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Date: August 4, 2008  
To: S506/GDC Customers  
Subject: S506/GDC Product Change Notification

To continuously improve our products and processes, Cooper Bussmann has made some modifications to select ratings within the S506 and GDC fuse families.

Over the next couple of months there will be a transition to a new design. There will be no changes to voltage ratings, interrupting ratings or maximum/minimum opening times. Changes to Time-Current Characteristics are minimal. New datasheets reflecting these changes are now available online at [www.cooperbussmann.com/datasheets/elx](http://www.cooperbussmann.com/datasheets/elx).

New material declaration documents and other engineering documents are available upon request.

Fuse dimensions remain the same for all part numbers without axial leads. For fuses with axial leads (part numbers containing "-V"), some ratings will be fitted with larger diameter leads. Lead diameter for S506-V-4-R (all prefixes) and S506-V-5-R (all prefixes) has increased from 0.65mm to 0.80mm.

Thank you for your business and your cooperation with this transition.

Steve Dawson  
Senior Product Manager, Electronic Circuit Protection

### Description

- Time delay, low breaking capacity
- Optional axial leads available
- 5mm x 20mm physical size
- Glass tube, nickel-plated brass endcap construction
- Designed to IEC 60127-2 (32mA-10A)



S506 ELECTRICAL CHARACTERISTICS								
In	2.1 In		2.75 In		4 In		10 In	
	max	min	max	min	max	min	max	
32mA-100mA	2 min	200 ms	10 sec	40 ms	3 sec	10 ms	300 ms	
125mA-6.3A	2 min	600 ms	10 sec	150 ms	3 sec	20 ms	300 ms	
8A-15A	2 min	600 ms	10 sec	150 ms	3 sec	20 ms	300 ms	

### Agency Information

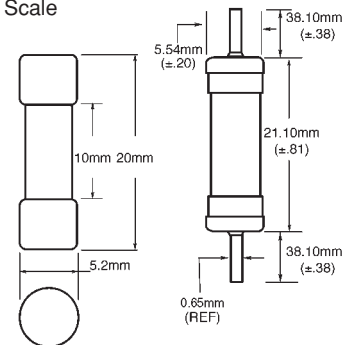
- UL Recognized Card: (32mA-15A) Guide JDYX2, File E19180
- CSA Component Acceptance: File 53787
- cURus Recognition: Guide JDYX8, File E19180
- SEMKO Approval, 32mA-10A
- VDE Approval, 32mA-10A
- BSI Approval, 32mA-10A
- IMQ Approval, 32mA-10A
- MITI Approval, 32mA-6.3A
- CCC Approval, 32mA-6.3A

### Ordering

- Specify packaging, product, and option code
- For -R option, drop mA or A from product code (i.e. S506-2-R)

### Dimensions

Drawing Not to Scale



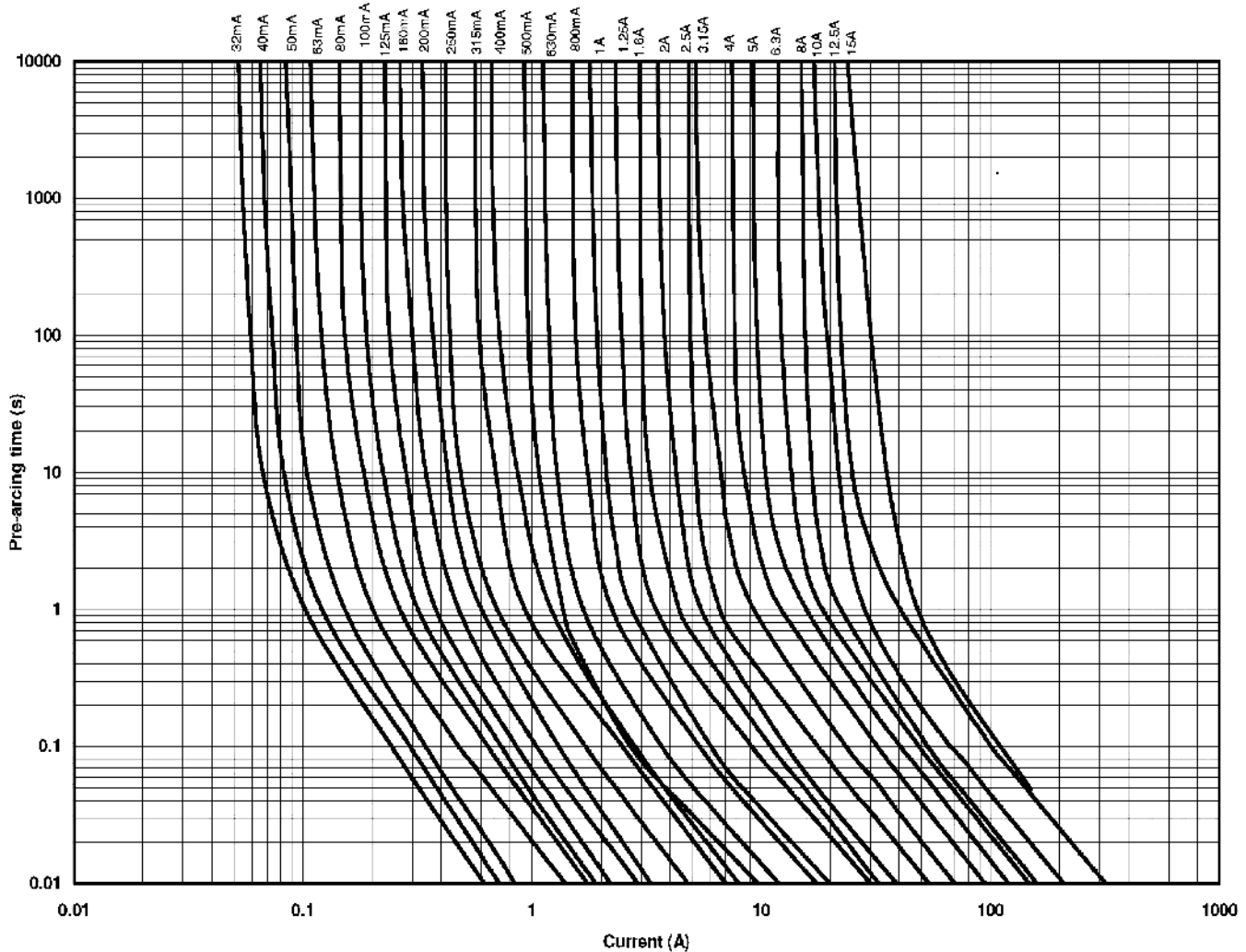
- Ratings above 6.3A have a 0.8mm diameter lead
- With TR2 packaging code, lead wire length is 19.05mm

### SPECIFICATIONS

Product Code	Voltage Rating AC	Interrupting Rating at Rated Voltage (50Hz) AC	Typical DC Cold Resistance (ohms)*	Minimum Pre-Arching I <sup>2</sup> t (A <sup>2</sup> Sec) AC†	Typical Voltage Drop (mV)‡
S506-32mA	250V	35A	21.0	0.0014	1050
S506-40mA	250V	35A	13.90	0.0034	920
S506-50mA	250V	35A	9.24	0.006	800
S506-63mA	250V	35A	6.96	0.012	760
S506-80mA	250V	35A	4.42	0.015	580
S506-100mA	250V	35A	2.74	0.022	490
S506-125mA	250V	35A	1.97	0.034	390
S506-160mA	250V	35A	1.27	0.052	320
S506-200mA	250V	35A	1.00	0.078	340
S506-250mA	250V	35A	0.640	0.17	270
S506-315mA	250V	35A	0.450	0.41	250
S506-400mA	250V	35A	0.308	0.61	210
S506-500mA	250V	35A	0.183	0.67	140
S506-630mA	250V	35A	0.186	1.0	150
S506-800mA	250V	35A	0.128	2.2	75
S506-1A	250V	35A	0.062	2.7	80
S506-1.25A	250V	35A	0.045	6.7	70
S506-1.6A	250V	35A	0.038	9.7	70
S506-2A	250V	35A	0.028	15	68
S506-2.5A	250V	35A	0.023	25	68
S506-3.15A	250V	35A	0.017	51	66
S506-4A	250V	40A	0.012	88	66
S506-5A	250V	50A	0.008	150	66
S506-6.3A	250V	63A	0.008	214	60
S506-8A	250V	80A	0.006	192	55
S506-10A	250V	100A	0.004	420	54
S506-12.5A	250V	125A	0.004	812	45
S506-15A	250V	125A	0.004	1029	73

\* DC Cold Resistance (Measured at <10% of rated current)  
 † Minimum Pre-Arching I<sup>2</sup>t (Measured at 10 In and rated voltage)  
 ‡ Typical Voltage Drop (Voltage drop was measured at 20°C ambient temperature at rated current)

**TIME CURRENT CURVE**



**PACKAGING CODE**

Packaging Code	Description
BK	100 pieces of fuses packed into a cardboard carton
BK1	1,000 pieces of fuses packed into a poly bag
TR2	1,500 pieces of fuses packed into tape on a reel (19.05mm lead wire length)

**OPTION CODE**

Option Code	Description
V	Axial leads - copper tinned wire with nickel plated brass overcaps
-R	RoHS compliant version

### Description

- Time delay, low breaking capacity
- 5mm x 20mm physical size
- Glass tube, nickel-plated brass endcap construction
- Optional axial leads are .032" x 1.5" copper tinned
- Designed to IEC 60127-2 (32mA-6.3A)

GDC ELECTRICAL CHARACTERISTICS								
In	2.1 In		2.75 In		4 In		10 In	
	max	min	max	min	max	min	max	
32mA-100mA	2 min	200 ms	10 sec	40 ms	3 sec	10 ms	300 ms	
125mA-6.3A	2 min	600 ms	10 sec	150 ms	3 sec	20 ms	300 ms	

### Ordering

- Specify product code, option code and packaging code

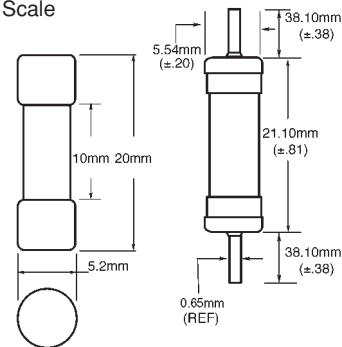
### Agency Information

- UL Recognized Card: (32mA-6.3A) Guide JDYX2, File E19180
- CSA Component Acceptance: File 53787
- Semko Approval, 32mA-6.3A
- VDE Approval, 32mA-5A
- BSI Approval, 32mA-6.3A
- IMQ Approval, 32mA-6.3A
- MITI Approval, 1A-6.3A



### Dimensions

Drawing Not to Scale



- Ratings above 6.3A have a 0.8mm diameter lead
- With TR2 packaging code, lead wire length is 19.05mm

### SPECIFICATIONS

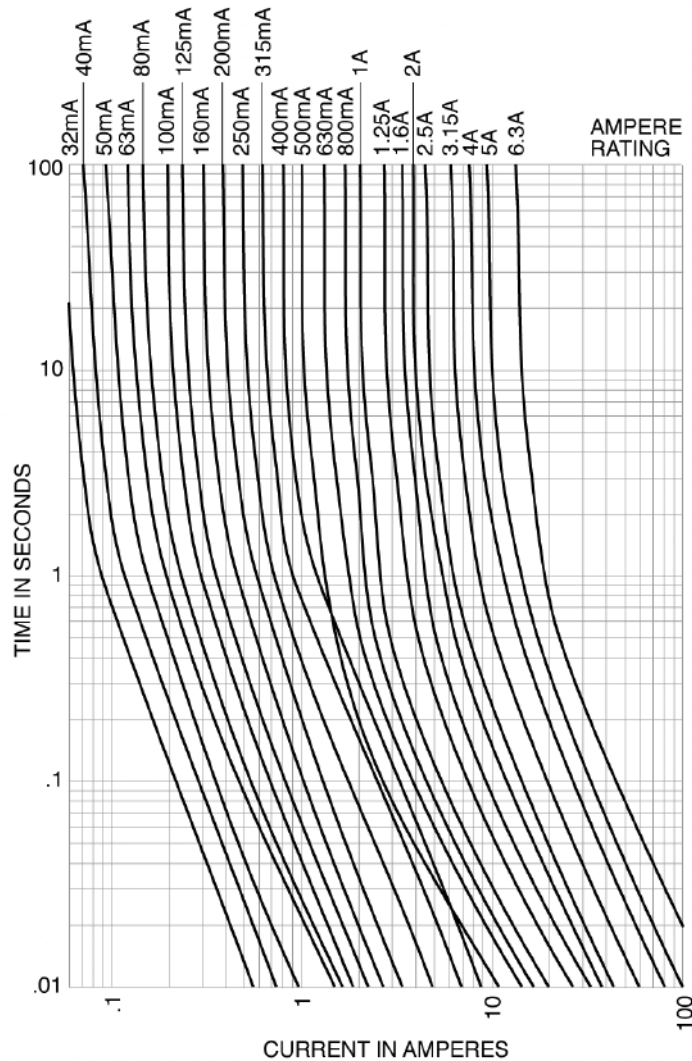
Product Code	Voltage Rating AC	Interrupting Rating at Rated Voltage (50Hz) AC	Typical DC Cold Resistance (ohms)*	Typical Melting I <sup>2</sup> t (A <sup>2</sup> Sec) AC†	Typical Voltage Drop (mV)‡
GDC-32mA	250V	35A	21.7	0.0014	1050
GDC-40mA	250V	35A	14.2	0.0034	920
GDC-50mA	250V	35A	9.5	0.006	800
GDC-63mA	250V	35A	7.1	0.012	760
GDC-80mA	250V	35A	4.5	0.015	580
GDC-100mA	250V	35A	2.8	0.022	490
GDC-125mA	250V	35A	2.0	0.034	390
GDC-160mA	250V	35A	1.3	0.052	320
GDC-200mA	250V	35A	1.0	0.078	340
GDC-250mA	250V	35A	0.66	0.17	270
GDC-400mA	250V	35A	0.37	0.61	210
GDC-500mA	250V	35A	0.268	0.75	180
GDC-630mA	250V	35A	0.191	1.3	160
GDC-800mA	250V	35A	0.131	3.1	140
GDC-1A	250V	35A	0.064	3.6	80
GDC-1.25A	250V	35A	0.046	7	75
GDC-1.6A	250V	35A	0.039	10	75
GDC-2A	250V	35A	0.029	17	75
GDC-2.5A	250V	35A	0.024	34	75
GDC-3.15A	250V	35A	0.18	56	70
GDC-4A	250V	35A	0.13	91	70
GDC-5A	250V	35A	0.010	133	65
GDC-6.3A	250V	35A	0.009	270	65

\* DC Cold Resistance (Measured at <10% of rated current)

† Typical Melting I<sup>2</sup>t (I<sup>2</sup>t was measured at listed interrupting rating and rated voltage)

‡ Maximum Voltage Drop (Voltage drop was measured at 20°C ambient temperature at rated current)

**TIME CURRENT CURVE**  
Time-Current Characteristic Curves—Average Melt



OPTION CODE	
Option Code	Description
V	Axial leads - copper tinned wire with nickel plated brass overcaps

PACKAGING CODE	
Packaging Code	Description
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BK1	1,000 pieces of fuses packed into a poly bag
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