Thyristor Surge Suppressors - DO-214AA

Description

PxxxxS 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.

DO-214AA(SMB)

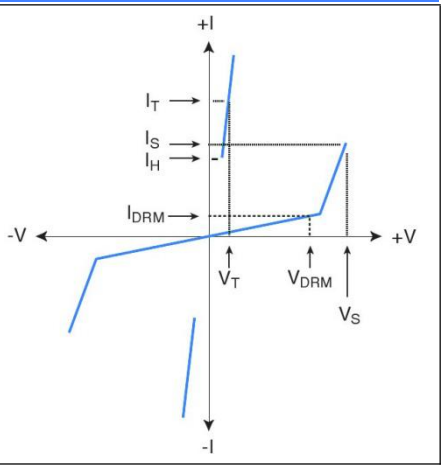
Features

- 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 VDRM
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	°C
Storage Temperature	T_{STG}	-40 to +150	°C
Junction to free air thermal resistance	$R_{\Theta JA}$	90	W/°C

Summary Electrical Characteristics, T a = 25 ° C (Unless Otherwise Noted)

Parameter Description		I_{DRM}@V_{DRM}		V_S ①@I_S		V_T@ I_T		I_H	C_O ②		
									A	B	C
Unit		μA	V	V	mA	V	A	mA	pF		
Type	ENV	max	min	max	max	max	max	min	max		
P0080S	L	5	6	25	800	4	2.2	50	80	130	130
P0220S	L	5	18	30	800	4	2.2	50	60	120	120
P0300S	L	5	25	40	800	4	2.2	50	60	120	100
P0640S	L	5	58	77	800	4	2.2	150	50	80	200
P0720S	L	5	66	87	800	4	2.2	150	50	75	150
P0900S	L	5	75	98	800	4	2.2	150	50	70	140
P1100S	L	5	90	130	800	4	2.2	150	45	70	110
P1300S	L	5	120	160	800	4	2.2	150	45	60	100
P1500S	L	5	140	180	800	4	2.2	150	45	55	90
P1800S	L	5	170	220	800	4	2.2	150	35	50	90
P2300S	L	5	190	260	800	4	2.2	150	35	50	80
P2600S	L	5	220	300	800	4	2.2	150	35	45	80
P3100S	L	5	275	350	800	4	2.2	150	35	45	75
P3500S	L	5	320	400	800	4	2.2	150	35	40	60

For individual “SA” ”SB” “SC” Surge ratings,see table above

L : Lead-free

①Vs is measured at 100KV/s

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

Surge Ratings

Series	I_{pp} 2/10μS Amps	I_{pp} 8/20μS Amps	I_{pp} 10/160μS Amps	I_{pp} 10/560μS Amps	I_{pp} 10/1000μS Amps	I_{TSM} 60HZ Amps	Di/Dt Amps /μS
A	150	150	90	50	45	20	500
B	250	250	150	100	80	30	500
C	500	400	200	150	100	50	500

Rating & Characteristic Curves

Figure 1- Reflow Soldering

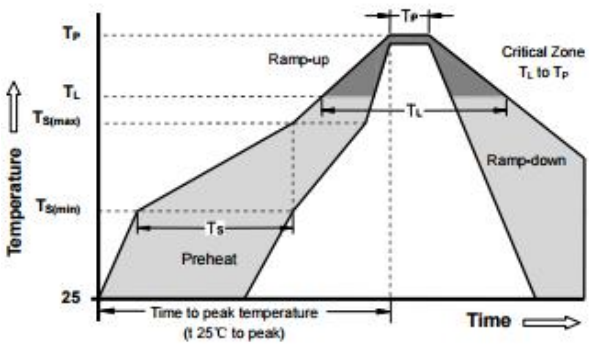


Figure 2- PEAK PULSE CURVE

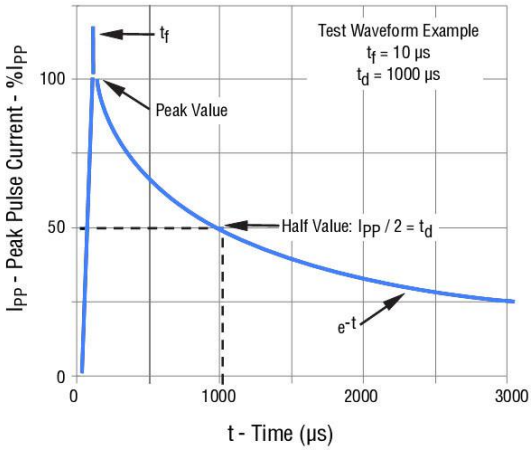


Figure 3-Normalized DC Holding Current versus Case Temperature

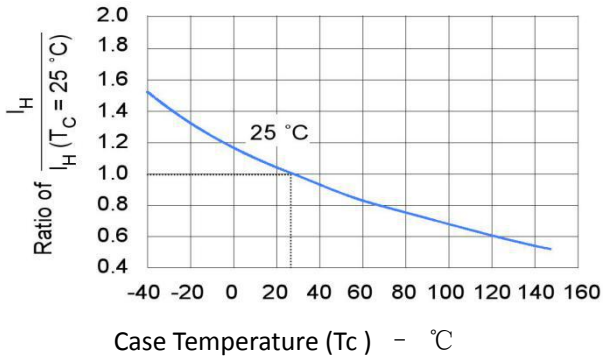
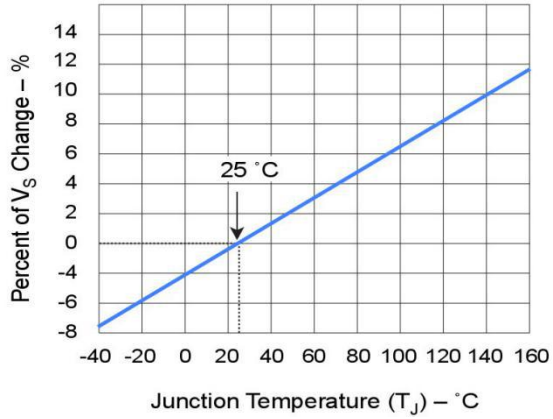


Figure 4-Normalized vs chang versus Junction Temp



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

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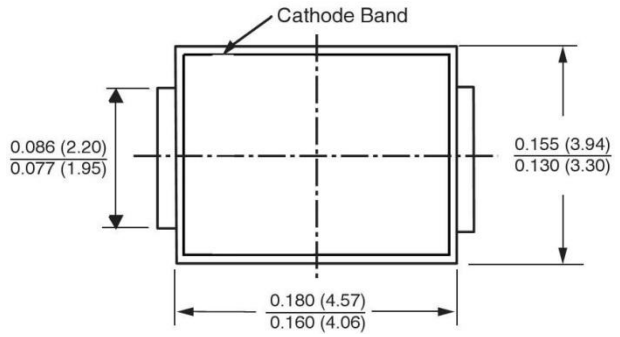
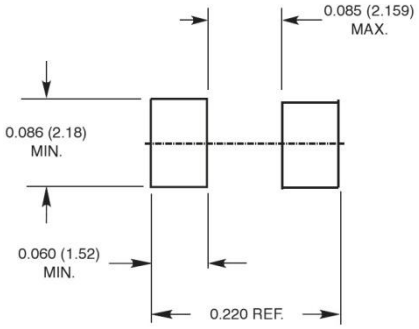
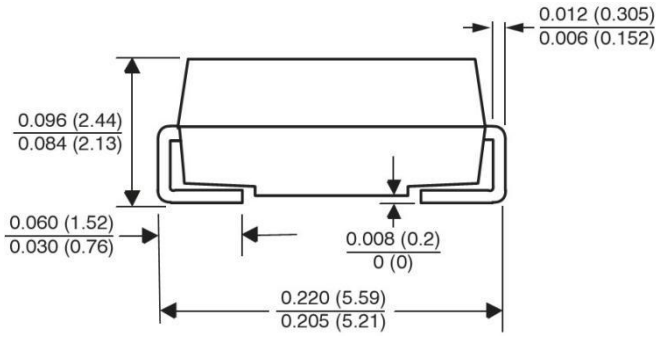


Mounting Pad Layout





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.