

Description

thyristor-S Series are low capacitance devices designed to protect broadband equipment such as VOIP, DSL modems and DSLAMs from damaging overvoltage transients.

The series provides a surface mount solution that enables equipment to comply with global regulatory standards while limiting the impact to broadband signals.



DO-214AA/SMB

Features and Benefits

- Low voltage overshoot
- Low on-state voltage
- Does not degrade with use
- Fails short circuit when surged in excess of ratings
- Low Capacitance

Applicable Global Standards

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

Electrical Characteristics

Part Number	V _{DRM} @ I _{DRM} =5μA	V _S @ 100V/μS	V _T @ I _T =2.2Amps	I _S	I _T	I _H	Capacitance @1MHz, 2V bias	
	V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0060SA	6	25	4	800	2.2	50	25	150
P0080SA	6	25	4	800	2.2	50	25	150
P0220SA	15	32	4	800	2.2	50	25	150
P0300SA	25	40	4	800	2.2	50	15	140
P0640SA	58	77	4	800	2.2	150	40	60
P0720SA	65	88	4	800	2.2	150	35	60
P0900SA	75	98	4	800	2.2	150	25	55
P1100SA	90	130	4	800	2.2	150	30	50
P1300SA	120	160	4	800	2.2	150	25	45
P1500SA	140	180	4	800	2.2	150	25	45
P1800SA	170	220	4	800	2.2	150	25	50
P2300SA	190	260	4	800	2.2	150	30	50
P2600SA	220	300	4	800	2.2	150	25	50
P3100SA	275	350	4	800	2.2	150	20	45
P3500SA	320	400	4	800	2.2	150	20	45

Electrical Characteristics

Part Number	$V_{DRM}@$ $I_{DRM}=5\mu A$	$V_S@$ 100V/ μS	$V_T@$ $I_T=2.2Amps$	I_S	I_T	I_H	Capacitance @1MHz, 2V bias	
	V min	V max	V max	mA max	A max	mA min	pF min	pF max
P0060SB	6	15	4	800	2.2	50	25	80
P0080SB	6	25	4	800	2.2	50	25	80
P0220SB	15	32	4	800	2.2	50	25	100
P0300SB	25	40	4	800	2.2	50	15	140
P0640SB	58	77	4	800	2.2	150	40	80
P0720SB	65	88	4	800	2.2	150	35	75
P0900SB	75	98	4	800	2.2	150	35	70
P1100SB	90	130	4	800	2.2	150	30	70
P1300SB	120	160	4	800	2.2	150	25	70
P1500SB	140	180	4	800	2.2	150	25	70
P1800SB	170	220	4	800	2.2	150	25	70
P2300SB	190	260	4	800	2.2	150	20	70
P2600SB	220	300	4	800	2.2	150	25	70
P3100SB	275	350	4	800	2.2	150	20	65
P3500SB	320	400	4	800	2.2	150	20	55
P0060SC	6	15	4	800	2.2	50	45	100
P0080SC	6	25	4	800	2.2	50	45	100
P0220SC	15	32	4	800	2.2	50	30	110
P0300SC	25	40	4	800	2.2	50	25	80
P0640SC	58	77	4	800	2.2	150	55	155
P0720SC	65	88	4	800	2.2	150	50	150
P0900SC	75	98	4	800	2.2	150	45	140
P1100SC	90	130	4	800	2.2	150	45	115
P1300SC	120	160	4	800	2.2	150	40	115
P1500SC	140	180	4	800	2.2	150	35	110
P1800SC	170	220	4	800	2.2	150	35	110
P2300SC	190	260	4	800	2.2	150	30	120
P2600SC	220	300	4	800	2.2	150	30	120
P3100SC	275	350	4	800	2.2	150	30	110
P3500SC	320	400	4	800	2.2	150	25	110

Surge Ratings

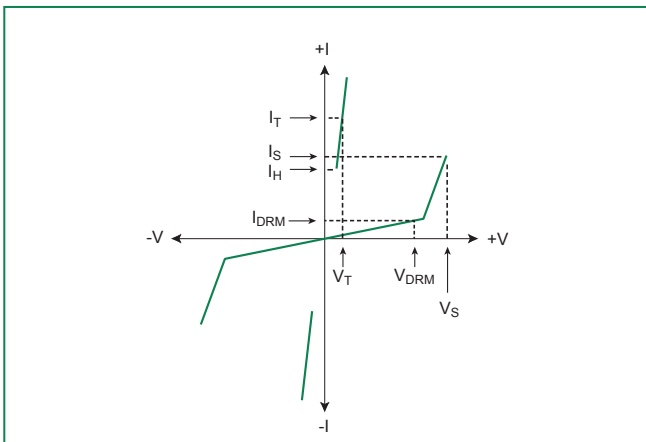
Series	I _{PP}					ITSM 50/60 Hz	di/dt
	2x10 μs	8x20 μs	10x160 μs	10x560 μs	10x1000 μs		
	A min	A min	A min	A min	A min	A min	A/μs max
A	150	150	90	50	45	20	500
B	250	250	150	100	80	30	500
C	500	400	200	150	100	50	500

Notes:
 1 Current waveform in μs - Peak pulse current rating (I_{pp}) is repetitive and guaranteed for the life of the product.
 2 Voltage waveform in μs - I_{pp} ratings applicable over temperature range of -40°C to +85°C
 - The device must initially be in thermal equilibrium with -40°C ≤ T_J ≤ +150°C

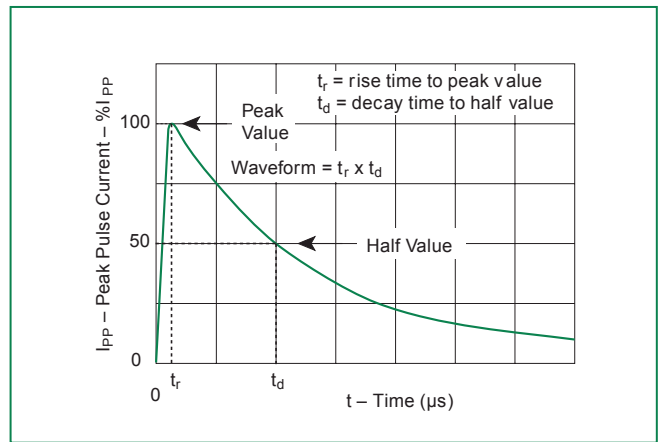
Thermal Considerations

Package	Symbol	Parameter	Value	Unit
	T _J	Operating Junction Temperature Range	-40 to +150	°C
	T _S	Storage Temperature Range	-65 to +150	°C
	R _{θJA}	Thermal Resistance: Junction to Ambient	90	°C/W

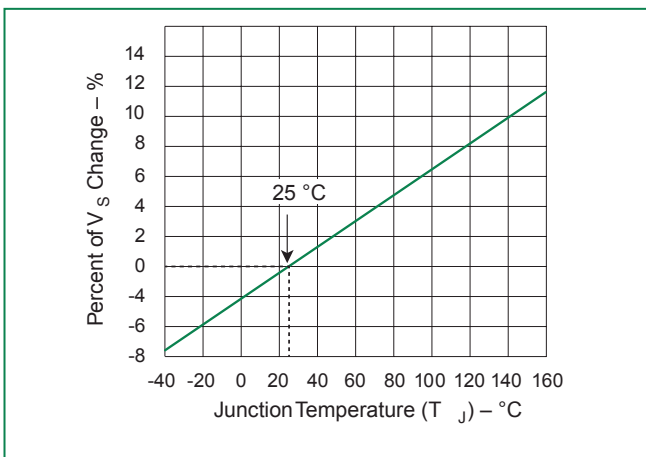
V-I Characteristics



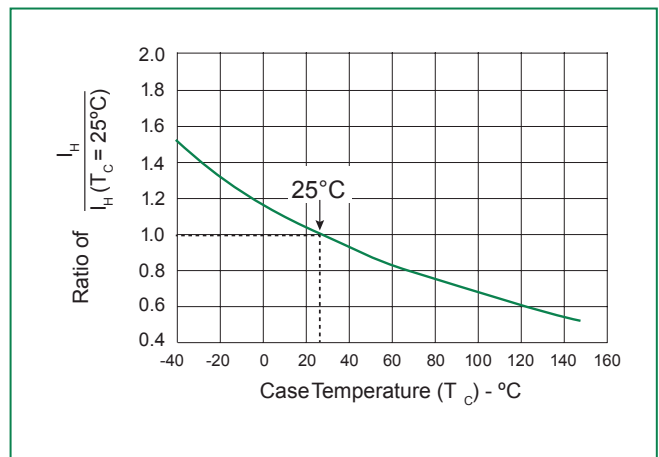
t_r x t_d Pulse Waveform



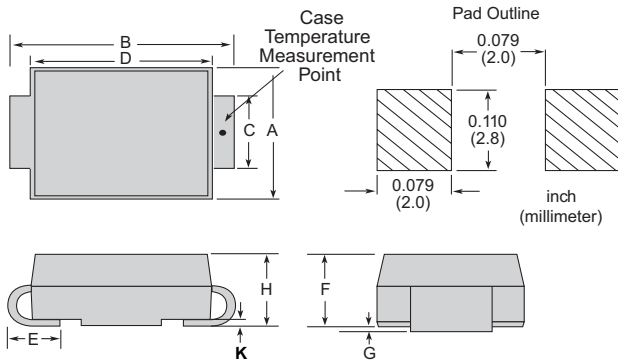
Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature

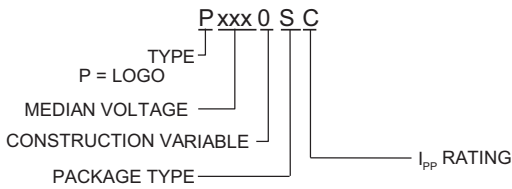


Dimensions — DO-214AA



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.156	3.30	3.95
B	0.201	0.220	5.10	5.60
C	0.077	0.087	1.95	2.20
D	0.159	0.181	4.05	4.60
E	0.030	0.063	0.75	1.60
F	0.075	0.096	1.90	2.45
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
K	0.006	0.016	0.15	0.41

Part Numbering



Packing Options

Package Type	Description	Quantity	Added Suffix	Industry Standard
S	DO-214AA Tape & Reel Pack	2500	N/A	EIA-481-D

Tape and Reel Specification-DO-214AA

