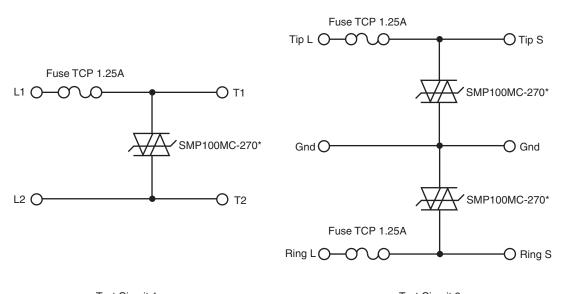


Special Investigation

The TCP1.25A is designed to provide overcurrent protection for telecom SLIC, xDSL modem, and set-top box applications regardless of the overvoltage device selected. To provide an easier specification experience, Cooper Bussmann and STMicroelectronics have joined together to provide a special test report confirming the coordination between the TCP1.25A and SMP100MC-270 devices.

TEST CIRCUITS



Test Circuit 1 Test Circuit 2

TEST PROGRAM

Test	Standard	Results
Lightning Surge Tests		
10/1000µs + and -1kV 100A (25 pulses of each polarity)	Bellcore GR-1089	Passed
2/10µs + and -2.5 and 5kV 500A (10 pulses of each polarity)	Bellcore GR-1089	Passed
10/560µs + and -800V 100A (1 pulse of each polarity)	FCC Part 68	Passed
10/160µs + and -1.5kV 200A (1 pulse of each polarity)	FCC Part 68	Passed
10/700µs + and -1.5kV 37.5A (5 pulses of each polarity)	K20	Passed
Electrical and Power Cross Tests		
600V 3A 1.1s (first level)	Bellcore GR-1089	Passed
277V 25A (second level)	Bellcore GR-1089	Passed
600V 60A 5s(second level)	Bellcore GR-1089	Passed
600V 40A 1.5s	UL 60950	Passed
600V 2.2A 30min	UL 60950	Passed
600V 1A 0.2s (A criteria)	K20	Passed
230V 1.44A/0.77A/0.38A 15min (A criteria)	K20	Passed
230V 23A 15min (A criteria)	K20	Passed

For additional information on STMicroelectronic's Trisil™ Product line, please see www.st.com/protection

^{*} Note: or other STMicroelectronics Trisil™ part number listed in table on page 1



TCP[™] Series



TCP500MA & TCP2A, Telecom Circuit Protector

Description

- Designed to protect Consumer Premises Equipment from harmful overcurrents.
- Allows compliance with telecom regulatory standards including UL 1950/60950, and FCC part 68. Application circuit testing is recommended.
- Eliminates the need for a current limiting resistor.

COOPER Bussmann

ELECTRICAL CHARACTERISTICS				
% of Amp Rating Opening Time				
100%	4 Hours Minimum			
250%	1 Second Minimum			
250%	4-10 Seconds Typical			
250%*	120 Seconds Maximum			
300%	10 Seconds Maximum			

^{*} If the device does not open at 250% within 120 seconds, increase current to 300% of amp rating. Device must open in 10 seconds max.

Agency Information

- UL Recognition Card: JDYX2/E19180
- CSA Component Certification Record and Class No.: 053787C000, 1422 30

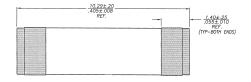
Environmental Data

- Life Test: MIL-STD-202, Method 108A, Test Condition D
- Load Humidity: MIL-STD-202, Method 103B
- Moisture Resistance: MIL-STD-202, Method 106E
- Thermal Shock: MIL-STD-202, Method 107D, air-to-air
- Case Resistance: EIA/IS-722
- Resistance to Dissolution of Metallization: ANSI J-STD-002, Test D
- Mechanical Shock: MIL-STD-202, Method 213B, Test Condition A
- High Frequency Vibration: MIL-STD-202, Method 204D, Test Condition D
- Resistance to Solvents: MIL-STD-202, Method 215A

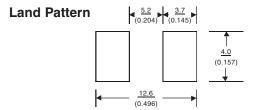




Dimensions mm/(inches)







Ordering

 Specify packaging, product and option code (i.e., TR2/TCP500-R)

Soldering Method

- Wave Immersion: 260°C, 10 sec max.
- Infrared: 260°C, 30 sec max.

LIGHTNING SURGE SPECIFICATIONS								
Surge Specification	Surge	Repetitions	Waveform	Current (A)	Voltage (V)	Performance		
	_		(µSec.)			Requirement		
TCP 500mA tested								
FCC 47 Part 68	Longitudinal Type B	2	5x320	37.5	N/A	Fuse cannot open		
FCC 47 Part 68	Metallic Type A	2	10x560	100	800	Fuse must open safely		
Surge out		25	10x160	65	N/A	Fuse cannot open		
	TCP2A tested							
FCC 47 Part 68	Longitudinal Type A	2	10x160	100 per fuse	1500	Fuse cannot open		
FCC 47 Part 68	Metallic Type B	2	10x560	100	800	Fuse cannot open		
Bellcore GR-1089-CORE	First Level Lightning	50	10x1000	100	1000	Fuse cannot open		
Bellcore GR-1089-CORE	First Level Lightning	50	2x10	500	2500	Fuse cannot open		
Surge out		1	10x160	160	N/A	Fuse cannot open		
Surge out		1	10x560	115	N/A	Fuse cannot open		

ELECTRICAL AND POWER CROSS SPECIFICATIONS											
Product	Voltage	Interr	upting	DC Cold		Typical	Maximum	ximum Typical		Alpha Code	
Code	Rating	Rat	ing*	Resistance** (ohms)		Melting	Total	Voltage	Mar	Marking	
	40	0501/40	COOVAC	:	41 cm		l²t+	Clearing	Drop±	1st Code	2nd Code
	AC	250VAC	600VAC	min.	typ.	max.	rtt	Clearing	DIOP+	1St Code	zna Code
TCP500mA	250 V	50 A	40 A	0.420		0.640	1.3 A ² s	100 A ² s	471mV	F	R***

^{*} AC Interrupting Rating (Measured at designated voltage, 100% power factor)

** DC Cold Resistance (Measured at 10% of rated current)

‡ Typical Voltage Drop (Measured at rated current after temperature stabilizes)

^{***} On RoHS Compliant Version (-R option)

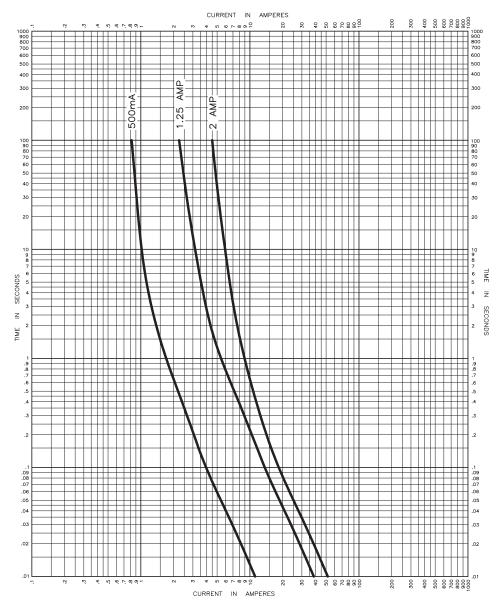
[†] Typical Melting I²t (Measured with a battery bank at 60V DC, 10x-rated current, time constant of calibrated circuit less than 50 microseconds)





TCP500MA & TCP2A, Telecom Circuit Protector

TIME CURRENT CURVE



	PACKAGING CODE
Packaging Code	Description
TR2	2,500 pieces of fuses on 24mm tape-and-reel on 13 inch (330mm) reel per EIA Standard 481, 8mm pitch

	OPTION CODE
Option Code	Description
-R	RoHS Compliant Version (Sn plating w/ Ni barrier)

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Datasheet: OC-2609 1/07

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