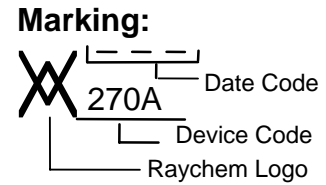
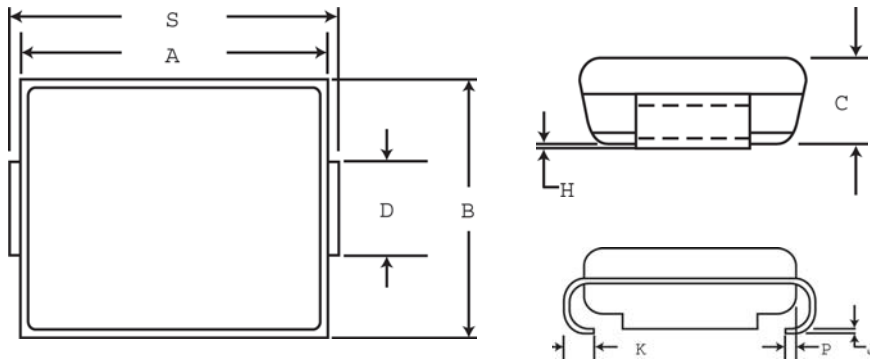


# SiBar™

## Thyristor Surge Protectors

**Specification Status: Released**
**PHYSICAL DESCRIPTION**


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	2.29	2.92	1.91	2.40	1.27	1.63	0.05	0.15	0.15	0.41	0.76	1.52
in*:	(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	
mm:	0.51	4.83	5.59
in*:	(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: 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

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

## SiBar™ Thyristor Surge Protectors

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

Parameter	Symbol	Value	Units
Off-State Voltage, Maximum at ID = 5 µA	VDM	270	V
Non-Repetitive Peak Impulse Current	IPP <sub>1</sub>	50	A
Double exponential Waveform (Notes 1 and 2)	IPP <sub>2</sub>	70	A
Telcordia GR-1089 CORE 10x1000 µs	IPP <sub>3</sub>	100	A
TIA-968 lightning Type A Metallic 10/560 µs	IPP <sub>4</sub>	150	A
TIA-968 lightning Type A Longit. 10/160 µs	IPP <sub>5</sub>	150	A
Telcordia GR-1089 Intrabuilding 2/10 µs	IPP <sub>6</sub>	90	A
IEC61000-4-5 (Voc 1.2/50us) 8/20 µs	IPP <sub>7</sub>	90	A
ITU-T K.20/K.21 (Voc 10/700us) 5/310 µs			
TIA-968 lightning Type B (Voc 9/720us) 5/320 µs			
Critical Rate of Rise of On-State Current	di/d	500	A/µs
Powered Pulse Amplifier, C=30uF, V=600V	di/dt	110	A/µs
Maximum 2x10 µsec waveform, V <sub>OC</sub> =750v, I <sub>SC</sub> =150A peak			

**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/µs, I <sub>sc</sub> =900mA, V <sub>DC</sub> = 500V (both polarities))	VBO	----	310	365	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) (PW ≤ 300 µsec, Duty Cycle ≤ 2% (Note 2))	VT	----	-----	3.0	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>p</sub> = 0.8 X Rated V <sub>BO</sub> , T <sub>J</sub> = +25°C)	dv/dt	2000	----	---	V/µs
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**
