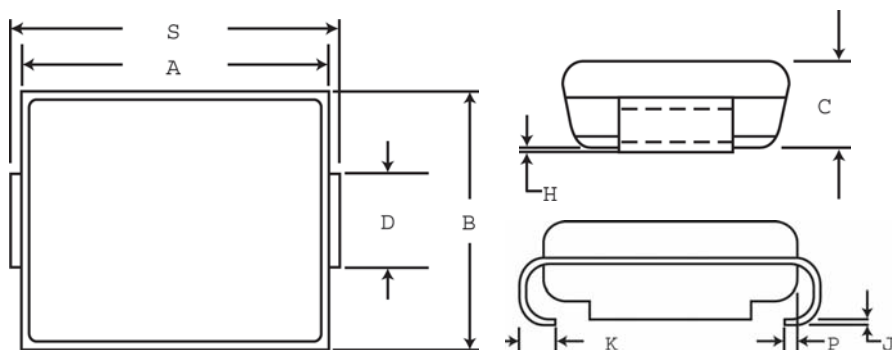
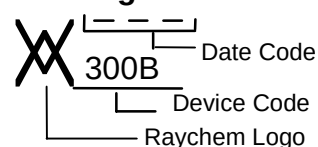


Specification Status: Released

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
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Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

OBSOLETE
NOT the LATEST
REVISION

SiBar™

Thyristor Surge Protectors

Raychem Circuit Protection Products

PRODUCT: TVB300SB-L

DOCUMENT: SCD 25603
PCN: E05012
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 μs	IPP ₁	80	A
Impulse Current TIA-968 lightning Type A Metallic 10/560 μs	IPP ₂	100	A
Double exponential TIA-968 lightning Type A Longit. 10/160 μs	IPP ₃	150	A
Waveform Telcordia GR-1089 Intrabuilding 2/10 μs	IPP ₄	250	A
(Notes 1 and 2) IEC61000-4-5 (Voc 1.2/50us) 8/20 μs	IPP ₅	250	A
ITU-T K.20/K.21 (Voc 10/700us) 5/310 μs	IPP ₆	100	A
TIA-968 lightning Type B (Voc 9/720us) 5/320 μs	IPP ₇	100	A
Critical Rate of Rise of On-State Current			
Powered Pulse Amplifier, C=30 μF , V=600V	di/dt	500	A/ μs
Maximum 2x10 μsec waveform, $V_{OC}=1.25kV$, $I_{SC}=250A$ peak	di/dt	170	A/ μs

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_J @ 25°C unless otherwise noted)

Characteristics	Symbol	Min	Typ	Max	Units
Breakover Voltage (+25°C) (dv/dt = 0.4kV/ μs , $I_{SC}=900mA$, $V_{DC} = 500V$ (both polarities))	VBO	----	350	400	V
Breakover Voltage Temperature Coefficient	dVBO/dTJ	----	0.1	-----	%/°C
Off-State Current (VD1=50V)	ID1	----	-----	2.0	μA
(VD2=VDM)	ID2=IDM	----	-----	5.0	μA
On-State Voltage (IT=1A)	VT	----	-----	4.0	V
(PW $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$ (Note 2))					
Breakover Current	IBO	----	-----	800	mA
Holding Current (Note 2)	IH	150	-----	----	mA
Peak Onstage Surge Current (Measured @ 60Hz, 1 cycle, 600V)	ITSM	30			A
Critical Rate of Rise of Off-State Voltage (Linear waveform, $V_D = 0.8 \times \text{Rated } V_{BO}$, $T_J = +25^\circ C$)	dv/dt	2000	----	----	V/ μs
Capacitance (f=1.0 Mhz, 50V _{DC} bias, 1Vrms)	C1	----	21	----	pF
(f=1.0 Mhz, 2V _{DC} bias, 1Vrms)	C2	----	42	----	pF

Note 1. Allow cooling before testing second polarity

Note 2. Measured under pulse conditions to reduce heating

VOLTAGE-CURRENT CHARACTERISTIC

