

# S505SC

5 mm x 20 mm Time-delay, axial lead ceramic tube fuses



## Product features

- Time-delay, high breaking capacity
- Designed to IEC 60127-2
- Nickel-plated brass end cap construction
- 5 mm x 20 mm physical size

## Applications

Primary circuit protection:

- Power supplies
- LED lighting
- LED/LCD televisions
- Appliances and white goods
- Printers

## Agency information

- cURus Recognition file number: E19180, Guide JDYX2/JDYX8
- SEMKO: File 1219335, 1310139
- VDE: File 40024252, 40037710 (1 A - 8 A)
- BSI: File KM55676
- IMQ: File CA03.00529
- PSE/JET: JET1641-31003-1010, JET1641-31003-2002, JET7042-31003-2001
- CCC: 2019010207252180
- KC-Mark: File SU05011-12003, SU05011-12004, SU05011-12005A; SU05030-13003A, SU05030-13004, SU05030-13005
- TUV: J50233218

## Ordering

- The ordering code is the part number replacing the " " with a "-" plus adding the packaging prefix (i.e. S505SC-1.25-R; BK-S505SC1-25-R)

## Packaging prefixes

- BK- (20 parts in a carrier, 5 carriers in a box)
- TR2- (1500 parts per reel, tape width 52 mm)
- TR3- (1500 parts per reel, tape width 54 mm)

## 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-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-10 A   | 30                        | 30                        | 750                    | 80       | 150                 | 5        | 10                   | 150       |

## Product specifications

| Part number <sup>5</sup> | Current rating (A) | Voltage rating (Vac) | Interrupting rating at rated voltage (50 Hz) (A) | Typical DC cold resistance ( $\Omega$ ) <sup>2</sup> | Typical pre-arcing $I^2t$ ( $A^2s$ ) <sup>3</sup> | Typical voltage drop (mV) <sup>4</sup> | IMQ | VDE | SEMKO | cURus | PSE/JET | CCC | KC | BSI | TUV |
|--------------------------|--------------------|----------------------|--------------------------------------------------|------------------------------------------------------|---------------------------------------------------|----------------------------------------|-----|-----|-------|-------|---------|-----|----|-----|-----|
| S505SC-1-R               | 1.0                | 250                  | 1500                                             | 0.169                                                | 1.38                                              | 180                                    | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-1.25-R            | 1.25               | 250                  | 1500                                             | 0.108                                                | 2.14                                              | 151                                    | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-1.6-R             | 1.6                | 250                  | 1500                                             | 0.070                                                | 7.35                                              | 130                                    | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-2-R               | 2.0                | 250                  | 1500                                             | 0.055                                                | 9.83                                              | 123.5                                  | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-2.5-R             | 2.5                | 250                  | 1500                                             | 0.040                                                | 19.9                                              | 119                                    | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-3.15-R            | 3.15               | 250                  | 1500                                             | 0.031                                                | 40.4                                              | 110                                    | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-4-R               | 4.0                | 250                  | 1500                                             | 0.018                                                | 41.0                                              | 89.8                                   | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-5-R               | 5.0                | 250                  | 1500                                             | 0.013                                                | 71.2                                              | 88                                     | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-6.3-R             | 6.3                | 250                  | 1500                                             | 0.010                                                | 152                                               | 72.5                                   | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-8-R               | 8.0                | 250                  | 1500                                             | 0.007                                                | 237                                               | 82.5                                   | x   | x   | x     | x     | x       | x   | x  | x   | x   |
| S505SC-10-R              | 10                 | 250                  | 1500                                             | 0.005                                                | 353                                               | 70                                     | x   |     | x     | x     | x       | x   | x  | x   | x   |

1 Interrupting ratings 1 A to 10 A were measured at 70% to 80% PF on AC.

2 Typical DC cold resistance measured at <10% of rated current.

3. Typical  $I^2t$  value is measured at 10 times the rated current under DC.

4. Typical voltage drop is measured at +20 °C ambient temperature at rated current.

5. Part number definition: S505SC-xxx-R

S505 = Product code

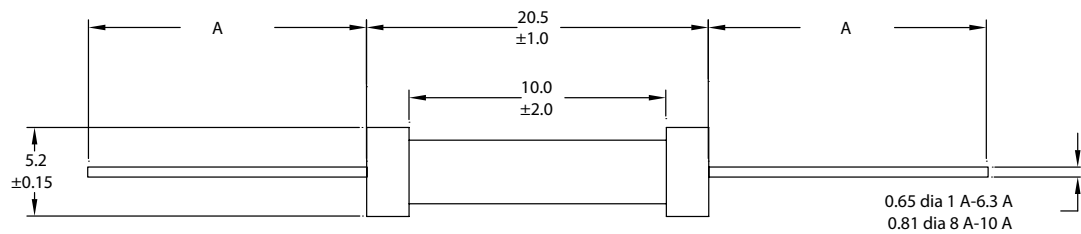
SC = Single cap

xxx = Ampere rating

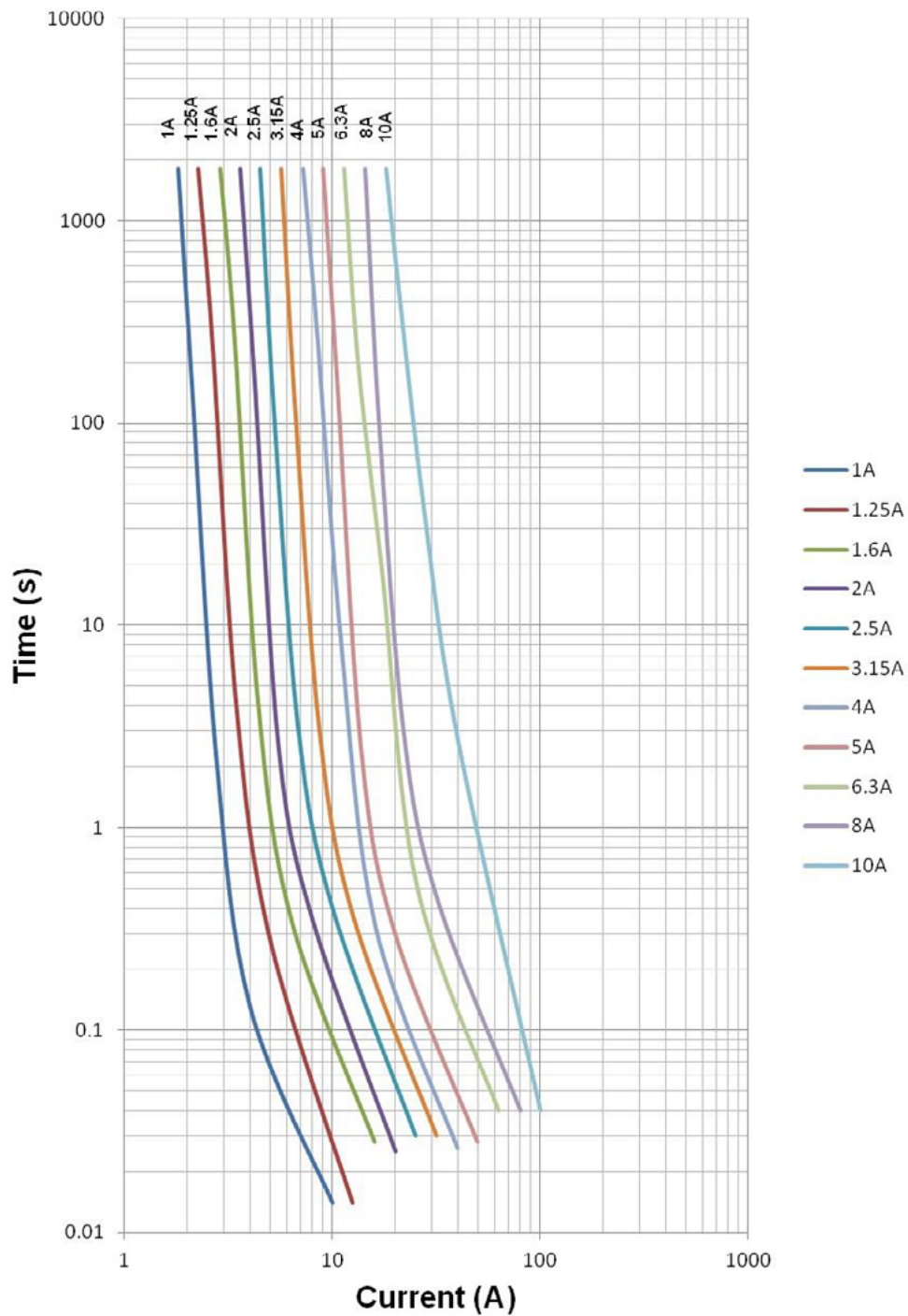
-R = RoHS compliant

## Dimensions—mm

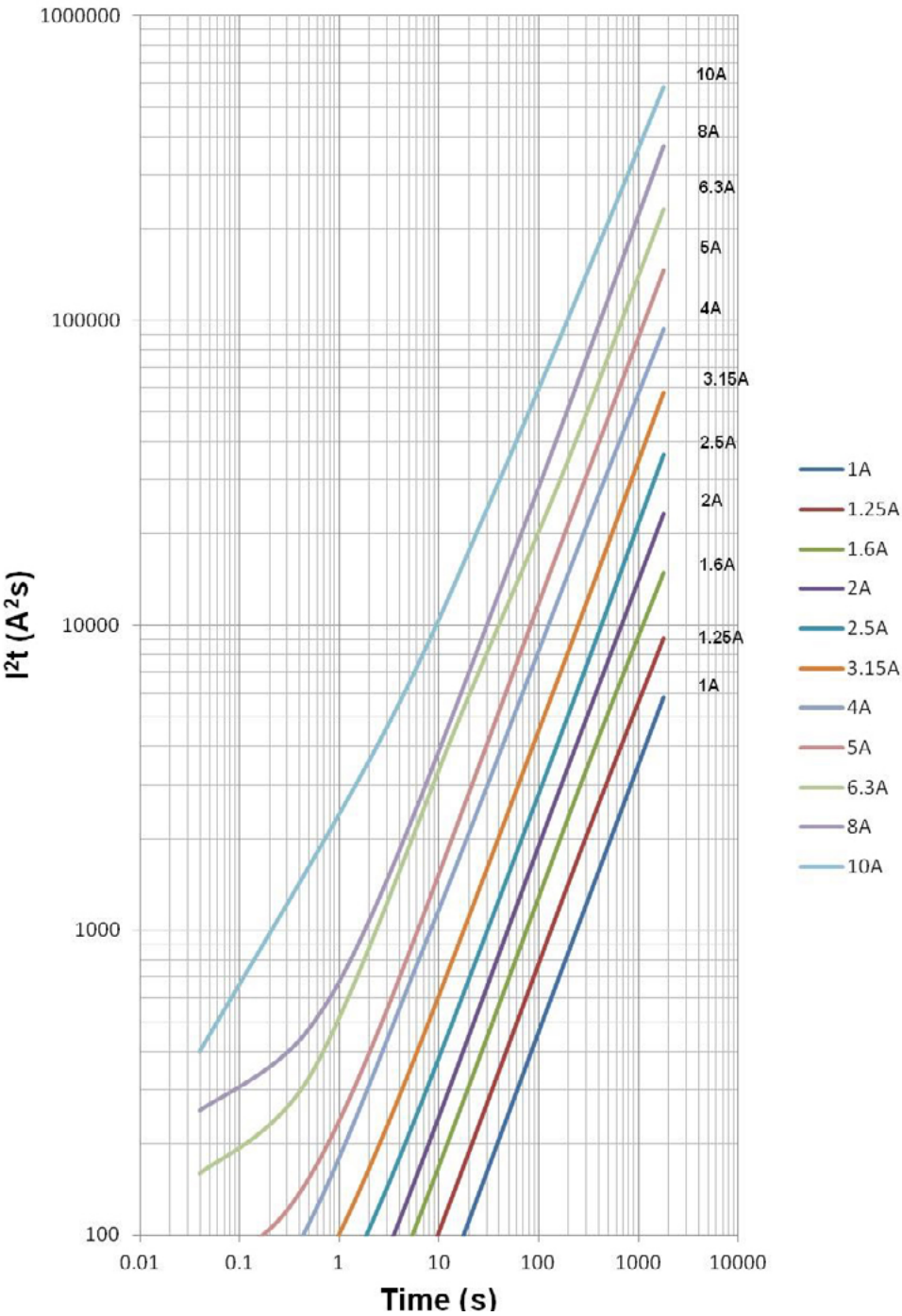
|                |
|----------------|
| <b>A</b>       |
| BK: 38.1±0.38  |
| TR2: 15.75 typ |
| TR3: 16.75 typ |



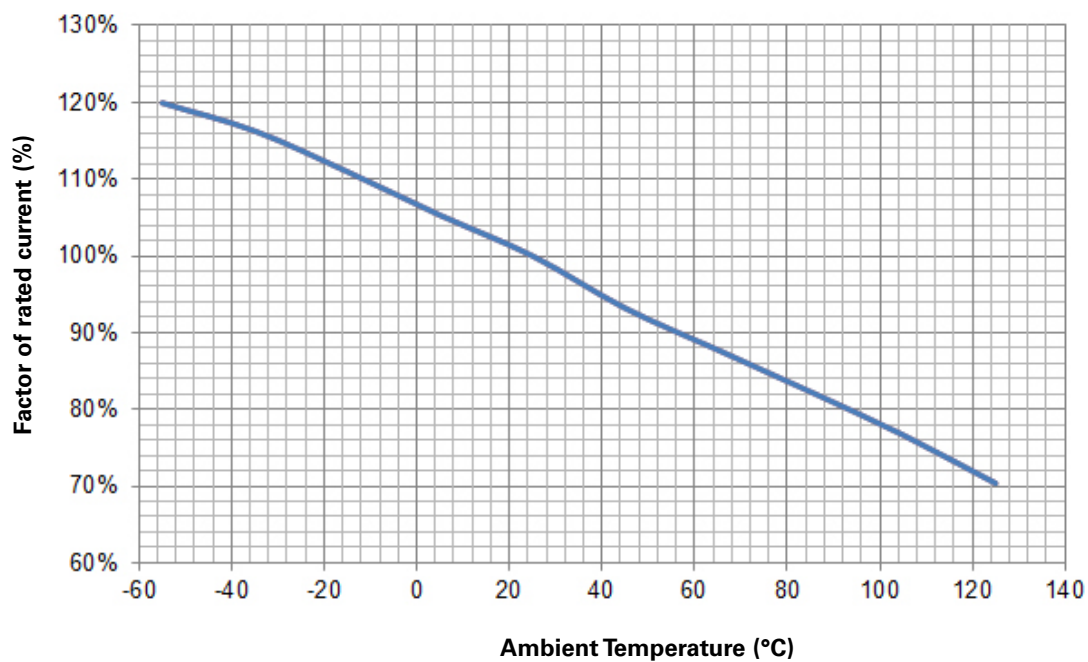
Time vs. current curve



I²t vs. time curve



### Temperature derating curve



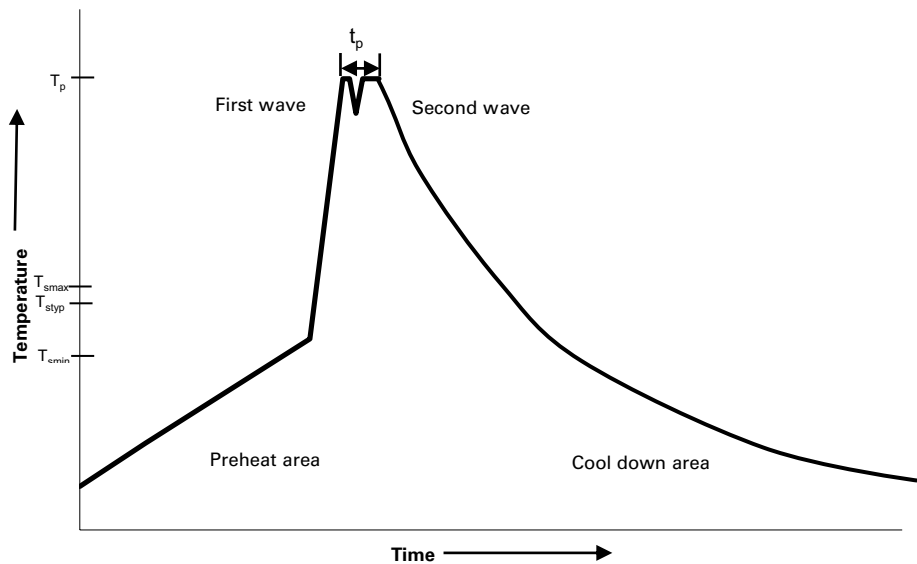
### General specifications

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

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Wave solder profile



Reference EN 61760-1:2006

| Profile feature                               | Standard SnPb solder                      | Lead (Pb) free solder                     |
|-----------------------------------------------|-------------------------------------------|-------------------------------------------|
| Preheat                                       |                                           |                                           |
| • Temperature min. ( $T_{smin}$ )             | 100 °C                                    | 100 °C                                    |
| • Temperature typ. ( $T_{styp}$ )             | 120 °C                                    | 120 °C                                    |
| • Temperature max. ( $T_{smax}$ )             | 130 °C                                    | 130 °C                                    |
| • Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ ) | 70 seconds                                | 70 seconds                                |
| $\Delta$ preheat to max Temperature           | 150 °C max.                               | 150 °C max.                               |
| Peak temperature ( $T_p$ )*                   | 235 °C – 260 °C                           | 250 °C – 260 °C                           |
| Time at peak temperature ( $t_p$ )            | 10 seconds max<br>5 seconds max each wave | 10 seconds max<br>5 seconds max each wave |
| Ramp-down rate                                | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max |
| Time 25 °C to 25 °C                           | 4 minutes                                 | 4 minutes                                 |

Manual solder

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended.

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