

# **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 <u>S505SC data sheet (10132)</u> 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 1641-31003-1025, 1641-31003-1026,
- CCC self declaration: 2020970207000246
- 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**

<u>I</u> n	1.5l <sub>n</sub> min minute	2.1l <sub>n</sub> max minute	2.75l <sub>n</sub> min ms	max s	4I min ms	max s	10l <sub>n</sub> min ms	max 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

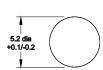
# **Product specifications**

Current rating (A)	Voltage rating AC	Interrupting rating at rated AC voltage <sup>1</sup> (50 Hz) (A <sub>AC</sub> )	Typical DC cold resistance² (Ω)	Typical pre-arcing <sup>3</sup> I <sup>2</sup> t (A <sup>2</sup> s)	Typical voltage drop⁴ (mV)	IMQ	VDE	SEMKO	cURus	ccc	PSE- JET	CSA	KC	BSI
0.5	250	1500	0.5070	0.188*	295	Χ	Χ	X	Χ	Χ		Χ		Х
0.8	250	1500	0.2370	0.632*	189	X	Χ	Χ	Χ	Χ		Χ		X
1.0	250	1500	0.1570	1.28	176	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
1.25	250	1500	0.1075	2.22	150	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
1.6	250	1500	0.0700	6.78	125	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
2.0	250	1500	0.0545	9.6	118.5	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
2.5	250	1500	0.0395	16.6	115	X	Χ	Χ	Χ	Χ	Х	Χ	Χ	Х
3.15	250	1500	0.0305	36.6	102.5	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
4.0	250	1500	0.0185	38.45*	86.5	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	X
5.0	250	1500	0.0131	71.30*	77.5	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х
6.3	250	1500	0.0102	111*	75	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
8.0	250	1500	0.0077	228*	73	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
10	250	1500	0.0061	397	72	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
12	250	1000	0.0053	713.7*	77		Χ		Χ					
	1.0 1.25 1.6 2.0 2.5 3.15 4.0 5.0 6.3 8.0	rating (A)         Voltage rating AC           0.5         250           0.8         250           1.0         250           1.25         250           1.6         250           2.0         250           2.5         250           3.15         250           4.0         250           5.0         250           6.3         250           8.0         250           10         250	Current rating (A)         Voltage rating AC voltage* (50 Hz)         rating AC voltage* (50 Hz)           0.5         250         1500           0.8         250         1500           1.0         250         1500           1.25         250         1500           1.6         250         1500           2.0         250         1500           2.5         250         1500           3.15         250         1500           4.0         250         1500           5.0         250         1500           6.3         250         1500           8.0         250         1500           10         250         1500	Current rating (A)         Voltage rating AC (A <sub>Ac</sub> )         rating at rated AC voltage¹ (50 Hz) (F50 Hz) (F50 Hz) (F50 Hz)         Typical pc cold resistance² (Ω)           0.5         250         1500         0.5070           0.8         250         1500         0.2370           1.0         250         1500         0.1570           1.25         250         1500         0.1075           1.6         250         1500         0.0700           2.0         250         1500         0.0545           2.5         250         1500         0.0395           3.15         250         1500         0.0305           4.0         250         1500         0.0185           5.0         250         1500         0.0131           6.3         250         1500         0.0102           8.0         250         1500         0.0077           10         250         1500         0.0061	Current rating (A)         Voltage rating AC (A <sub>Ac</sub> )         rating at rated AC voltage¹ (50 Hz) (A <sub>Ac</sub> )         Typical DC cold resistance² (Ω)         Typical pre-arcing ³ (4 A²s)           0.5         250         1500         0.5070         0.188*           0.8         250         1500         0.2370         0.632*           1.0         250         1500         0.1570         1.28           1.25         250         1500         0.1075         2.22           1.6         250         1500         0.0700         6.78           2.0         250         1500         0.0545         9.6           2.5         250         1500         0.0395         16.6           3.15         250         1500         0.0395         36.6           4.0         250         1500         0.0185         38.45*           5.0         250         1500         0.0131         71.30*           6.3         250         1500         0.0102         111*           8.0         250         1500         0.0077         228*           10         250         1500         0.0061         397	Current rating (A)         Voltage (A)         rating AC (A <sub>Ac</sub> )         Typical DC cold resistance² (Ω)         Typical pre-arcing ³ voltage drop⁴ (mV)           0.5         250         1500         0.5070         0.188*         295           0.8         250         1500         0.2370         0.632*         189           1.0         250         1500         0.1570         1.28         176           1.25         250         1500         0.1075         2.22         150           1.6         250         1500         0.0700         6.78         125           2.0         250         1500         0.0545         9.6         118.5           2.5         250         1500         0.0395         16.6         115           3.15         250         1500         0.0305         36.6         102.5           4.0         250         1500         0.0185         38.45*         86.5           5.0         250         1500         0.0102         111*         75           8.0         250         1500         0.0077         228*         73           10         250         1500         0.0061         397         72	Current rating (A)         Voltage (A)         rating AC (A <sub>Ac</sub> )         Typical pre-arcing P	Current rating (A)         Voltage (A)         rating AC (A <sub>Ac</sub> )         Typical pre-arcing (S0 Hz) (Mac)         Typical pre-arcing (Mac) (MV)         Typical pre-arcing (MV	Current rating (A)         Voltage (A)         rating AC (A <sub>Ac</sub> )         Typical pre-sistance² (n)         Typical pre-arcing³ (voltage drop⁴ (voltage drop⁴ (n))         IMO         VDE         SEMKO           0.5         250         1500         0.5070         0.188*         295         X         X         X           0.8         250         1500         0.2370         0.632**         189         X         X         X           1.0         250         1500         0.1570         1.28         176         X         X         X           1.25         250         1500         0.1075         2.22         150         X         X         X           1.6         250         1500         0.0700         6.78         125         X         X         X           2.0         250         1500         0.0545         9.6         118.5         X         X         X           2.5         250         1500         0.0395         16.6         115         X         X         X           3.15         250         1500         0.0185         38.45*         86.5         X         X         X           4.0         250         1500	Current rating (A)         Voltage (A)         rating AC voltage¹ (50 Hz) (A <sub>Ac</sub> )² (50 Hz)         Typical pre-arcting are isstance² (Ω)         Typical pre-arcting are is	Current rating (A)         Voltage rating AC (A <sub>Ac</sub> )         rating at rated AC (Pac) (A <sub>Ac</sub> )         Typical pre-arcing at rated action resistance (a)         Typical pre-arcing at rated action (action as a pre-arcing at rated AC (A <sub>Ac</sub> )         Typical pre-arcing at rated action and resistance (a)         Typical pre-arcing at rated action (action action	Current rating (A)         Voltage rating AC (A <sub>AC</sub> )         Typical DC (A <sub>AC</sub> )         Typical pre-arcing repre-arcing representation representatin	Current rating (A)         Voltage (A) (A)         rating AC (A)         Typical pre-sistance² (a)         Typical pre-sistance² (b)         Typical pre-sistance² (c)         Typical pre-sistance² (c)	Current rating (A)         Voltage (19 Hz) (A <sub>AC</sub> )         Typical pre-sistance² (n) Pi (A²S)         Typical pre-sistance² (n) Pi (A²S)         Ypical pre-sistance² (n) Pi (A²S)         Ym X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X

<sup>1</sup>  $\,$  Interrupting ratings 500 mA to 10 A measured at 70% to 80% PF on AC. 12 A measured at

# Dimensions (mm)





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

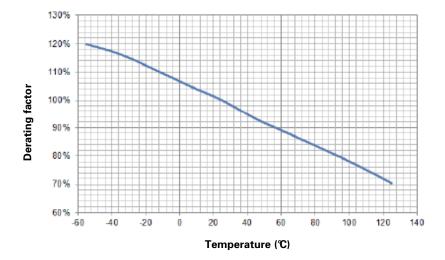
<sup>3</sup> Typical pre-arcing (I2t) measured at listed interrupting rating and voltage.

<sup>\*=</sup> measured at 10 times rated current under DC.

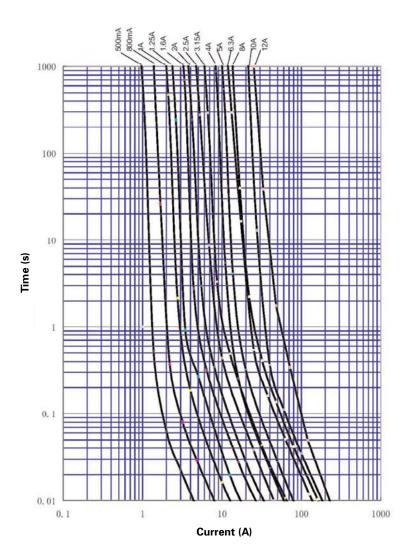
<sup>4</sup> Typical voltage drop measured at +20  $^{\circ}$  C at rated current.

<sup>5</sup> Part number definition: S505-xxx-R S505= Product code and size xxx= Ampere rating -R= Rohs compliant

# 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)

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Ord	erına	codes

	•	
Part number	-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

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