



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

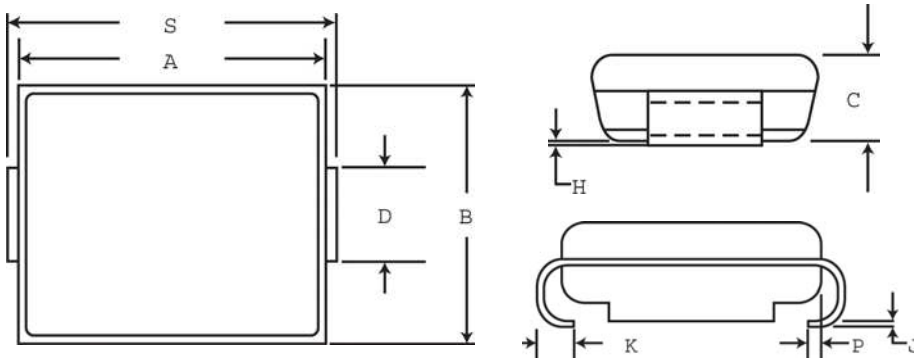
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

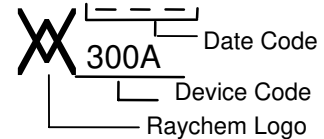


## Specification Status: Released

### PHYSICAL DESCRIPTION



### Marking:



A		B		C		D**		H		J		K		
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
mm:	4.06	4.57	3.30	3.81	1.90	2.41	1.96	2.11	0.051	0.152	0.15	0.30	0.76	1.27
in*:	(0.160)	(0.180)	(0.130)	(0.150)	(0.075)	(0.095)	(0.077)	(0.083)	(0.002)	(0.006)	(0.006)	(0.012)	(0.030)	(0.050)

P		S	
REF	MIN	MAX	
mm:	0.51	5.21	5.59
in*:	(0.020)	(0.205)	(0.220)

\*Rounded off approximation

\*\* D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P

### Other Physical Characteristics

- Form Factor: SMB (Surface Mount, JEDEC DO-214AA Package)
- Lead Material: Matte Tin finish
- Encapsulation Material: Epoxy, meets UL94 V-0 requirements
- Solderability: per MIL-STD-750, Method 2026
- Solder Heat Withstand: per MIL-STD-750, Method 2031
- Solvent Resistance: per MIL-STD-750, Method 1022
- Mechanical Shock: per MIL-STD-750, Method 2016
- Vibration: per MIL-STD-750, Method 2056

Tape and Reel packaging per EIA 481-1

- Agency Recognition: UL
- Precedence: This specification takes precedence over documents referenced herein.
- CAUTION: Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

### Materials Information

RoHS Compliant

ELV Compliant

Directive 2002/95/EC  
Compliant

Directive 2000/53/EC  
Compliant

OBSOLETE  
NOT the LATEST  
REVISION

# SiBar™ Thyristor Surge Protectors

*Raychem Circuit Protection Products*

**PRODUCT: TVB300SA-L**

DOCUMENT: SCD 25604  
PCN: F06500  
REV LETTER: C  
REV DATE: APRIL 28, 2007  
PAGE NO.: 2 OF 2

### DEVICE RATINGS @ 25° C (Both Polarities)

Parameter	Symbol	Value	Units
Repetitive Off-State Voltage, Maximum at $I_D = 5 \mu A$	VDM	300	V
Non-Repetitive Peak Telcordia GR-1089 CORE 10x1000 $\mu s$	IPP <sub>1</sub>	50	A
Impulse Current TIA-968 lightning Type A Metallic 10/560 $\mu s$	IPP <sub>2</sub>	70	A
Double exponential TIA-968 lightning Type A Longit. 10/160 $\mu s$	IPP <sub>3</sub>	100	A
Waveform Telcordia GR-1089 Intrabuilding 2/10 $\mu s$	IPP <sub>4</sub>	150	A
(Notes 1 and 2) IEC61000-4-5 (Voc 1.2/50us) 8/20 $\mu s$	IPP <sub>5</sub>	150	A
ITU-T K.20/K.21 (Voc 10/700us) 5/310 $\mu s$	IPP <sub>6</sub>	90	A
TIA-968 lightning Type B (Voc 9/720us) 5/320 $\mu s$	IPP <sub>7</sub>	90	A
Critical Rate of Rise of On-State Current			
Powered Pulse Amplifier, C=30 $\mu F$ , V=600V	di/dt	500	A/ $\mu s$
Maximum 2x10 $\mu s$ waveform, V <sub>oc</sub> =750V, I <sub>sc</sub> =150A peak	di/dt	110	A/ $\mu s$

### DEVICE THERMAL RATINGS

Storage Temperature Range	TSTG	-55 to 150	°C
Operating Temperature Range Blocking or conducting state	TA	-40 to 125	°C
Overload Junction Temperature Maximum; Conducting state only	TJ	+150	°C
Maximum Lead Temperature for Soldering Purpose; for 10 seconds	TL	+260	°C

### ELECTRICAL CHARACTERISTICS Both polarities (T<sub>J</sub> @ 25°C unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Units
Breakover Voltage (+25°C) (dv/dt = 0.4kV/ $\mu s$ , I <sub>sc</sub> = 900mA, V <sub>DC</sub> = 500V (both polarities))	VBO	----	350	400	V
Breakover Voltage Temperature Coefficient	dVBO/dT <sub>J</sub>	----	0.1	-----	%/°C
Off-State Current (V <sub>D1</sub> = 50V)	ID1	----	-----	2.0	$\mu A$
(V <sub>D2</sub> = VDM)	ID2 = IDM	----	-----	5.0	$\mu A$
On-State Voltage (I <sub>T</sub> = 1A) (PW ≤ 300 $\mu s$ , Duty Cycle ≤ 2% (Note 2))	VT	----	-----	4.0	V
Breakover Current	IBO	----	-----	800	mA
Holding Current (Note 2)	IH	150	-----	-----	mA
Peak Onstage Surge Current (Measured @ 60Hz, 1 cycle, 600V)	ITSM	22			A
Critical Rate of Rise of Off-State Voltage (Linear waveform, V <sub>D</sub> = 0.8 X Rated V <sub>BO</sub> , T <sub>J</sub> = +25°C)	dv/dt	2000	----	-----	V/ $\mu s$
Capacitance (f = 1.0 Mhz, 50V <sub>DC</sub> bias, 1Vrms)	C1	----	14	-----	pF
(f = 1.0 Mhz, 2V <sub>DC</sub> bias, 1Vrms)	C2	----	27	-----	pF

Note 1. Allow cooling before test second polarity

Note 2. Measured under pulse conditions to reduce heating

### VOLTAGE-CURRENT CHARACTERISTIC

