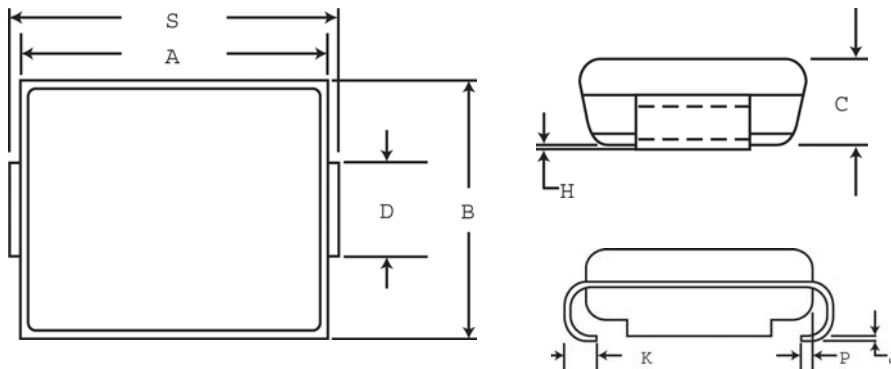


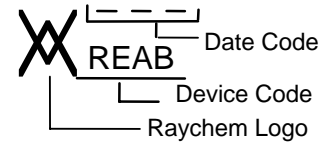
**SiBar™**  
**Thyristor Surge Protectors**

**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
4.06	4.57	2.29	2.92	1.91	2.40	1.27	1.63	0.05	0.15	0.15	0.41	0.76	1.52
(0.160)	(0.180)	(0.090)	(0.115)	(0.075)	(0.095)	(0.050)	(0.064)	(0.002)	(0.006)	(0.006)	(0.016)	(0.030)	(0.060)

P		S	
REF	MIN	MAX	
0.51	4.83	5.59	
(0.020)	(0.190)	(0.220)	

\*Rounded off approximation

\*\* D DIMENSION SHALL BE MEASURED WITHIN DIMENSION

**Other Physical Characteristics**

Form Factor: SMA (Surface Mount, JEDEC DO-214AC Package)  
 Lead Material: Tin/lead 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

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**

ELV Compliant

**Directive 2000/53/EC  
Compliant**

**SiBar™**  
**Thyristor Surge Protectors**

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

Parameter	Symbol	Value	Units
Off-State Voltage, Maximum at $I_D = 5 \mu A$	VDM	270	V
Non-Repetitive Peak Impulse Current	IPP <sub>1</sub>	50	A
Telcordia GR-1089 CORE 10x1000 $\mu s$			
Double exponential Waveform	IPP <sub>2</sub>	70	A
TIA-968 lightning Type A Metallic 10/560 $\mu s$			
(Notes 1 and 2)	IPP <sub>3</sub>	100	A
TIA-968 lightning Type A Longit. 10/160 $\mu s$			
	IPP <sub>4</sub>	150	A
Telcordia GR-1089 Intrabuilding 2/10 $\mu s$			
	IPP <sub>5</sub>	150	A
IEC61000-4-5 (Voc 1.2/50us) 8/20 $\mu s$			
	IPP <sub>6</sub>	90	A
ITU-T K.20/K.21 (Voc 10/700us) 5/310 $\mu s$			
	IPP <sub>7</sub>	90	A
TIA-968 lightning Type B (Voc 9/720us) 5/320 $\mu s$			
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, $V_{OC}=750v$ , $I_{SC}=150A$ peak	di/dt	110	A/ $\mu s$

**DEVICE THERMAL RATINGS**

Parameter	Symbol	Value	Units
Storage Temperature Range	TSTG	-55 to 150	°C
Operating Temperature Range	TA	-40 to 125	°C
Blocking or conducting state			
Overload Junction Temperature	TJ	+150	°C
Maximum; Conducting state only			
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/ $\mu s$ , $I_{SC}=900mA$ , $V_{DC} = 500V$ (both polarities))	VBO	----	310	365	V
Breakover Voltage Temperature Coefficient	dVBO/dTJ	----	0.1	-----	%/°C
Off-State Current (VD1= 50V)	ID1	----	-----	2.0	$\mu A$
(VD2= VDM)	ID2=IDM	----	-----	5.0	$\mu A$
On-State Voltage (IT=1A)	VT	----	-----	3.0	V
(PW $\leq$ 300 $\mu s$ , 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	22	----	----	A
Critical Rate of Rise of Off-State Voltage (Linear waveform, $V_D = 0.8 X$ Rated $V_{BO}$ , $T_J = +25^\circ C$ )	dv/dt	2000	----	---	V/ $\mu s$
Capacitance (f=1.0 MHz, 50Vdc bias, 1 Vrms)	C1	----	22	---	pF
(f=1.0 MHz, 2Vdc bias, 15mVrms)	C2	----	33	---	pF

Note 1. Allow cooling before test second polarity

Note 2. Measured under pulse conditions to reduce heating

**VOLTAGE-CURRENT CHARACTERISTIC**

