

## Thyristor Surge Suppressors - DO-214AC

### Description

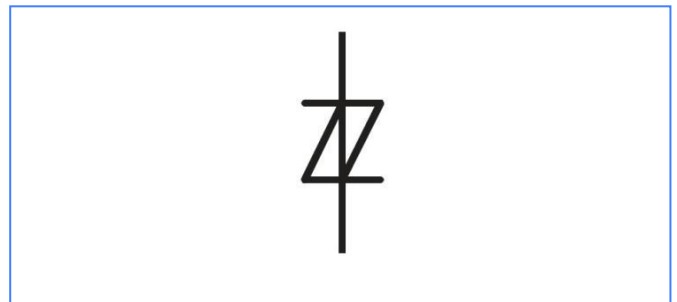
PxxxxTA series thyristors are a type of semi—conduct component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



### Features

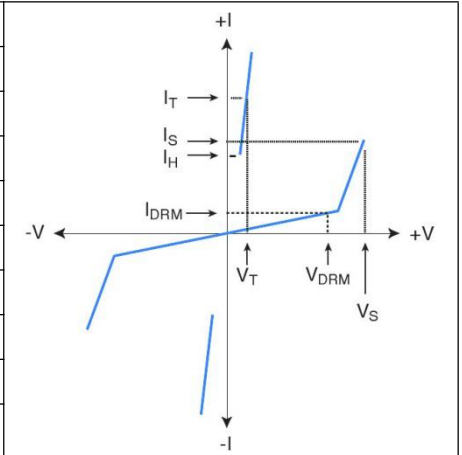
- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: Level 1
- Fails short circuit when surged in excess of ratings
- Non degenerative

### Device Symbol



### Typical Applications

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



### Thermal Consideration

Parameter	Symbol	Value	Unit
Operating Temperature	$T_J$	-40 to +150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-40 to +150	$^{\circ}C$
Junction to free air thermal resistance	$R_{\theta JA}$	90	$W/^{\circ}C$

**Summary Electrical Characteristics, T<sub>a</sub> = 25 ° C (Unless Otherwise Noted)**

Parameter Description		I <sub>DRM</sub> @V <sub>DRM</sub>		V <sub>s</sub> ①@I <sub>s</sub>		V <sub>T</sub> @ I <sub>T</sub>		I <sub>H</sub>	C <sub>o</sub> ②
Unit		μA	V	V	mA	V	A	mA	pF
Type	ENV	max	min	max	max	max	max	min	max
P0080TA	L	5	6	25	800	4	2.2	50	80
P0220TA	L	5	15	32	800	4	2.2	50	60
P0300TA	L	5	25	40	800	4	2.2	50	60
P0640TA	L	5	58	77	800	4	2.2	150	50
P0720TA	L	5	65	87	800	4	2.2	150	50
P0900TA	L	5	75	98	800	4	2.2	150	50
P1100TA	L	5	90	130	800	4	2.2	150	45
P1300TA	L	5	120	160	800	4	2.2	150	45
P1500TA	L	5	140	180	800	4	2.2	150	45
P1800TA	L	5	170	220	800	4	2.2	150	35
P2300TA	L	5	190	260	800	4	2.2	150	35
P2600TA	L	5	220	300	800	4	2.2	150	35
P3100TA	L	5	275	350	800	4	2.2	150	35
P3500TA	L	5	320	400	800	4	2.2	150	35

L : Lead-free

①V<sub>s</sub> is measured at 100KV/s

②Off-state capacitance is measured in VDC=2V, VRMS=1V, f=1MHz

**Surge Ratings**

Series	I <sub>pp</sub> 2/10μS Amps	I <sub>pp</sub> 8/20μS Amps	I <sub>pp</sub> 10/160μS Amps	I <sub>pp</sub> 10/560μS Amps	I <sub>pp</sub> 10/1000μS Amps	I <sub>TSM</sub> 60HZ Amps	Di/Dt Amps /μS
SMA /TA	150	150	90	50	45	20	500

**Rating & Characteristic Curves**

Figure 1- Reflow Soldering

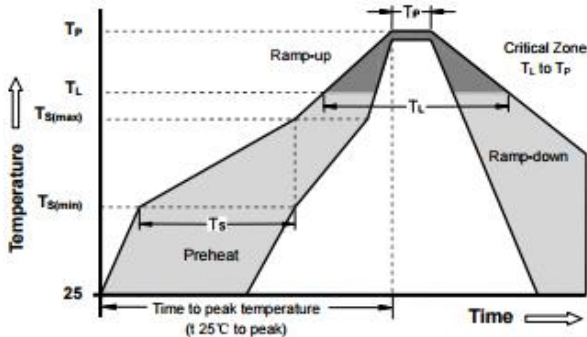


Figure 2- PEAK PULSE CURVE

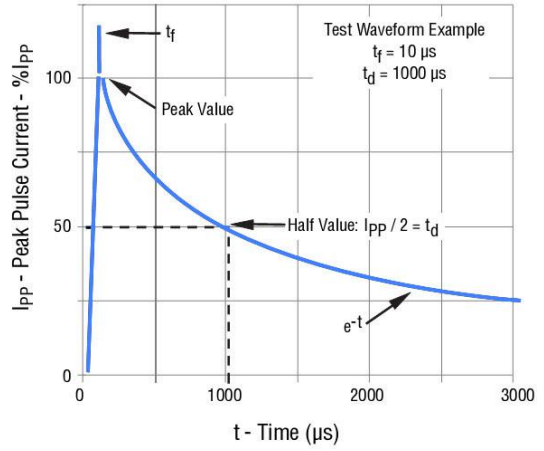


Figure 3-Normalized DC Holding Current versus Case Temperature

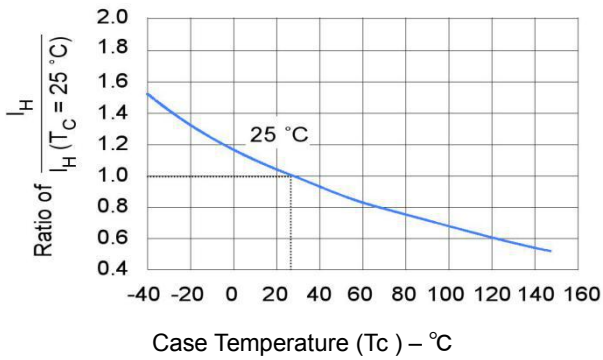
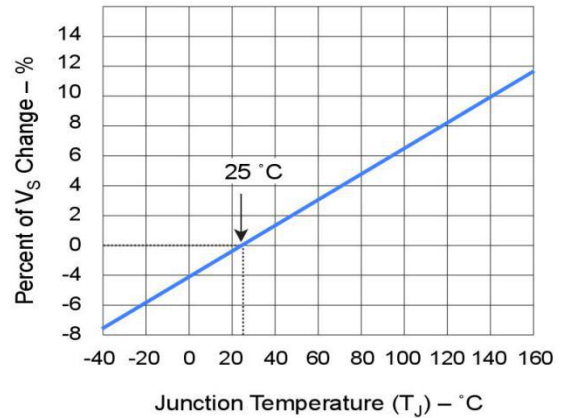
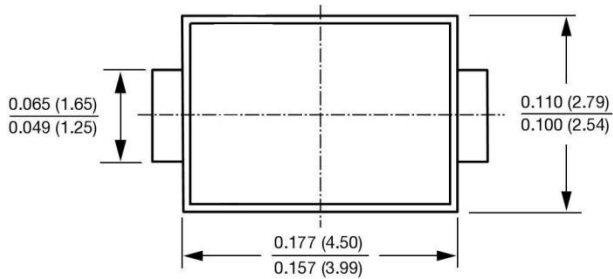


Figure 4-Normalized vs change versus Junction Temp

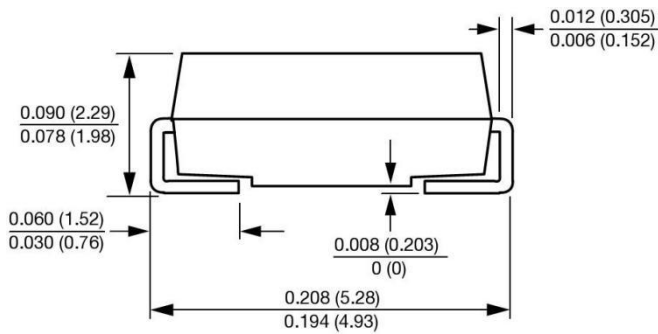
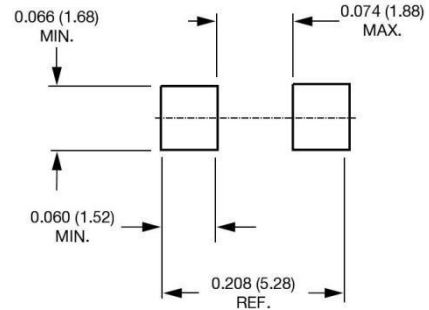


**PACKAGE OUTLINE DIMENSIONS in inches (millimeters)**

DO-214AC(SMA)



Mounting Pad Layout



**Disclaimer**

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.