

Thyristor Surge Suppressors @10/700 μ S, 4KV

Description

P0080SB - P5000SB Series are designed to protect broadband equipment such as modems, line card, CPE and DSL from damaging over-voltage transients.

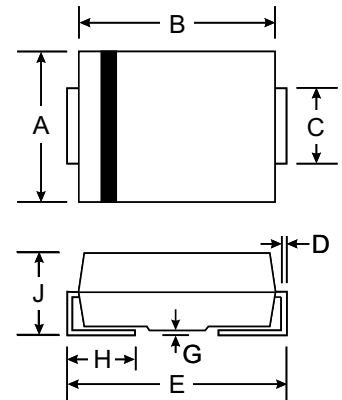
The series provides a surface mount solution that enables equipment to comply with global regulatory standards.

Features and Benefits

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

Applicable Global Standards

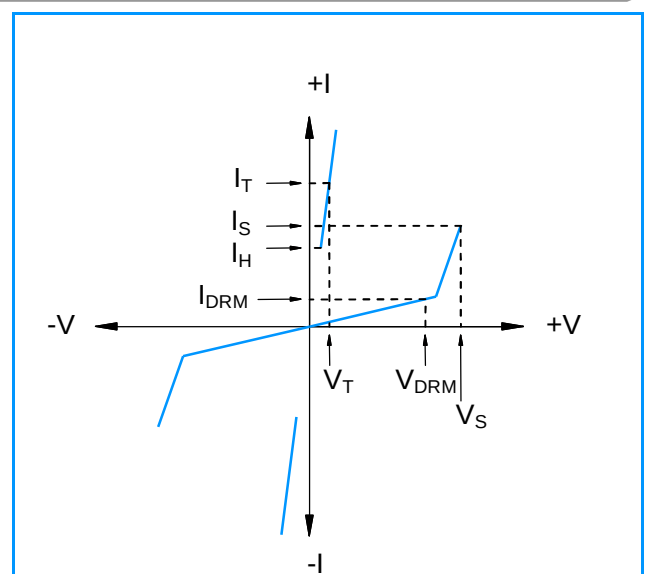
- u TIA-968-A
- u ITU K.20/21 Enhanced level
- u ITU K.20/21 Basic Level
- u GR 1089 Inter building
- u GR 1089 Inter building
- u IEC 6100-4-5
- u YD/T 1082
- u YD/T 993
- u YD/T 950



SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Electrical Parameters

Parameter	Definition
I_S	Switching Current - maximum current required to switch to on state
I_{DRM}	Leakage Current - maximum peak off-state current measured at V_{DRM}
I_H	Holding Current - minimum current required to maintain on state
I_T	On-state Current - maximum rated continuous on-state current
V_S	Switching Voltage - maximum voltage prior to switching to on stat
V_{DRM}	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state
V_T	On-state Voltage - maximum voltage measured at rated on-state current
C_0	Off-state Capacitance - typical capacitance measured in off state



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P0080SB - P5000SB Series - DO-214AA(SMB) @10/700μS, 4KV

Electrical Characteristics

Part Number	Marking	V_{DRM} @ $I_{DRM}=5\mu A$	V_S @100V/μS	V_T @ $I_T=2.2A$	I_S	I_T	I_H	C_0 @1MHz	
		V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0080SB	P008B	6	25	4	800	2.2	50	25	150
P0300SB	P03B	25	40	4	800	2.2	50	15	140
P0640SB	P06B	58	77	4	800	2.2	150	40	60
P0720SB	P07B	65	88	4	800	2.2	150	35	60
P0900SB	P09B	75	98	4	800	2.2	150	25	55
P1100SB	P11B	90	130	4	800	2.2	150	30	50
P1300SB	P13B	120	160	4	800	2.2	150	25	45
P1500SB	P15B	140	180	4	800	2.2	150	25	40
P1800SB	P18B	170	220	4	800	2.2	150	25	35
P2000SB	P20B	180	220	4	800	2.2	150	20	35
P2300SB	P23B	190	260	4	800	2.2	150	25	35
P2600SB	P26B	220	300	4	800	2.2	150	20	35
P3100SB	P31B	275	350	4	800	2.2	150	20	35
P3500SB	P35B	320	400	4	800	2.2	150	20	35
P4000SB	P40B	360	460	4	800	2.2	150	20	35
P4500SB	P45B	400	540	4	800	2.2	150	20	35
P5000SB	P50B	440	600	4	800	2.2	150	20	35

Notes:

- Absolute maximum ratings measured at $T_A = 25^\circ C$ (unless otherwise noted).
- Devices are bi-directional.

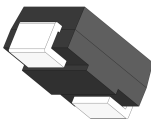
Surge Ratings

Series	$2/10\mu S^1$	$8/20\mu S^1$	$10/160\mu S^1$	$10/560\mu S^1$	$10/1000\mu S^1$	$5/310\mu S^1$	I_{TSM} 50/60 Hz	di/dt
	$2/10\mu S^2$	$1.2/50\mu S^2$	$10/160\mu S^2$	$10/560\mu S^2$	$10/1000\mu S^2$	$10/700\mu S^2$		
	A min	A min	A min	A min	A min	A min	A min	Amps/μs max
B	250	250	150	100	80	100	30	500

Notes:

- Current waveform in μs
 - Voltage waveform in μs
- Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product.
 - I_{PP} ratings applicable over temperature range of $-40^\circ C$ to $+85^\circ C$
 - The device must initially be in thermal equilibrium with $-40^\circ C < T_J < +150^\circ C$

Thermal Considerations

Package	Symbol	Parameter	Value	Unit
DO-214AA 	T_J	Operating Junction Temperature Range	- 40 to + 150	$^\circ C$
	T_S	Storage Temperature Range	- 40 to +150	$^\circ C$
	$R_{\theta JA}$	Thermal Resistance: Junction to Ambient	90	$^\circ C/W$

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Characteristic Curves

Figure 1 - V-I Characteristics

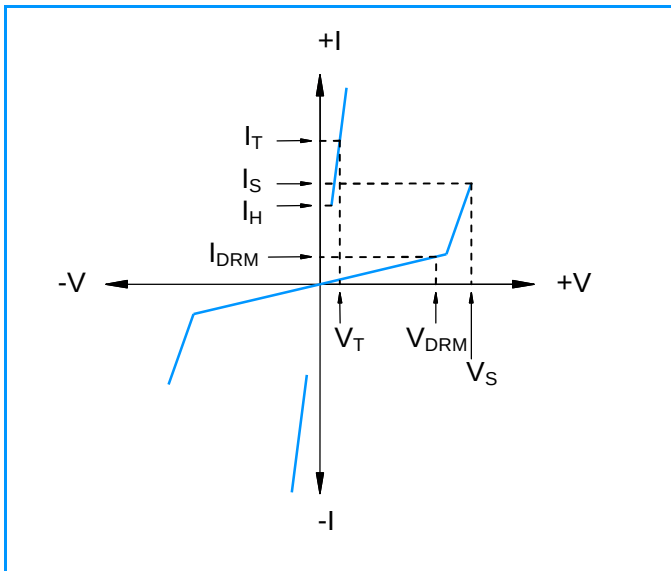


Figure 2 - $t_r \times t_d$ Pulse Waveform

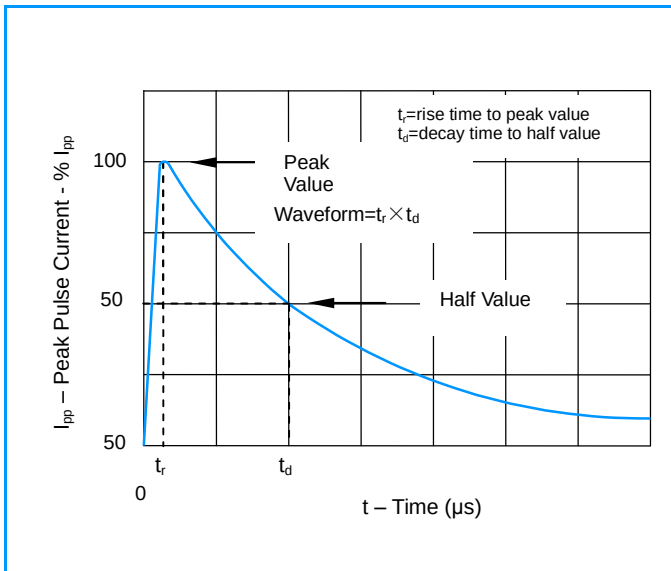


Figure 3 - Normalized V_S Change Versus Junction Temperature

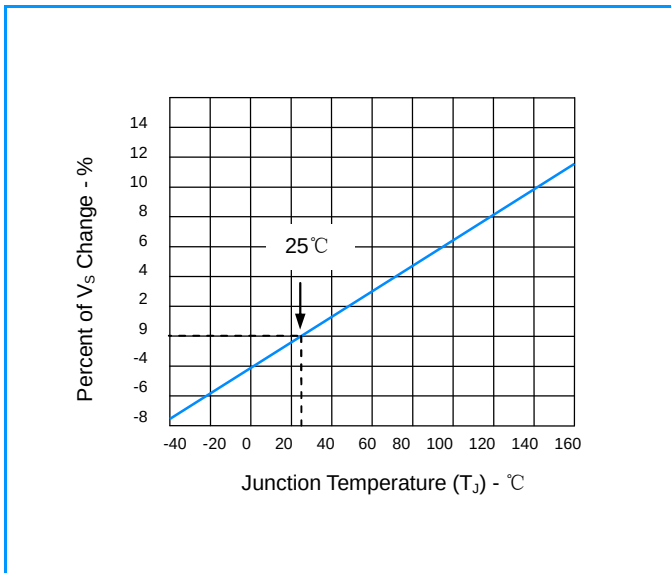


Figure 4 - Normalized DC Holding Current Versus Case Temperature

