



## JIPxxxxA Series TSS

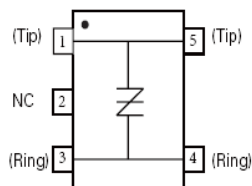
Rev.1.2

### DESCRIPTION:

JIPxxxxA series thyristors are a type of semiconductor component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.



SOT23-5



Symbol

### FEATURES:

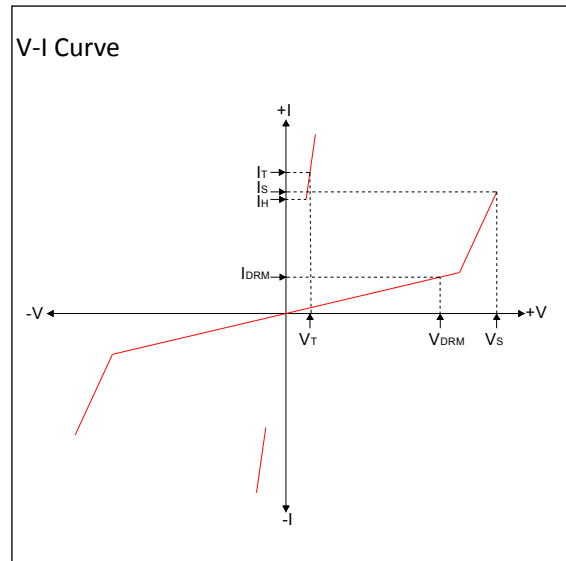
- Excellent capability of absorbing transient surge.
- Quick response to surge voltage (ns Level).
- Eliminates overvoltage caused by fast rising transients.
- Non degenerative.
- Bidirectional transient voltage protection.
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- Meets MSL level 3.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Plastic package has underwriters laboratories flammability classification 94V-0

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, unless otherwise noted)

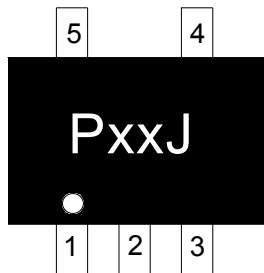
Parameter	Symbol	Value	Unit
Storage temperature range	T <sub>STG</sub>	-60 to +150	°C
Operating junction temperature range	T <sub>J</sub>	-40 to +125	°C
Typical thermal resistance junction to ambient	R <sub>θJA</sub>	120	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ ,  $\text{RH}=45\%\sim 75\%$ , unless otherwise noted)

Symbol	Parameter
$V_{\text{DRM}}$	Peak off-state voltage
$I_{\text{DRM}}$	Off-state current
$V_{\text{S}}$	Switching voltage
$I_{\text{S}}$	Switching current
$V_{\text{T}}$	On-state voltage
$I_{\text{T}}$	On-state current
$I_{\text{H}}$	Holding current
$C_{\text{O}}$	Off-state capacitance



**MARKING**



PxxJ: Device Marking Code  
 ○: Pin 1 indicator

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$ , continued)

Part Number	$V_{\text{DRM}}@I_{\text{DRM}}=1\mu\text{A}$	$V_{\text{S}}^{\text{①}}@I_{\text{S}}$		$V_{\text{T}}@I_{\text{T}}$		$I_{\text{H}}$	$C_{\text{O}}^{\text{②}}$	Marking
	V	V	mA	V	A	mA	pF	
	min	max	max	max	max	min	max	
JIP0080A	8	15	500	4	2.2	20	10	P08J
JIP0120A	12	20	500	4	2.2	20	10	P12J
JIP0180A	18	25	500	4	2.2	20	10	P18J
JIP0240A	24	35	500	4	2.2	20	10	P24J

①  $V_{\text{S}}$  is measured at 100KV/s.

② Off-state capacitance is measured in  $V_{\text{DC}}=2\text{V}$ ,  $V_{\text{RMS}}=1\text{V}$ ,  $f=1\text{MHz}$

**SURGE RATINGS**(Temperature range: -40 ~+85°C)

Series	I <sub>PP</sub> (A) min			
	2/10μs	1.2/50-8/20μs	10/700-5/310μs	10/1000μs
PxxJ	60	40	25	18

**ORDERING INFORMATION**

<p><b>JIP</b></p> <p>Series code</p>	<p><b>0080</b></p> <p>Voltage:V<sub>D</sub>/V<sub>R</sub></p>	<p><b>A</b></p> <p>Surge ratings:1.0KV(10/700μs)</p>
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**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min (T <sub>s(min)</sub> )	+150°C
	-Temperature Max(T <sub>s(max)</sub> )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T <sub>L</sub> )to peak)		3°C/sec. Max
T <sub>s(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T <sub>L</sub> ) (Liquidus)	+217°C
	-Temperature(t <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>p</sub> )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t <sub>p</sub> )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T <sub>P</sub> )		8 min. Max
Do not exceed		+260°C

FIG.1: tr × td pulse waveform

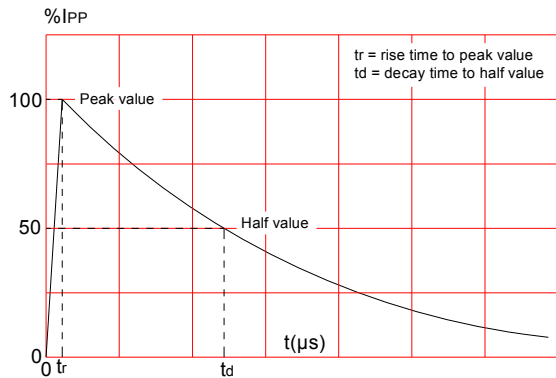


FIG.2: Reflow condition

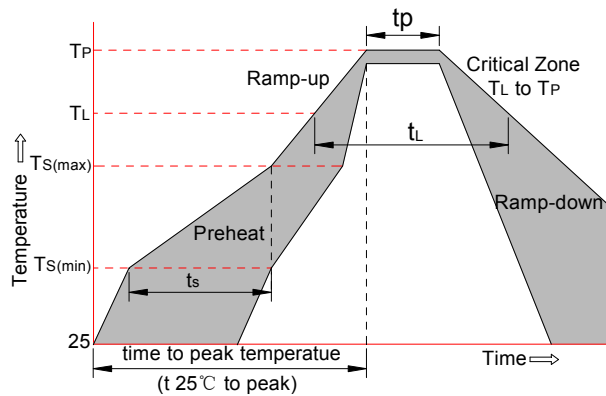


FIG.3: Normalized Vs change vs. junction temperature

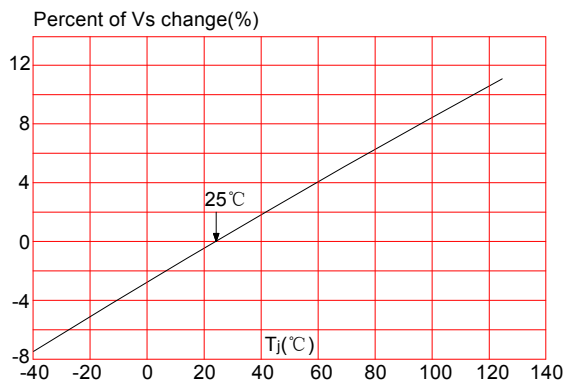
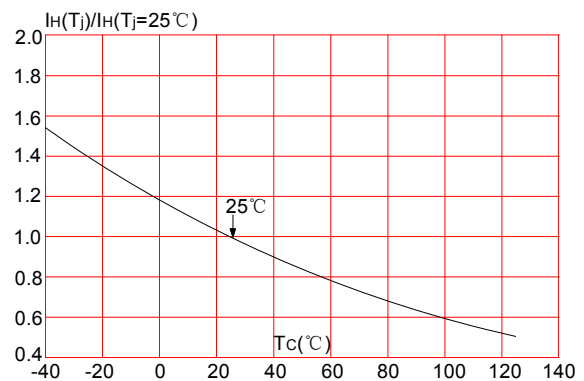
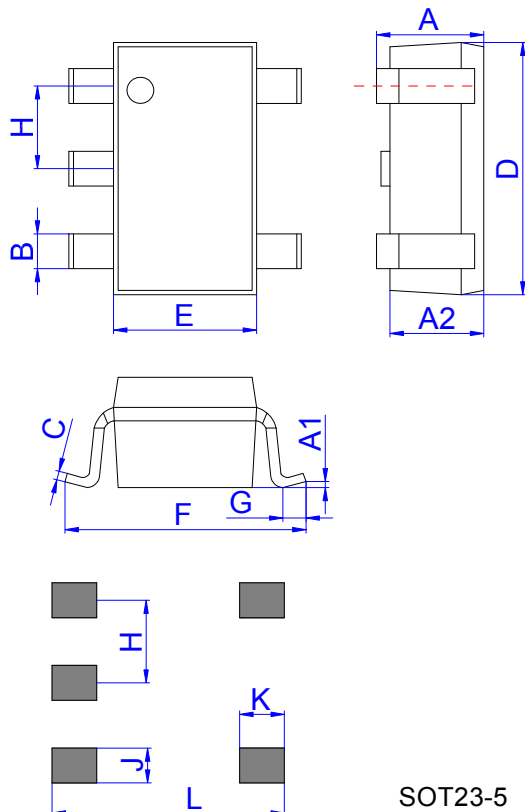


FIG.4: Normalized DC holding current vs. case temperature

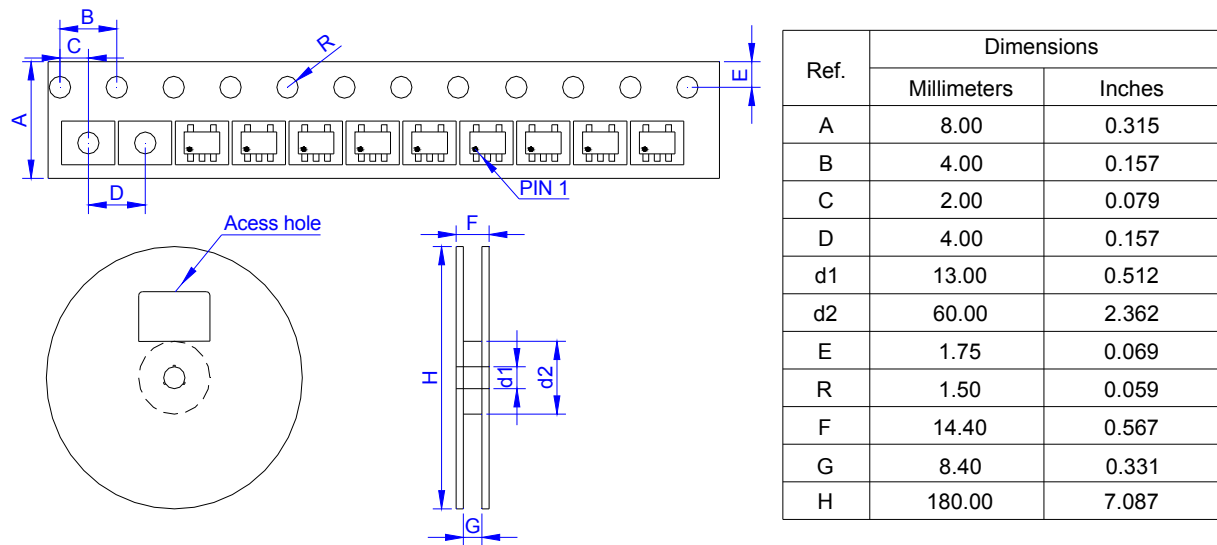


PACKAGE MECHANICAL DATA




Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.45	0.035	0.057
A1	0	0.10	0	0.004
A2	0.90	1.30	0.035	0.051
B	0.35	0.5	0.014	0.020
C	0.09	0.2	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.50	1.75	0.059	0.069
F	2.60	3.00	0.102	0.118
G	0.10	0.60	0.004	0.024
H	-	0.95	-	0.037
J	-	0.60	-	0.024
K	-	1.20	-	0.047
L	-	3.50	-	0.138

TAPE AND REEL SPECIFICATION-SOT23-5



PART No.	PACKAGE TYPE	REEL (PCS)	DESCRIPTION
JIPxxxxA	SOT23-5	3,000	7 inch reel pack

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