
P0300SC	25	40	4	5	800	2.2	50	75
P0640SC	58	77	4	5	800	2.2	150	55
P0720SC	65	88	4	5	800	2.2	150	60
P0900SC	75	98	4	5	800	2.2	150	65
P1100SC	90	130	4	5	800	2.2	150	55
P1300SC	120	160	4	5	800	2.2	150	90
P1500SC	140	180	4	5	800	2.2	150	50
P1800SC	170	220	4	5	800	2.2	150	55
P2000SC	180	240	4	5	800	2.2	150	85
P2300SC	190	260	4	5	800	2.2	150	65
P2600SC	220	300	4	5	800	2.2	150	65
P3100SC	275	350	4	5	800	2.2	150	55
P3500SC	320	400	4	5	800	2.2	150	50
P4000SC	360	460	4	5	800	2.2	150	45
P4500SC	400	540	4	5	800	2.2	150	45



## P0080SC THRU P5000SC

P5000SC	440	600	4	5	800	2.2	150	45
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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	IPP	IPP	IPP	IPP	IPP	ITSM	di/dt
	2x10μs	8x20μs	10x160μs	10x560μs	5 x320μs	10x1000μs	60Hz	
C	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/μs
	500	400	200	150	200	100	50	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
P0080SC THRU P5000SC	F1	Approximate 0.065	5000	10000	100000	13" reel

### ■Characteristics(Typical)

FIG 1: Normalized DC Holding Current vs. Case Temp

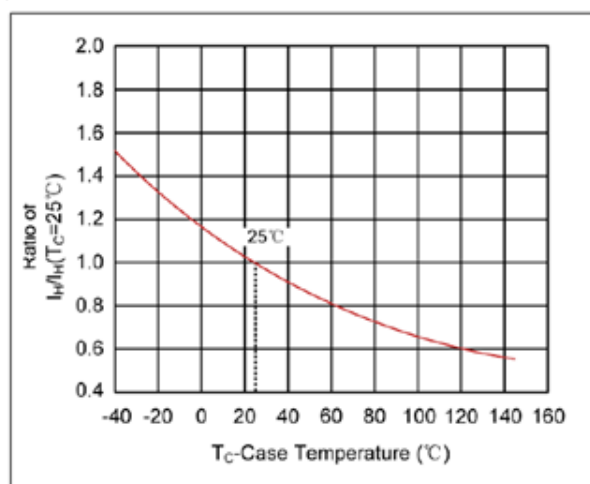


FIG 2: Normalized V<sub>s</sub> Change vs. Junction Temperature

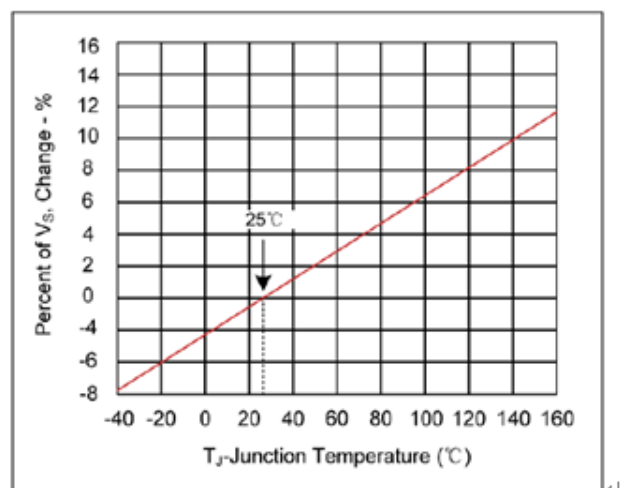
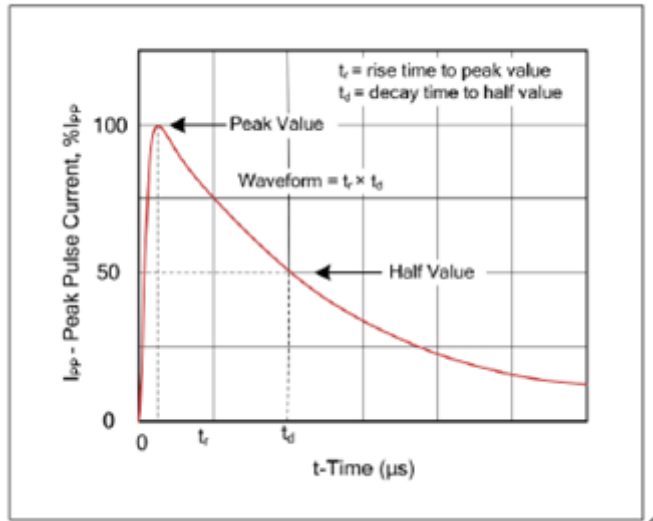
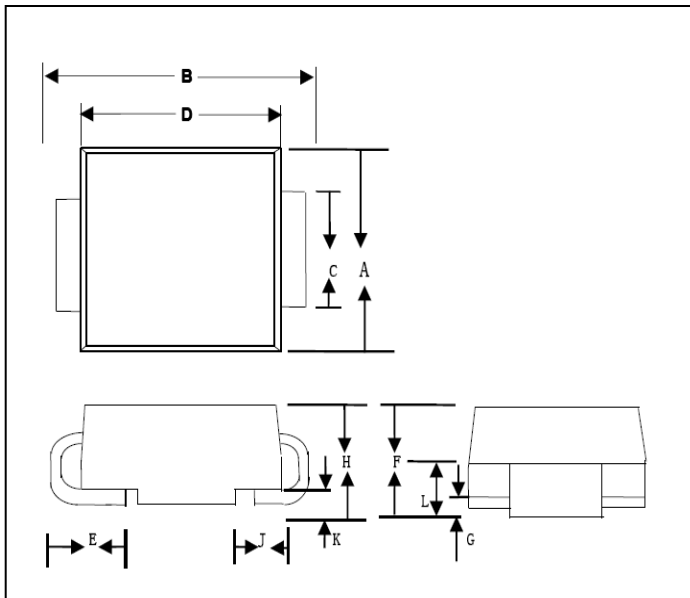




FIG 3:  $t_r \times t_d$  Pulse Waveform



## ■Dimensions



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



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