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PolySwitch®
SiBar
Thyristor Surge Protectors

DEVICE RATINGS @ 25º C (Both Polarities)

Parameter		Symbol	Value	Units
Off-State Voltage, Maximum at **I**D = 5 µA		**V**DM	170	V
Non-Repetitive Peak Impulse Current	10x1000 µsec	I_{PP_1}	50	A
Double exponential waveform (Notes 1 and 2)	10/560 µsec	I_{PP_2}	70	A
	10/160 µsec	I_{PP_3}	100	A
Critical Rate of Rise of On-State Current Maximum 2x10 µsec waveform, **V**OC=2.5kV, **I**SC=500A peak		di/dt	150	A/µs

DEVICE THERMAL RATINGS

Storage Temperature Range	**T**STG	-65 to 150	ºC
Operating Temperature Range Blocking or conducting state	**T**A	-40 to 125	ºC
Overload Junction Temperature Maximum; Conducting state only	**T**J	+175	ºC

ELECTRICAL CHARACTERISTICS Both polarities (T_J @ 25ºC unless otherwise noted)

Characteristics		Symbol	Min	Typ	Max	Units
Breakover Voltage (+25ºC) d**V**/dt = 100V/µsec, I_{SC}=1.0A, V_{DC} = 1000V		**V**BO	----	230	265	V
Breakover Voltage (+25ºC) f=60Hz, I_{SC}=1.0Arms, V_{OC} = 1000Vrms, R=1.0 kΩ, t = 0.5 cycle (Note 2)		**V**BO	----	230	265	V
Breakover Voltage Temperature Coefficient		d**V**BO/d**T**J	----	0.08	-----	%/ºC
Off-State Current	(**V**D1= 50V)	**I**D1	----	-----	2.0	µA
	(**V**D2= **V**DM)	**I**D2	----	-----	5.0	µA
On-State Voltage (**I**T=1A) PW ≤ 300 µsec, Duty Cycle ≤ 2% (Note 2)		**V**T	----	-----	5.0	V
Breakover Current		**I**BO	----	230	-----	mA
Holding Current (Note 2)		**I**H	175	350	----	mA
Critical Rate of Rise of Off-State Voltage (Linear waveform, V_D = 0.8 X Rated V_{BO}, T_J= +25ºC)		dv/dt	2000	----	----	V/µs
Capacitance	(f=1.0 Mhz, 50V_{DC} bias, 1 Vrms)	**C**1	----	20	----	pF
	(f=1.0 Mhz, 2V_{DC} bias, 15mVrms)	**C**2	----	50		pF

Note 1. Allow cooling before test second polarity

Note 2. Measured under pulse conditions to reduce heating

VOLTAGE-CURRENT CHARACTERISTIC