

## Description

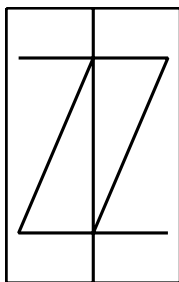
The ATXXXXSX series are thyristor surge suppressor (TSS) designed to protect telecommunication equipment against lightning and transients induced by AC power lines. These devices can be used on central office equipment, PBX, DSU, OCU and other telecommunication equipment. The bidirectional configuration provides protection for both positive and negative transients and the discrete surface mount package allows for individual placement of the device on line cards or other locations where multiple component devices do not offer the versatility in board trace layout.

This series can be used to provide protection in accordance with industry standards such as FCC Part 68, ANSI C62.41, UL 1459, GR-1089-CORE, IEC 61000-2, IEC 61000-4 and IEC 61000-4-5 requirements.

## Features

- FCC Part 68, UL 1459, Bellcore 1089 & ITU-K.20/K.21 Compliant
- UL File Recognition #E208219
- Peak Off-State Voltage: 25V~300V
- Bidirectional Configuration
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 15\text{kV}$   
Contact discharge:  $\pm 8\text{kV}$
  - IEC61000-4-5 (Lightning) 95A
- RoHS Compliant

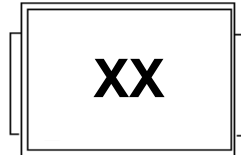
## Device Schematic



Device Schematic

## Mechanical Characteristics

- Package: DO-214AA
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



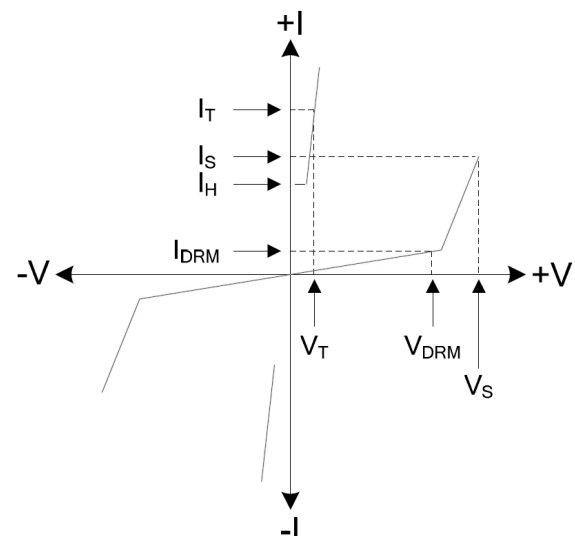
## Applications

- SLIC Line Card
- T1/E1 Trunk & Line Card
- DBX Branch Exchange Switches
- FCC Part 68 Customer Premise Equipment
- Line Interface Modem
- xDSL Architecture Interface

## Ordering Information

Part Number	Packaging	Reel Size
ATXXXXSX	3000/Tape & Reel	13 inch

## I/V Characteristics



**Surge Ratings ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

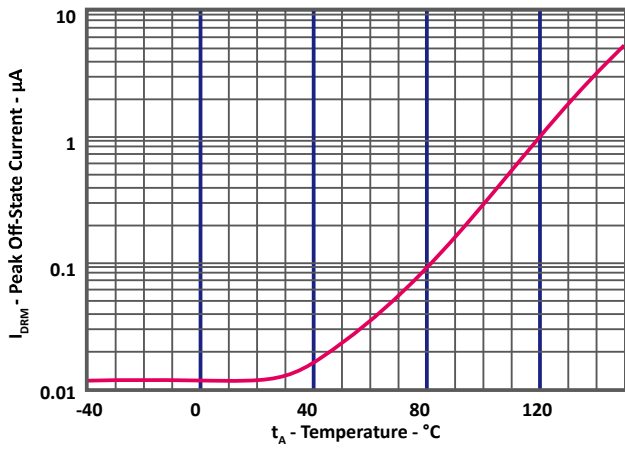
Series	Ipp @2/10 $\mu\text{s}$ (A)	Ipp @8/20 $\mu\text{s}$ (A)	Ipp @10/160 $\mu\text{s}$ (A)	Ipp @10/560 $\mu\text{s}$ (A)	Ipp @10/1000 $\mu\text{s}$ (A)	ITSM (A)	Di/dt (A/s)	Dv/dt (V/s)
SA	150	150	100	50	50	20	500	2000
SB	300	300	150	100	80	32	500	2000
SC	500	400	200	200	100	60	500	2000

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

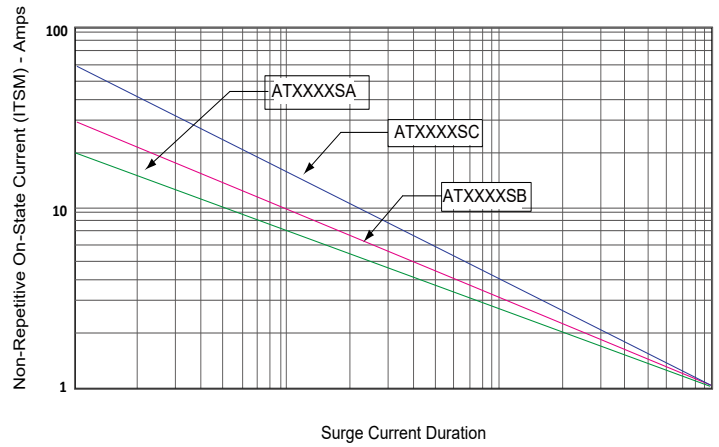
Part Number	Marking	VDRM (V)	VS (V)	IH (mA)	IS (mA)	IDRM ( $\mu\text{A}$ )	VT (V)	IT (A)	Cj @2V, 1MHz (pF)	Vpp 10/700 $\mu\text{s}$ (V)	Ipp 10/1000 $\mu\text{s}$ (A)
AT0080SA	TA	6	25	50	800	5	4	2.2	60	2000	50
AT0300SA	TB	25	40	150	800	5	4	2.2	60	2000	50
AT0640SA	TC	58	77	150	800	5	4	2.2	60	2000	50
AT0720SA	TD	65	88	150	800	5	4	2.2	60	2000	50
AT0900SA	TE	75	98	150	800	5	4	2.2	60	2000	50
AT1100SA	TF	90	130	150	800	5	4	2.2	60	2000	50
AT1300SA	TG	120	160	150	800	5	4	2.2	40	2000	50
AT1500SA	TH	140	180	150	800	5	4	2.2	40	2000	50
AT1800SA	TI	160	220	150	800	5	4	2.2	40	2000	50
AT2300SA	TJ	190	260	150	800	5	4	2.2	30	2000	50
AT2600SA	TK	220	300	150	800	5	4	2.2	30	2000	50
AT3100SA	TL	275	350	150	800	5	4	2.2	30	2000	50
AT3500SA	TM	300	400	150	800	5	4	2.2	30	2000	50
AT0080SB	TN	6	25	50	800	5	4	2.2	60	4000	80
AT0300SB	TO	25	40	50	800	5	4	2.2	60	4000	80
AT0640SB	TP	58	77	150	800	5	4	2.2	60	4000	80
AT0720SB	TQ	65	88	150	800	5	4	2.2	60	4000	80
AT0900SB	TR	75	98	150	800	5	4	2.2	60	4000	80
AT1100SB	TS	90	130	150	800	5	4	2.2	60	4000	80
AT1300SB	TT	120	160	150	800	5	4	2.2	40	4000	80

Part Number	Marking	VDRM (V)	Vs (V)	IH (mA)	IS (mA)	IDRM (μA)	VT (V)	IT (A)	Cj @2V, 1MHz (pF)	Vpp 10/700μs (V)	Ipp 10/1000μs (A)
AT1500SB	TU	140	180	150	800	5	4	2.2	40	4000	80
AT1800SB	TV	170	220	150	800	5	4	2.2	40	4000	80
AT2300SB	TW	190	260	150	800	5	4	2.2	30	4000	80
AT2600SB	TX	220	300	150	800	5	4	2.2	30	4000	80
AT3100SB	TY	275	350	150	800	5	4	2.2	30	4000	80
AT3500SB	TZ	320	400	150	800	5	4	2.2	30	4000	80
AT0080SC	SA	6	25	150	800	5	4	2.2	120	6000	100
AT0300SC	SB	25	40	150	800	5	4	2.2	120	6000	100
AT0640SC	SC	58	77	150	800	5	4	2.2	120	6000	100
AT0720SC	SD	65	88	150	800	5	4	2.2	120	6000	100
AT0900SC	SE	75	98	150	800	5	4	2.2	120	6000	100
AT1100SC	SF	90	130	150	800	5	4	2.2	120	6000	100
AT1300SC	SG	120	160	150	800	5	4	2.2	80	6000	100
AT1500SC	SH	140	180	150	800	5	4	2.2	80	6000	100
AT1800SC	SI	170	220	150	800	5	4	2.2	80	6000	100
AT2300SC	SJ	190	260	150	800	5	4	2.2	60	6000	100
AT2600SC	SK	220	300	150	800	5	4	2.2	60	6000	100
AT3100SC	SL	275	350	150	800	5	4	2.2	60	6000	100
AT3500SC	SM	320	400	150	800	5	4	2.2	60	6000	100

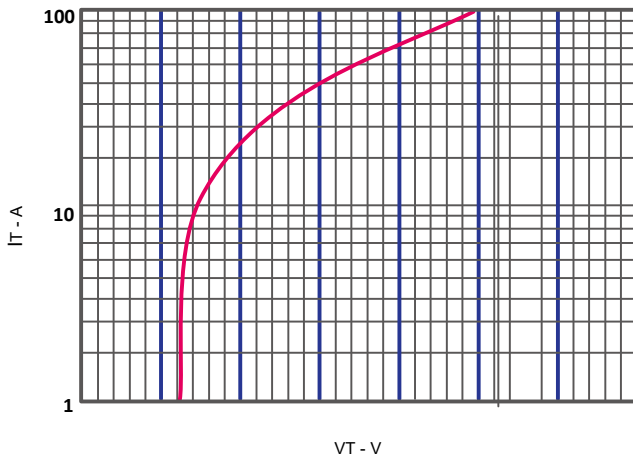
**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**



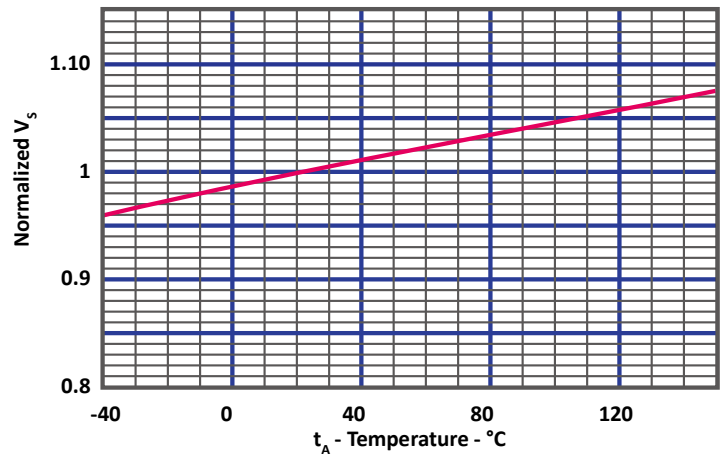
**Peak Off-State Current vs. Junction Temperature**



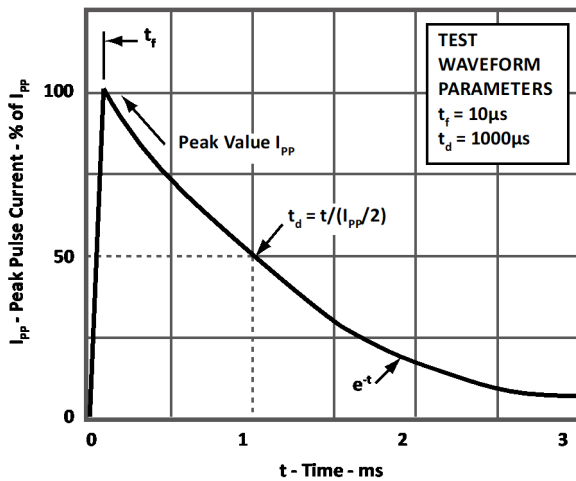
**On-State Current vs. Pulse Time**



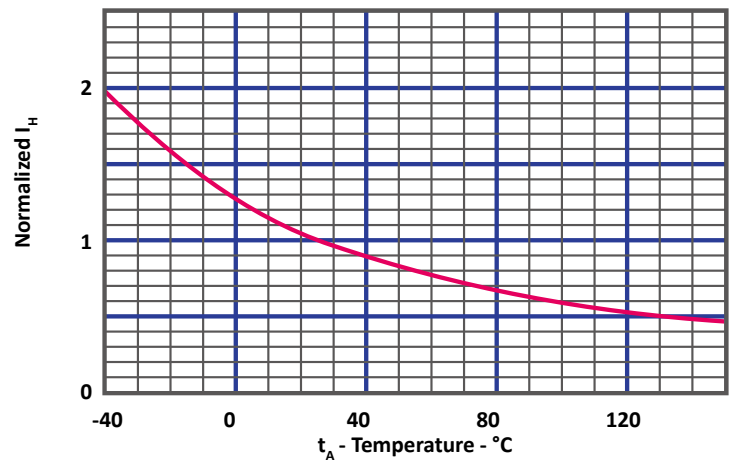
**On-State Voltage vs. On-State Current**



**Switching Voltage vs. Junction Temperature**

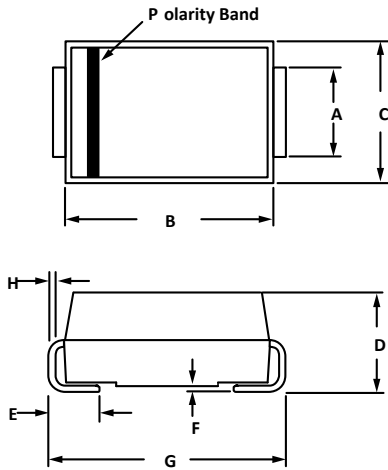


**10 X 1000 $\mu\text{s}$  Pulse Waveform**



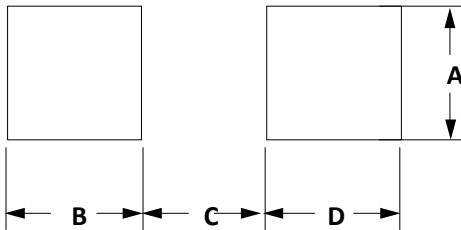
**Holding Current vs. Junction Temperature**

### DO-214AA Package Outline Drawing



DIM	OUTLINE DIMENSIONS			
	MILLI METERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.96	2.21	0.077	0.087
B	4.06	4.57	0.160	0.180
C	3.30	3.94	0.130	0.155
D	2.00	2.50	0.079	0.098
E	0.76	1.52	0.030	0.060
F	0.10	0.20	0.004	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.31	0.006	0.012

### Suggested Land Pattern



DIM	PAD LAYOUT DIMENSIONS			
	MILLI METERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.15	-	0.084	-
B	1.45	-	0.057	-
C	-	2.55	-	0.100
D	1.45	-	0.057	-

### Contact Information

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