



## Features

- Lead free versions available (RoHS compliant\*)
- Matched pair of resistors
- Power line fault/lightning protection to BELLCORE GR-1089
- Typical application is secondary protection on telecom line cards

- Bourns TISP® products are recommended for the overvoltage section of the protection circuit

# 4B04B-523-RC - Line Protection Module

## Matched Pair of Resistors

### Electrical Characteristics

Resistance Values (R1 = R2) .....	15 ohms- 60 ohms
Resistance Tolerance	
>34 Ω .....	±2 %
<34 Ω .....	±5 %
TCR .....	100 ppm/°C
Ratio Tolerance	
>34 Ω .....	±0.5 %
<34 Ω .....	±2 %
Temperature Range.....	-40 °C to +85 °C

### Physical Characteristics

Body Style .....	Open Frame SIP
Substrate Material .....	.96 % Alumina
Lead Frame Material.....	Copper, solder coated
Flammability.....	Conforms to UL94V-0

### Functional Characteristics (per Bellcore GR-1089)

#### First Level Lightning Surge -

Resistors will remain within tolerance after testing.

1000 Volts Peak, 100 Amp Peak Current, Max. Rise/Min. Decay Time 10x1000 μs, Number of Pulses .....	25 each resistor each polarity 25 simultaneous each polarity
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2500 Volts Peak, 500 Amp Peak Current, Max. Rise/Min. Decay Time 2x10 μs, Number of Pulses .....	10 simultaneous each polarity
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#### First Level AC Power Fault -

Resistors will remain within tolerance after testing.

50 Vrms, .33 Amp Short Circuit Current, Duration.....	15 minutes
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100 Vrms, .17 Amp Short Circuit Current, Duration.....	15 minutes
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600 Vrms, 1.0 Amp Short Circuit Current, Duration .....	60 One-second pulses
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#### Second Level Lightning Surge -

Resistor package must fail safely causing no fire, electrical, or fragmentation hazard.

5000 Volts Peak, 500 Amp Peak Current, Max. Rise/Min. Decay Time 2x10 μs, Number of Pulses .....	1 simultaneous each polarity
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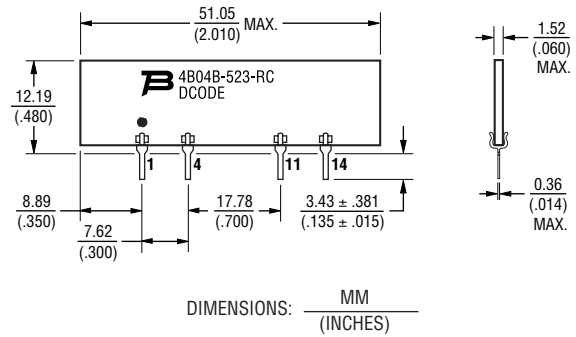
#### Second Level AC Power Fault -

Resistor package must fail safely causing no fire, electrical, or fragmentation hazard.

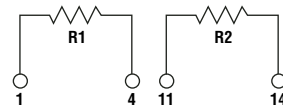
### Standard Resistance Values

Resistance (ohms)	Resistance Code
20	200
40	400
50	500

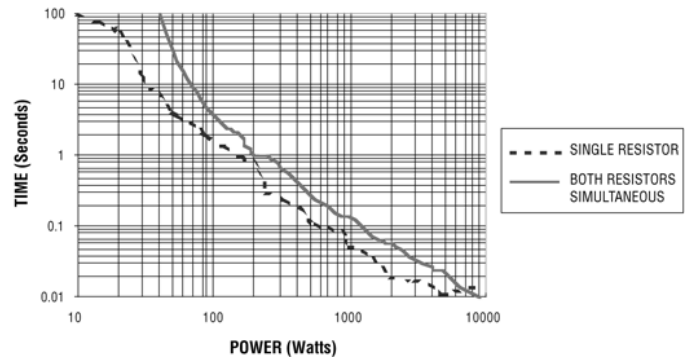
## Product Dimensions



## Electrical Schematic



## Break Open Time



## How To Order

**4B 04 B - 523 - RC LF**  
 Model \_\_\_\_\_  
 (4B = Open Frame)  
 Number of Pins \_\_\_\_\_  
 Physical Configuration \_\_\_\_\_  
 Electrical Configuration \_\_\_\_\_  
 • 523 = Matched Pair of Resistors  
 Resistance Code \_\_\_\_\_  
 • First 2 digits are significant  
 • Third digit represents the number of zeros to follow  
 Lead Free Option \_\_\_\_\_  
 Blank = Standard Product  
 LF = Lead Free / RoHS Compliant Product

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.  
 Specifications are subject to change without notice.  
 Customers should verify actual device performance in their specific applications.