

RoHS  **218 Series, 5 x 20 mm, Time-Lag (Slo-Blo®) Fuse**



### Agency Approvals

| Agency                                                                              | Agency File Number                                                                                                                  | Ampere Range                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|    | Cartridge Certificates:<br>NBK090205-E10480A<br>NBK120802-E10480C<br>Leaded Certificates:<br>NBK090205-E10480B<br>NBK120802-E10480D | 1A – 5A<br>6.3A – 15A                   |
|    | Certificates:<br>2005010207145715                                                                                                   | 32mA – 6.3A                             |
|  | Certificates:<br>SU05001-3005<br>SU05001-2008<br>SU05001-2009                                                                       | 32mA – 40mA<br>50mA – 800mA<br>1A – 10A |
|  | Recognised File:<br>E10480<br>Guide:<br>JDYX2                                                                                       | 32mA – 16A                              |
|  | File:<br>029862<br>Acc. Class:<br>LR1422-30                                                                                         | 32mA – 15A                              |
|  | File:<br>9850004, 9843043,<br>811742, 304650, 416270                                                                                | 32mA – 6.3A                             |
|  | License:<br>40013496                                                                                                                | 32mA – 10A                              |
|  | License:<br>40016604                                                                                                                | 15A*                                    |
|  | License:<br>KM41462                                                                                                                 | 80mA – 6.3A                             |
|  |                                                                                                                                     | 32mA – 16A                              |

\* Approval for Cartridge versions only

### Description

5x20mm Time-Lag glass body cartridge fuse designed to IEC specification.

### Features

- Designed to International (IEC ) Standards for use globally
- Meets the IEC 60127-2, Sheet 3 specification for Time-Lag fuses
- Available in cartridge and axial lead form
- RoHS compliant and lead-free

### Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

### Electrical Characteristics

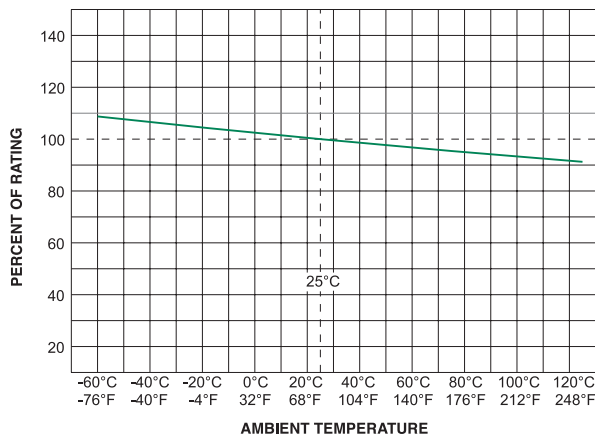
| % of Ampere Rating | Ampere Rating | Opening Time                |
|--------------------|---------------|-----------------------------|
| 150%               | 32mA–100mA    | 60 minutes, Minimum         |
|                    | 125mA-6.3A    | 60 minutes, Minimum         |
|                    | 8A-15A        | 30 minutes, Minimum         |
| 210%               | 32mA-100mA    | 120 sec., Maximum           |
|                    | 125mA-6.3A    | 120 sec., Maximum           |
|                    | 8A-15A        | 120 sec., Maximum           |
| 275%               | 32mA-100mA    | 200 ms., Min.; 10 sec. Max. |
|                    | 125mA-6.3A    | 600 ms., Min.; 10 sec. Max. |
|                    | 8A-15A        | 600 ms., Min.; 10 sec. Max. |
| 400%               | 32mA-100mA    | 40 ms., Min.; 3 sec. Max.   |
|                    | 125mA-6.3A    | 150 ms., Min.; 3 sec. Max.  |
|                    | 8A-15A        | 150 ms., Min.; 3 sec. Max.  |
| 1000%              | 32mA-100mA    | 10 ms., Min.; 300 ms. Max.  |
|                    | 125mA-6.3A    | 20 ms., Min.; 300 ms. Max.  |
|                    | 8A-15A        | 20 ms., Min.; 300 ms. Max.  |

### Electrical Characteristics

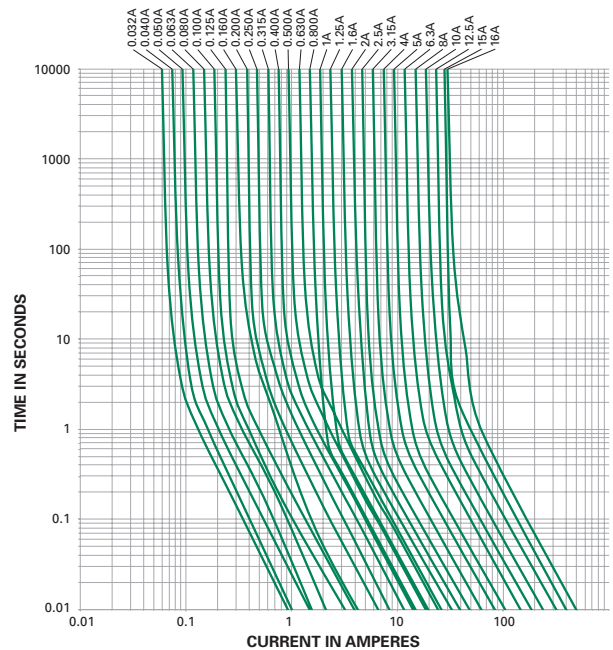
| Amp Code | Amp Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec) | Maximum Voltage Drop at Rated Current (mV) | Maximum Power Dissipation At 1.5I <sub>n</sub> (W) | Agency Approvals                                                                  |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|----------|----------------|--------------------|---------------------|--------------------------------|-------------------------------------------------------|--------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|          |                |                    |                     |                                |                                                       |                                            |                                                    |  |  |  |  |  |  |  |  |
| .032     | 0.032          | 250                | 35 A @ 250 VAC      | 48.2580                        | 0.01100                                               | 5000                                       | 1.6                                                |                                                                                   | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .040     | 0.04           | 250                |                     | 31.8620                        | 0.01100                                               | 4000                                       | 1.6                                                |                                                                                   | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .050     | 0.05           | 250                |                     | 21.2920                        | 0.01700                                               | 3500                                       | 1.6                                                |                                                                                   | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .063     | 0.063          | 250                |                     | 14.2680                        | 0.02800                                               | 3000                                       | 1.6                                                |                                                                                   | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .080     | 0.08           | 250                |                     | 9.0700                         | 0.07500                                               | 2500                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .100     | 0.1            | 250                |                     | 6.0180                         | 0.07900                                               | 2000                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .125     | 0.125          | 250                |                     | 4.2000                         | 0.1465                                                | 1900                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .160     | 0.16           | 250                |                     | 3.7000                         | 0.14400                                               | 1500                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .200     | 0.2            | 250                |                     | 1.6000                         | 0.3410                                                | 1300                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .250     | 0.25           | 250                |                     | 1.0495                         | 0.5405                                                | 1100                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .315     | 0.315          | 250                |                     | 0.8475                         | 1.1100                                                | 1000                                       | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .400     | 0.4            | 250                |                     | 0.5350                         | 1.3250                                                | 900                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .500     | 0.5            | 250                |                     | 0.3700                         | 2.8250                                                | 300                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .630     | 0.63           | 250                |                     | 0.2750                         | 4.6750                                                | 250                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| .800     | 0.8            | 250                |                     | 0.0813                         | 3.370                                                 | 150                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 001.     | 1              | 250                |                     | 0.0613                         | 6.730                                                 | 150                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 1.25     | 1.25           | 250                |                     | 0.0446                         | 12.650                                                | 150                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 01.6     | 1.6            | 250                |                     | 0.0336                         | 23.350                                                | 150                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 002.     | 2              | 250                |                     | 0.0293                         | 14.450                                                | 150                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 02.5     | 2.5            | 250                |                     | 0.0219                         | 23.250                                                | 120                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 3.15     | 3.15           | 250                |                     | 0.0173                         | 38.150                                                | 100                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 004.     | 4              | 250                | 40 A @ 250 VAC      | 0.0129                         | 69.10                                                 | 100                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 005.     | 5              | 250                | 50 A @ 250 VAC      | 0.0104                         | 111.00                                                | 100                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 06.3     | 6.3            | 250                | 63 A @ 250 VAC      | 0.0076                         | 198.50                                                | 100                                        | 1.6                                                | x                                                                                 | x                                                                                  | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   | x                                                                                   |
| 008.     | 8              | 250                | 80 A @ 250 VAC      | 0.0059                         | 341.50                                                | 100                                        | 4                                                  |                                                                                   | x                                                                                  |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   |                                                                                     | x                                                                                   |
| 010.     | 10             | 250                | 100 A @ 250 VAC     | 0.0045                         | 568.00                                                | 100                                        | 4                                                  |                                                                                   | x                                                                                  |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   |                                                                                     | x                                                                                   |
| 12.5     | 12.5           | 250                | 63 A @ 250 VAC      | 0.0034                         | 889.00                                                | 100                                        | 4                                                  |                                                                                   |                                                                                    |                                                                                     | x                                                                                   | x                                                                                   |                                                                                     |                                                                                     | x                                                                                   |
| 015.     | 15             | 250                | 100 A @ 250 VAC     | 0.0028                         | 1405.00                                               | 100                                        | 4                                                  |                                                                                   |                                                                                    |                                                                                     | x                                                                                   | x                                                                                   | x                                                                                   |                                                                                     | x*                                                                                  |
| 016.     | 16             | 250                | 63 A @ 250 VAC      | 0.0021                         | 1955.00                                               | 100                                        | 4                                                  |                                                                                   |                                                                                    |                                                                                     |                                                                                     | x                                                                                   |                                                                                     |                                                                                     | x                                                                                   |

\* Approval for cartridge versions only

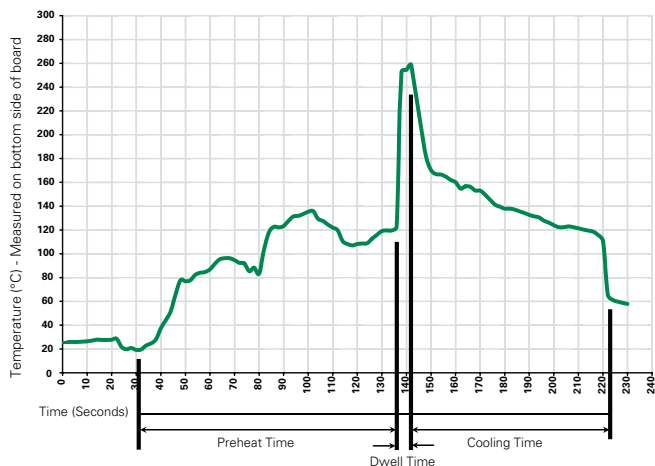
### Temperature Derating Curve



### Average Time Current Curves



### Soldering Parameters - Wave Soldering



#### Recommended Process Parameters:

| Wave Parameter                                                                                | Lead-Free Recommendation |
|-----------------------------------------------------------------------------------------------|--------------------------|
| <b>Preheat:</b><br>(Depends on Flux Activation Temperature) (Typical Industry Recommendation) |                          |
| Temperature Minimum:                                                                          | 100° C                   |
| Temperature Maximum:                                                                          | 150° C                   |
| Preheat Time:                                                                                 | 60-180 seconds           |
| <b>Solder Pot Temperature:</b>                                                                | 260° C Maximum           |
| <b>Solder Dwell Time:</b>                                                                     | 2-5 seconds              |

#### Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350° C +/- 5°C  
 Heating Time: 5 seconds max.

**Note: These devices are not recommended for IR or Convection Reflow process.**

### Product Characteristics

|                          |                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------|
| <b>Material</b>          | <b>Body:</b> Glass<br><b>Cap:</b> Nickel-plated Brass<br><b>Leads:</b> Tin-plated Copper   |
| <b>Terminal Strength</b> | MIL-STD-202G, Method 211A, Test Condition A                                                |
| <b>Solderability</b>     | Reference IEC 60127 Second Edition 2003-01 Annex A                                         |
| <b>Product Marking</b>   | <b>Cap1:</b> Brand logo, current and voltage ratings<br><b>Cap2:</b> Agency approval marks |
| <b>Packaging</b>         | Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)                   |

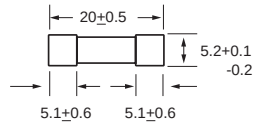
|                              |                                                                                                           |
|------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature</b> | -55°C to +125°C                                                                                           |
| <b>Thermal Shock</b>         | MIL-STD-202G, Method 107G, Test Condition B (5 cycles, -65°C to +125°C)                                   |
| <b>Vibration</b>             | MIL-STD-202G, Method 201A                                                                                 |
| <b>Humidity</b>              | MIL-STD-202G, Method 103B, Test Condition A (High RH (95%) and elevated temperature (40°C) for 240 hours) |
| <b>Salt Spray</b>            | MIL-STD-202G, Method 101D, Test Condition B                                                               |

# Axial Lead & Cartridge Fuses

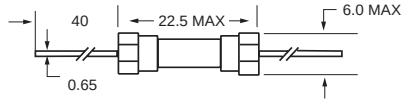
## 5x20 mm > Time-Lag > 218 Series

### Dimensions

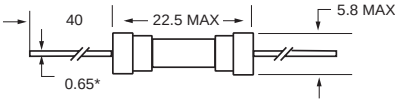
0218 000P



0218.032 XEP  
to  
0218.100XEP



0218.125 XEP  
to  
0218016. XEP

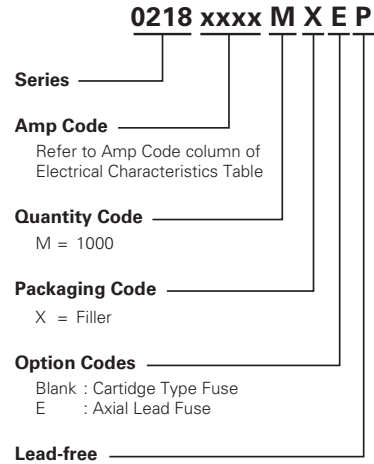


All dimensions in mm

Notes:

\* Ratings above 6.3A  
have 0.8 mm dia lead

### Part Numbering System



### Packaging

| Packaging Option  | Packaging Specification | Quantity | Quantity & Packaging Code | Taping Width     |
|-------------------|-------------------------|----------|---------------------------|------------------|
| <b>218 Series</b> |                         |          |                           |                  |
| Bulk              | N/A                     | 1000     | MX                        | N/A              |
| Bulk              | N/A                     | 1000     | MXE                       | N/A              |
| Reel and Tape     | EIA 296-E               | 1000     | MRET1                     | T1=53mm (2.087") |
| Bulk              | N/A                     | 1000     | MXG                       | N/A              |
| Bulk              | N/A                     | 1000     | MXB                       | N/A              |
| Bulk              | N/A                     | 100      | HX                        | N/A              |

## Данный компонент на территории Российской Федерации

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Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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