



### Description

5x20mm Fast-Acting Ceramic Body Cartridge Fuse designed to IEC specification.

### Features

- Designed to International (IEC) Standards for use globally
- Meets the IEC 60127-2, Sheet 1 specification for Fast-acting 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 for Series

% of Ampere Rating	Ampere Rating	Opening Time
150%	.05 – 4	60 minutes, Minimum
	5 – 6.3	60 minutes, Minimum
	8 - 16	30 minutes, Minimum
210%	.05 – 4	30 minutes, Maximum
	5 – 6.3	30 minutes, Maximum
	8 - 16	30 minutes, Maximum
275%	.05 – 4	0.01 sec., Min.; 2 sec. Max.
	5 – 6.3	0.01 sec., Min.; 3 sec. Max.
	8 - 16	0.04 sec., Min.; 20 sec. Max.
400%	.05 – 4	.003 sec., Min.; 0.3 sec. Max.
	5 – 6.3	.003 sec., Min.; 0.3 sec. Max.
	8 - 16	.01 sec., Min.; 1.0 sec. Max.
1000%	.05 – 4	.02 seconds, Maximum
	5 – 6.3	.02 seconds, Maximum
	8 - 16	.03 sec.onds, Maximum

### Agency Approvals

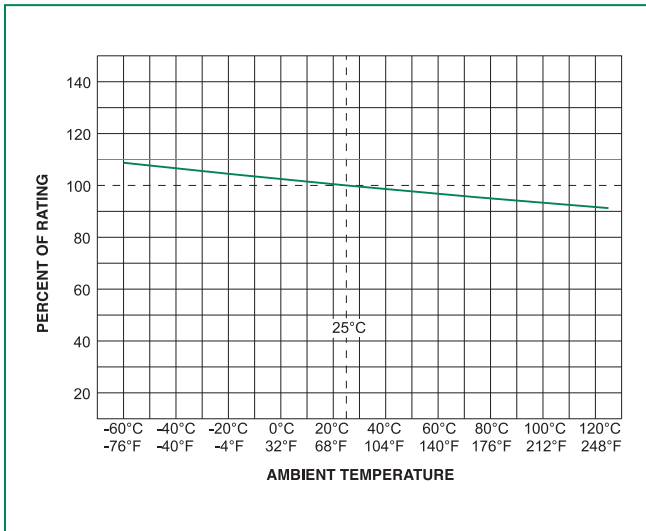
Agency	Agency File Number	Ampere Range
	Cartridge Certificates: NBK2508\702-E10480 A&C NBK250702-E10480 E Leaded Certificates: NBK250702-E10480 B & D NBK250702-E10480 F	1A – 10A
	Certificates: 2003010207079960 2002010207007594	50mA – 800mA 1A - 6.3A
	Certificates: SU05001-2013	1A - 10A
	Recognised File: E10480 Guide: JDYX2	50mA – 10A 12.5A, 16A
	File: 029862 Acc. Class: LR1422-30	
	License: KM41462	1A – 6.3A
	File: 9851193, 0149272 0147099 and 312378 508639, 601025	50mA – 6.3A 8A&10A, 16A
	License: 40013834	50mA – 8A *10A
	License: 40016442	*12.5A
		50mA – 16A

\*Approval for Cartridge versions only

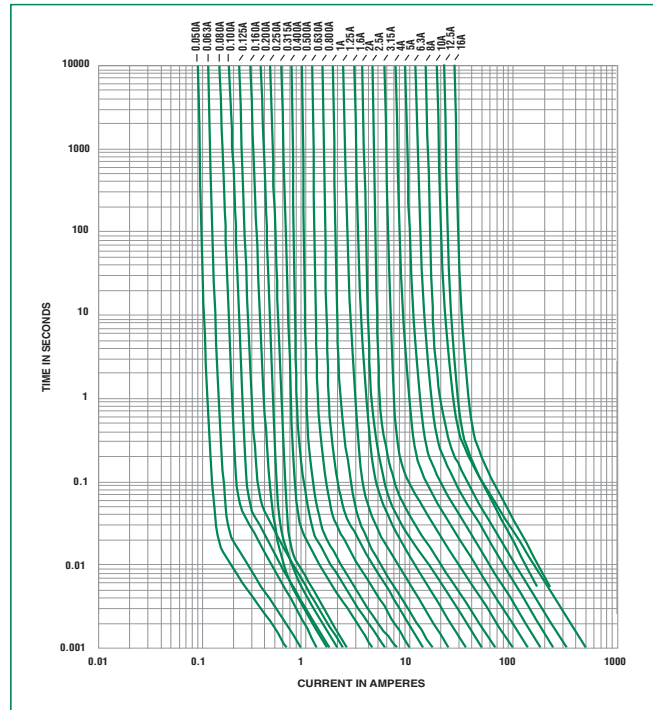
## Electrical Characteristics Specifications by Item

Amp Code	Amp Rating (A)	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Nominal Voltage Drop at Rated Current (mV)	Nominal Power Dissipation at Rated Current (W)	Agency Approvals									
.050	0.05	250	50mA ~ 12.5 A 1500A@250Vac	15.9000	0.00019	10000	1.6		x	x	x	x	x		x		
.063	0.63	250		10.4500	0.00054	8800	1.6		x	x	x	x	x		x		
.080	0.8	250		7.8850	0.00084	7600	1.6		x	x	x	x	x		x		
.100	0.1	250		5.7925	0.00450	7000	1.6		x	x	x	x	x		x		
.125	0.125	250		3.6750	0.00546	5000	1.6		x	x	x	x	x		x		
.160	0.16	250		5.3490	0.00576	4300	1.6		x	x	x	x	x		x		
.200	0.2	250		3.3500	0.00439	3500	1.6		x	x	x	x	x		x		
.250	0.25	250		2.3500	0.00891	2800	2.5		x	x	x	x	x		x		
.315	0.315	250		1.8500	0.01000	2500	2.5		x	x	x	x	x		x		
.400	0.4	250		0.9065	0.04000	2000	2.5		x	x	x	x	x		x		
.500	0.5	250		0.8660	0.16500	1800	2.5		x	x	x	x	x		x		
.630	0.63	250		0.4650	0.17500	1500	2.5		x	x	x	x	x		x		
.800	0.8	250		0.2950	0.28500	1200	2.5		x	x	x	x	x		x		
001	1	250		0.2370	0.18000	1000	2.5	x	x	x	x	x	x	x	x	x	
1.25	1.25	250		0.1530	0.48000	800	4	x	x	x	x	x	x	x	x	x	
01.6	1.6	250		0.1112	1.00500	600	4	x	x	x	x	x	x	x	x	x	
002	2	250		0.0764	1.87000	500	4	x	x	x	x	x	x	x	x	x	
02.5	2.5	250		0.0584	2.69500	400	4	x	x	x	x	x	x	x	x	x	
3.15	3.15	250		0.0368	6.70000	350	4	x	x	x	x	x	x	x	x	x	
004	4	250		0.0247	14.99500	300	4	x	x	x	x	x	x	x	x	x	
005	5	250	0.0183	27.46000	250	4	x	x	x	x	x	x	x	x	x		
06.3	6.3	250	0.0137	56.43000	200	4	x	x	x	x	x	x	x	x	x		
008	8	250	0.0123	64.31500	200	4	x		x	x	x	x		x*	x		
010	10	250	0.0079	154.34000	200	4	x		x	x	x	x		x*	x		
12.5	12.5	250	0.0057	235.00000	200	4			x	x		x		x			
016	16	250	16A 750A@250Vac	0.0040	462.50000	200	4.5			x	x	x	x				

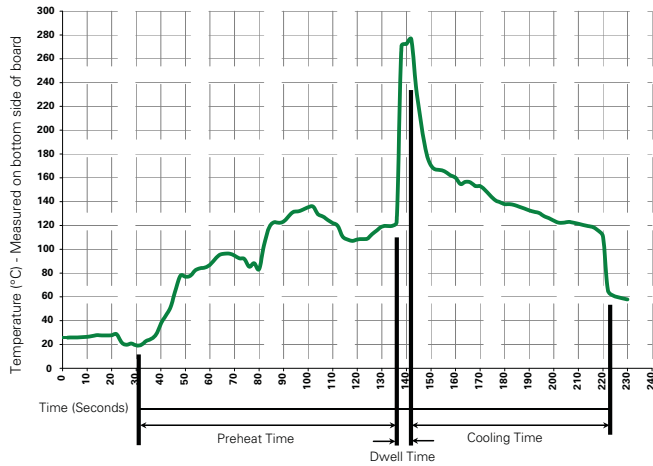
## Temperature Derating Curve



## Average Time Current Curves



## Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (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>	280° 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>	Body: Ceramic Cap: Nickel-plated brass Leads: Tin-plated Copper Filler (160mA-16A): Sand
<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>	Cap 1: Brand logo, current and voltage rating. Cap 2: Series and agency approval markings.
<b>Packaging</b>	Available in Bulk (V=5, H=100, 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