

# S505

5 mm x 20 mm, Ferrule time-delay, ceramic tube fuses



## Product features

- Time-delay high breaking capacity
- Designed to IEC 60127-2
- 0.5 A to 12 A current ratings
- Ceramic tube, nickel plated brass end cap construction
- Halogen free, RoHS compliant, lead free
- Reference [S505SC data sheet \(10132\)](#) for available axial lead options

## Applications

Primary circuit protection:

- LED and general lighting
- LED/LCD televisions
- Appliances and white goods
- Printers and peripherals
- Test equipment
- Power supplies

## Agency information

- cURus Recognition file number: E19180, Guide JDYX2/JDYX8
- CSA file: 53787
- SEMKO file: 816547, 1119019
- VDE file: 40014091, 40024352, 40023140
- BSI file: KM55676
- IMQ file: CA03 00100, CA03 00529
- PSE: JET 1641-31003-1009, 1641-31003-1010, 1641-31003-1011, 1641-31003-1012, 1641-31003-2001, 1641-31003-2002
- CCC file: 2002010207011295, CQC 11012061930
- KC-Mark file: SU5011-4012A, SU5011-5004A

## Ordering

- Use ordering code (see page 4 for details)

## Packaging prefixes

- BK- (100 parts in a cardboard carton)
- BK1- (1,000 parts in a bag)

## Electrical characteristics

| $I_n$        | $1.5I_n$<br>min<br>minute | $2.1I_n$<br>max<br>minute | $2.75I_n$<br>min<br>ms | max<br>s | $4I_n$<br>min<br>ms | max<br>s | $10I_n$<br>min<br>ms | max<br>ms |
|--------------|---------------------------|---------------------------|------------------------|----------|---------------------|----------|----------------------|-----------|
| < 1 A        | 60                        | 30                        | 250                    | 80       | 50                  | 5        | 5                    | 150       |
| 1 A - 3.15 A | 60                        | 30                        | 750                    | 80       | 95                  | 5        | 10                   | 150       |
| 4 A - 6.3 A  | 60                        | 30                        | 750                    | 80       | 150                 | 5        | 10                   | 150       |
| 8 A - 12 A   | 30                        | 30                        | 750                    | 80       | 150                 | 5        | 10                   | 150       |

## Product specifications

| Part number <sup>6</sup> | Current rating (A) | Voltage rating AC | Interrupting rating at rated AC voltage <sup>1</sup> (50 Hz) ( $A_{AC}$ ) | Typical DC cold resistance <sup>2</sup> ( $\Omega$ ) | Typical pre-arcing <sup>3</sup> $I^2t$ ( $A^2s$ ) | Typical voltage drop <sup>4</sup> (mV) | IMQ | VDE | SEMKO | cURus | CCC/CQC        | PSE-JET | CSA | KC | BSI |
|--------------------------|--------------------|-------------------|---------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------|----------------------------------------|-----|-----|-------|-------|----------------|---------|-----|----|-----|
| S505-500-R               | 0.5                | 250               | 1500                                                                      | 0.5070                                               | 0.188*                                            | 295                                    | X   | X   | X     | X     | X <sup>5</sup> |         | X   |    | X   |
| S505-800-R               | 0.8                | 250               | 1500                                                                      | 0.2370                                               | 0.632*                                            | 189                                    | X   | X   | X     | X     | X <sup>5</sup> |         | X   |    | X   |
| S505-1-R                 | 1.0                | 250               | 1500                                                                      | 0.1401                                               | 1.28                                              | 152.5                                  | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-1.25-R              | 1.25               | 250               | 1500                                                                      | 0.1075                                               | 2.22                                              | 150                                    | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-1.6-R               | 1.6                | 250               | 1500                                                                      | 0.0700                                               | 6.78                                              | 125                                    | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-2-R                 | 2.0                | 250               | 1500                                                                      | 0.0545                                               | 9.6                                               | 118.5                                  | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-2.5-R               | 2.5                | 250               | 1500                                                                      | 0.0395                                               | 16.6                                              | 115                                    | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-3.15-R              | 3.15               | 250               | 1500                                                                      | 0.0305                                               | 36.6                                              | 102.5                                  | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-4-R                 | 4.0                | 250               | 1500                                                                      | 0.0185                                               | 38.45*                                            | 86.5                                   | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-5-R                 | 5.0                | 250               | 1500                                                                      | 0.0131                                               | 71.30*                                            | 77.5                                   | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-6.3-R               | 6.3                | 250               | 1500                                                                      | 0.0102                                               | 111*                                              | 75                                     | X   | X   | X     | X     | X              | X       | X   | X  | X   |
| S505-8-R                 | 8.0                | 250               | 1500                                                                      | 0.0077                                               | 228*                                              | 73                                     | X   | X   | X     | X     | X <sup>5</sup> | X       | X   | X  | X   |
| S505-10-R                | 10                 | 250               | 1500                                                                      | 0.0061                                               | 397                                               | 72                                     | X   | X   | X     | X     | X <sup>5</sup> | X       | X   | X  | X   |
| S505-12-R                | 12                 | 250               | 1000                                                                      | 0.0053                                               | 713.7*                                            | 77                                     |     | X   |       | X     |                |         |     |    |     |

1 Interrupting ratings 500 mA to 10 A measured at 70% to 80% PF on AC. 12 A measured at 100% PF on AC.

2 Typical DC cold resistance measured at <10% of rated current at an ambient temperature of 20° C (reference only)

3 Typical pre-arcing ( $I^2t$ ) measured at listed interrupting rating and voltage.  
\* = measured at 10 times rated current under DC.

4 Typical voltage drop measured at 20° C at rated current.

5 CQC approval only

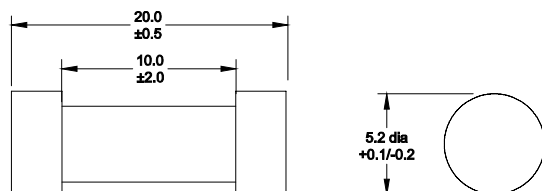
6 Part number definition: S505-xxx-R

S505= Product code and size

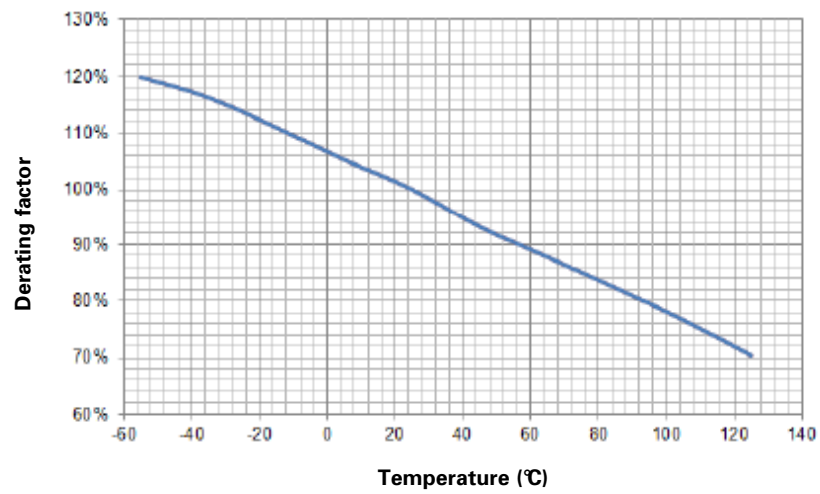
xxx= Ampere rating

-R= Rohs compliant

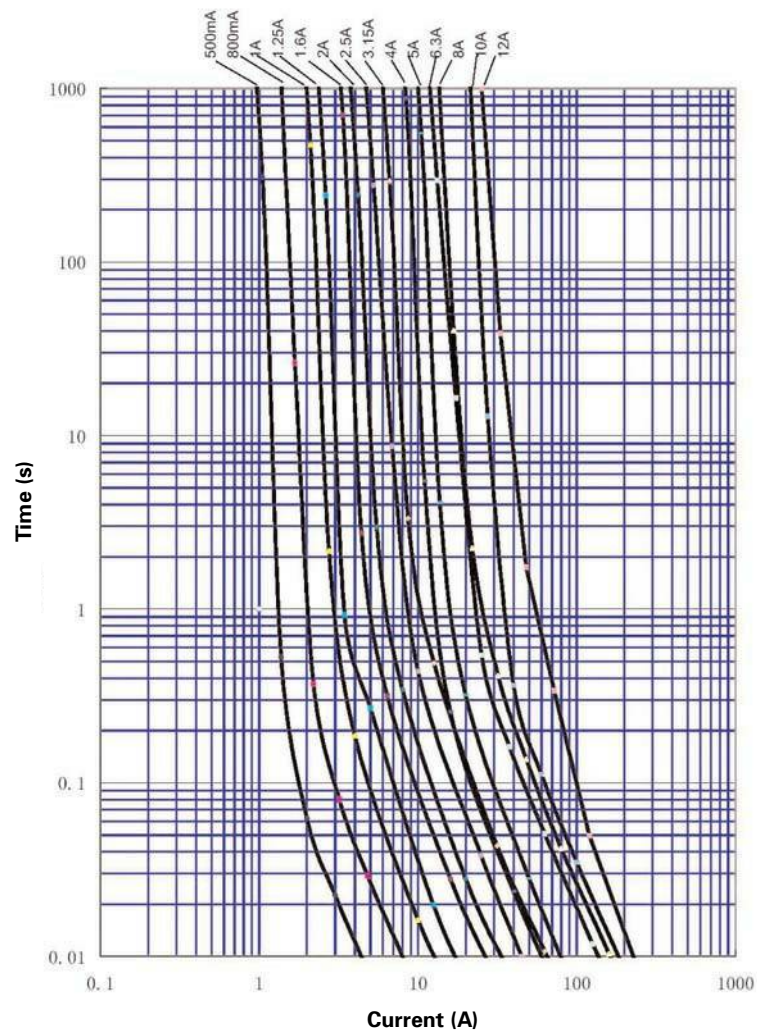
## Dimensions (mm)



### Temperature derating curve



### Time vs. current curve



## Environmental data

---

Operating temperature: - 55 °C to 125 °C (with derating)

---

## Ordering codes

The ordering code is the part number replacing the "." with a "-" plus adding the packaging suffix.

## Packaging prefixes

- BK- (100 parts in a cardboard carton)
- BK1- (1,000 parts in a bag)

| Part number | Ordering codes |                 |
|-------------|----------------|-----------------|
|             | -BK option     | -BK1 option     |
| S505-500-R  | BK-S505-500-R  | BK1-S505-500-R  |
| S505-800-R  | BK-S505-800-R  | BK1-S505-800-R  |
| S505-1-R    | BK-S505-1-R    | BK1-S505-1-R    |
| S505-1.25-R | BK-S505-1-25-R | BK1-S505-1-25-R |
| S505-1.6-R  | BK-S505-1-6-R  | BK1-S505-1-6-R  |
| S505-2-R    | BK-S505-2-R    | BK1-S505-2-R    |
| S505-2.5-R  | BK-S505-2-5-R  | BK1-S505-2-5-R  |
| S505-3.15-R | BK-S505-3-15-R | BK1-S505-3-15-R |
| S505-4-R    | BK-S505-4-R    | BK1-S505-4-R    |
| S505-5-R    | BK-S505-5-R    | BK1-S505-5-R    |
| S505-6.3-R  | BK-S505-6-3-R  | BK1-S505-6-3-R  |
| S505-8-R    | BK-S505-8-R    | BK1-S505-8-R    |
| S505-10-R   | BK-S505-10-R   | BK1-S505-10-R   |
| S505-12-R   | BK-S505-12-R   | BK1-S505-12-R   |

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

**Eaton**  
**Electronics Division**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
[www.eaton.com/electronics](http://www.eaton.com/electronics)

© 2017 Eaton  
All Rights Reserved  
Printed in USA  
Publication No. 2037 BU-MC17013  
February 2017