



Document Record						
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1	2012.08.25	Draft	9	A/0	Runsong Zhong	Lianghua Guo
2	2014.07.27	Release Edition	8	A/1	Kings Luo	Wenhua Yan
3	2015.03.12	Add KC certification	3,7	A/2	Kings Luo	Wenhua Yan
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8	2015.12.12	Update the PSE certification and add the packaging code 15.	5	B/1	Jeffery	Lin Gao
9	2016.09.28	Modify the CCC certificate no.		B/2	Jeffery	WenQiang Luo
10	2017.04.05	Update 3.15A I ² T Value	6,7	B/3	Jeffery	WenQiang Luo
11	2017.10.05	Update CCC certification		B/4	J.Q.	Fei Gao
12	2018.10.11	Add the TUV certification		B/5	Xiong Xiang	Fei Gao
13	2019.10.30	Update CQC certification		C/0	YaLan Wang	Fei Gao
14	2019.11.21	Update 8A 10A CQC certification		C/1	YaLan Wang	Fei Gao
15	2020.01.06	Update CCC certification		C/2	YaLan Wang	Fei Gao
16	2020.02.20	Add Rasistance value		C/3	YaLan Wang	Fei Gao
17	2020.07.30	Update content		C/4	YaLan Wang	Fei Gao
18	2020.08.27	Update 3.15A I ² T value from 75 to 98		C/5	YaLan Wang	Fei Gao
19	2021.04.28	Update PSE certification and parameter of 10A	3,7	D/0	Wenshan Chen	Fei Gao
20	2021.08.30	Update PSE certification and parameter of 10A	7	D/1	Wenshan Chen	Fei Gao
21	2021.12.20	Add 3A	7	D/2	Wenshan Chen	Fei Gao
22	2022.07.11	Update PSE certification No. of 6.3A and 12.5A	3	D/3	Hongkun Huang	Fei Gao
23	2022.10.11	Update PSE certification No. of 1A~5A	3	D/4	Hongkun Huang	Fei Gao
24	2023.02.27	Update 5A I ² T value from 139 to 230	7	D/5	Hongkun Huang	Fei Gao

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1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to fuses of the 522 series. The 522 series is a cartridge fuse link for over-current protection.

With its low breaking capacity, the 522 fuse series is ideal for supplementary protection in electrical appliances and equipment to provide excellent protection for components or circuits.

2. GENERAL INFORMATION









General Description

522 series time-lag fuse with low breaking capacity for use with printed circuit boards is used in a large variety of applications. This $\Phi 5\text{mm} \times 20\text{mm}$ device is constructed of a glass tube with electro-plated brass end caps. The 522 series with 250 VAC rating and 35A or 10In Ampere breaking capacity, offers excellent quality and is 100% tested for cold resistance and precise length.

Detailed Features

- Miniature fuse with time-lag, low breaking capacity
- $\Phi 5\text{mm} \times 20\text{mm}$ physical dimensions
- Glass tube, encapsulated design with nickel - plated brass end caps
- Protection against harmful over-currents in primary and secondary applications.
- Lead-free, Halogen-free, RoHS compliant
- Designed compliant to IEC 60127-2/III

3. AGENCY APPROVALS

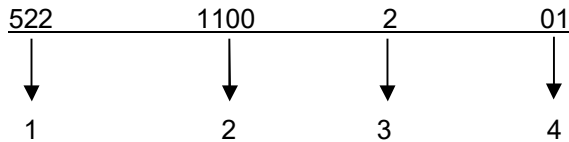
Agency	Agency File Number	Voltage / Current Rating
	E300003	250V AC:100mA~800mA;1A~3.15A;4A~8A; 10A~15A
	40042731	250V AC:12.5A
	40019022	250V AC:500mA;1A;1.6A;2A;2.5A;3.15A;4A;5A;6.3A;8A;10A
	CQC05012012795 CQC06012017150	250V AC:8A;10A 250V AC:12.5A;16A
	2020970207000052	250V AC:250mA;315mA;500mA;1A;1.6A;2A;2.5A;3.15A;4A;5A;6.3A
	PSE22022268 PSE22022170 PSE22022188 PSE20021672	250V AC:1A;1.6A;2A;2.5A;3.15A;4A;5A 250V AC:6.3A 250V AC:12.5A 250V AC:10A;15A
	SU05042-14007	250V AC:3.15A;5A;6.3A
	J 50415641	250V AC:250mA;315mA;400mA;1.25A;12A;15A;16A



4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 5221100201



- | | |
|------------------------------|--------------------------------------|
| 1 .Product Series | 522 |
| 2 .Ampere Rating | 1A (see table 4.2 below) |
| 3 .Max. Voltage Rating | 1-125V 2 – 250V |
| 4 .Supplementary Code | Complement Code(see table 4.3 below) |

4.2 Ampere / Voltage Rating Table

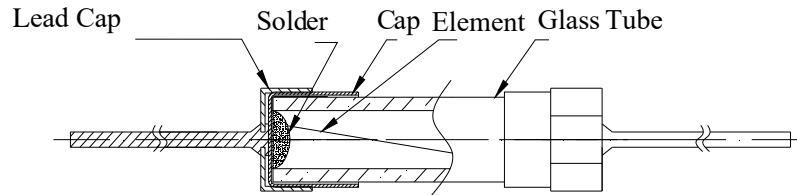
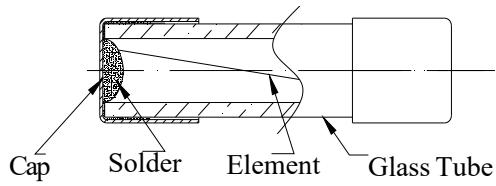
AMP CODE	CURRENT RATING	VOLTAGE RATING
0250	250mA	250V AC
0315	315mA	250V AC
0400	400mA	250V AC
0500	500mA	250V AC
0630	630mA	250V AC
0800	800mA	250V AC
1100	1.00A	250V AC
1125	1.25A	250V AC
1150	1.50A	250V AC
1160	1.60A	250V AC
1200	2.00A	250V AC
1250	2.50A	250V AC
1300	3.00A	250V AC
1315	3.15A	250V AC
1400	4.00A	250V AC
1500	5.00A	250V AC
1630	6.30A	250V AC
1800	8.00A	250V AC
2100	10.00A	250V AC
2120	12.00A	250V AC
2125	12.50A	250V AC
2150	15.00A	250V AC
2160	16.00A	250V AC

4.3. Supplementary Code

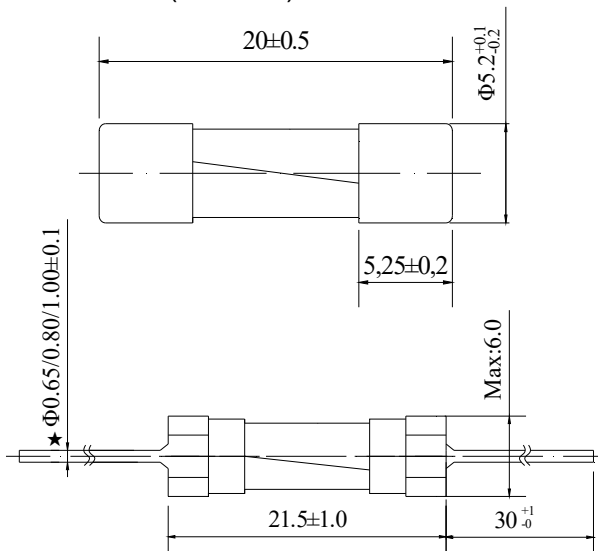
CODE	DESIGNATION
00	Without leads
01	Octagonal cap Leads:L=30mm
02	Round cap
00C	Octagonal cap and resistance to lightning
01C	Octagonal cap Leads:L=38mm
⋮	
13	Octagonal cap and the product covered with Black heat shrinkable tube
⋮	
59	Make the product K-shaped



5. MECHANICAL SPECIFICATIONS



Dimensions (unit: mm)



Note: ★
100mA~7.0A ** Φ0.65mm
8.0A~12.5A ** Φ0.80mm
15.0A~16A ** Φ1.00mm

Operating Temperature:

-55°C to +125°C

Storage Conditions:

+10°C to +60°C

Relative humidity: ≤ 75% yearly average
without dew, maximum 30 days at 95%

Vibration Resistance:

24 cycles at 15 min. each (60068-6)

10-60Hz at 0.75mm amplitude

60-2000Hz at 10g acceleration



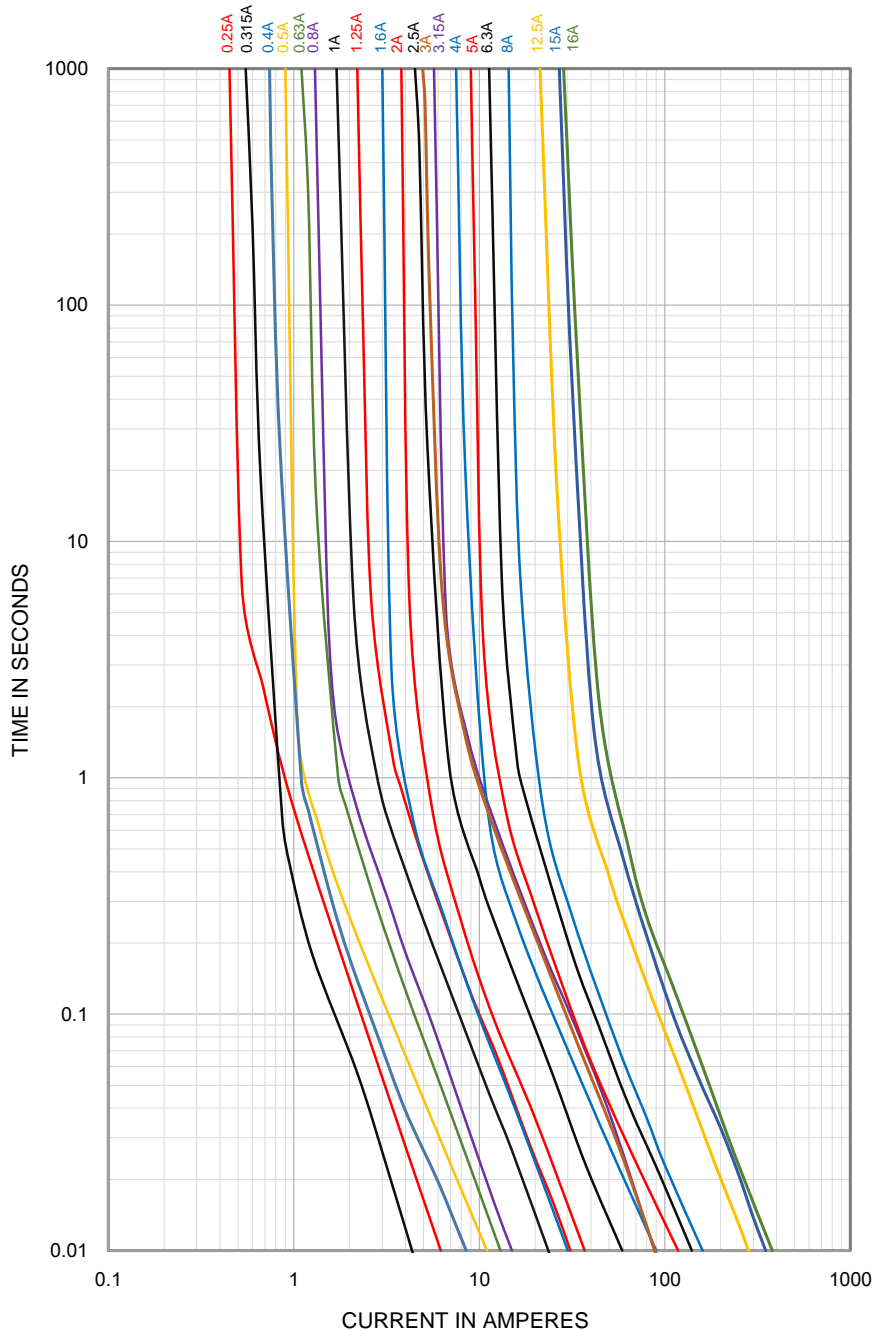
6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

(measured with constant current power supply)

Time vs Current Characteristics: IEC 60127-2/III					
Rated Current	150%	210%	275%	400%	1000%
100mA	>1h	<2min	200ms-10s	40ms-3s	10ms~300ms
125mA~10A	>1h	<2min	600ms~10s	150ms~3s	20ms~300ms
12A~16A	>30min	<5min	600ms~15s	150ms~5s	20ms~400ms

Average Time Current (I-T) Curves





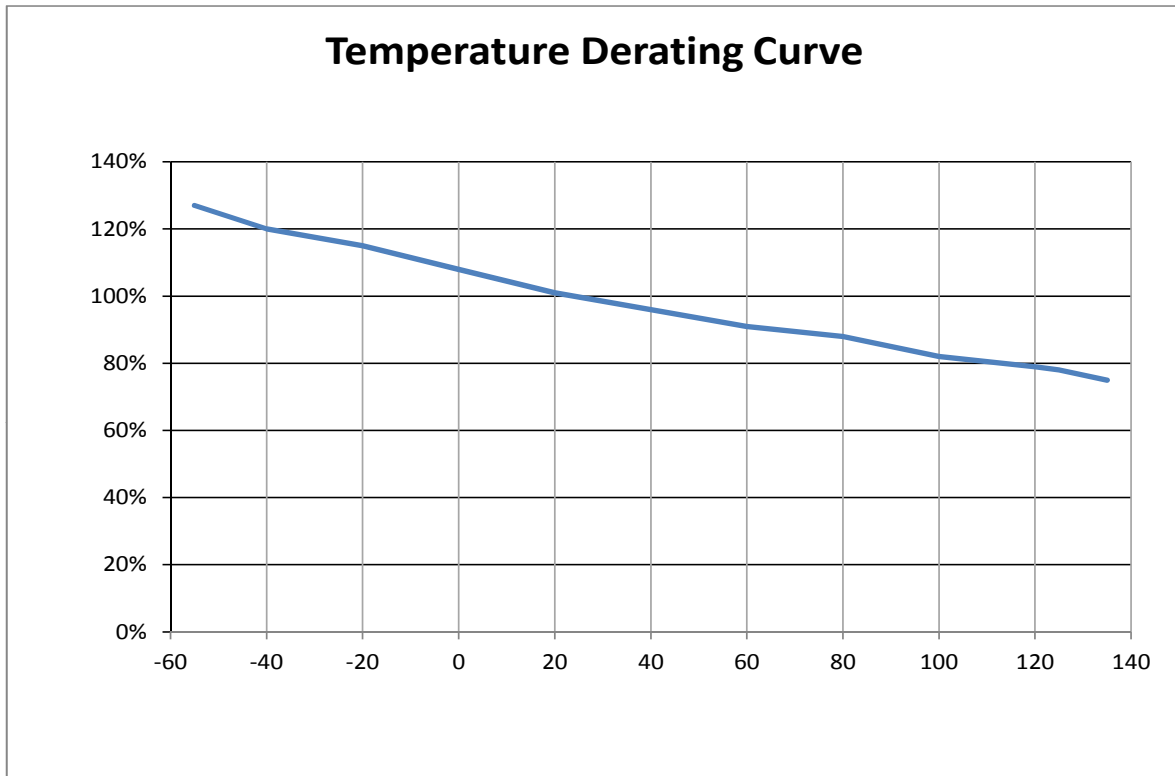
Electrical characteristics

Electrical Characteristics at 25°C														
Amp	Rated Current	Rated Voltage	Max Voltage Drop(mV)	Max.Power Dissipation (W)	Nominal Melting I ² t(A ² sec)	Typical Cold Resistance (mΩ)	Breaking Capacity	Approvals						
								VDE	CQC	cURus	PSE	CCC	KC	TUV
0250	250mA	250V AC	1300	1.6	0.384	860	35A or 10In@250V AC	○	○	●	○	●	○	●
0315	315mA		1100	1.6	0.462	320		○	○	●	○	●	○	●
0400	400mA		1000	1.6	0.723	225		○	○	●	○	○	○	●
0500	500mA		900	1.6	1.21	185.3		●	○	●	○	●	○	○
0630	630mA		300	1.6	1.69	135		○	○	●	○	○	○	○
0800	800mA		250	1.6	2.25	96.3		○	○	●	○	○	○	○
1100	1.00A		150	1.6	5.52	71.0		●	○	●	●	●	○	○
1125	1.25A		150	1.6	9.61	51.0		○	○	●	○	○	○	●
1150	1.50A		150	1.6	6.25	65.0		○	○	●	○	○	○	○
1160	1.60A		150	1.6	9.00	42.0		●	○	●	●	●	○	○
1200	2.00A		150	1.6	13.7	32.0		●	○	●	●	●	○	○
1250	2.50A		120	1.6	36	41.5		●	○	●	●	●	○	○
1300	3.00A		120	1.6	78	19.1		○	○	●	○	○	○	○
1315	3.15A		100	1.6	98	17.2		●	○	●	●	●	●	○
1400	4.00A		100	1.6	81	14.3		●	○	●	●	●	○	○
1500	5.00A		100	1.6	230	10.8		●	○	●	●	●	●	○
1630	6.30A		100	1.6	153	8.20		●	○	●	●	●	●	○
1800	8.00A		100	4	256	6.50		●	●	●	○	○	○	○
2100	10.00A		100	4	435	5.30		●	●	●	●	○	○	○
2120	12.00A		100	4	676	4.10		○	○	●	○	○	○	●
2125	12.50A	100	4	780	3.90	●	●	●	●	○	○	○		
2150	15.00A	100	4	1100	3.10	○	○	●	●	○	○	●		
2160	16.00A	100	4	1444	3.00	○	●	○	○	○	○	●		

Note:1. Permissible continuous operating current is 100% at ambient temperature of 23°C (73.4°F)
2. The current values used for calculating I²T should be within the standard range of 8ms ~ 10ms.



Temperature Derating Curve



Calculation for ideal fuse selection = $\frac{\text{Operating Current (A)}}{\text{Rating } (\% \times 0.75)}$

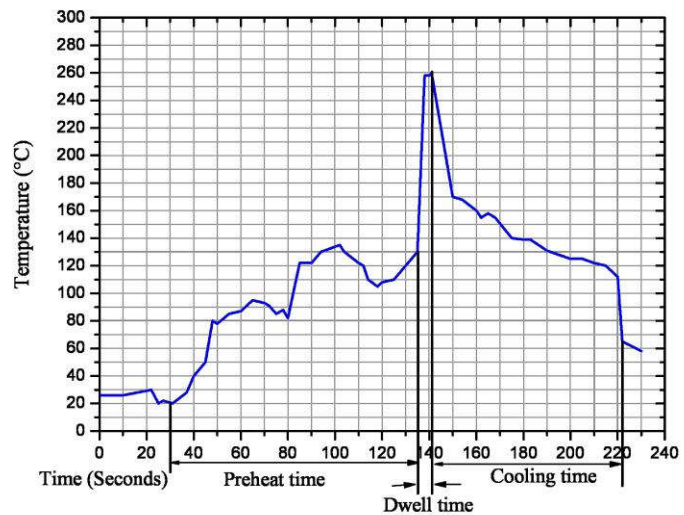
7. SOLDERING PARAMETERS

260°C. ≤5 sec (Wave Soldering)

350°C. ≤3 sec (Hand Soldering)

Soldering Peak:

260°C - 10 sec (IEC 60068-20)



8. ORDERING INFORMATION

The following information are necessary in order to place your order with us correctly:

Series	Amp Code	Supplementary Code	Qty
522			

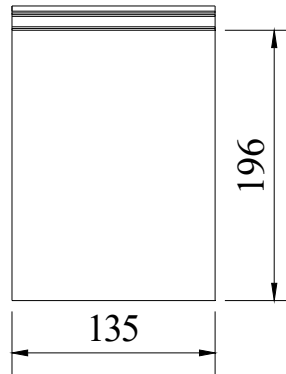


9.PACKING INFORMATION

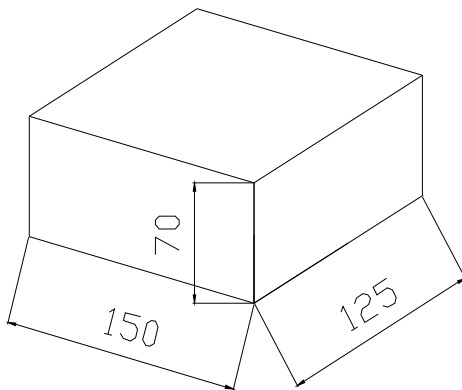
Packing details

Unit:mm

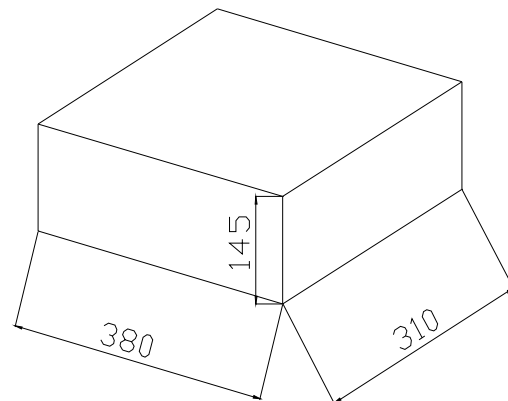
Plastic bag



Inner Box



Master Carton



Net Weight (100pcs/bag)	415g	Inner box weight	880g	Master Carton Weight	9.7kg
Qty per bag	500pcs	Qty per box	1000pcs	Qty per carton	10000pcs

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