

5.5kV E-Rated medium voltage fuses for feeder circuit, switchgear and transformer protection



Description:

Bussmann™ series E-Rated, current-limiting, medium voltage fuses for feeder circuit, switchgear and transformer protection.

Features and benefits

- Current-limiting E-Rated medium voltage fuses are defined by their melting time-current characteristic that permit their electrical interchangeability with other fuses of the same E Rating.
- E-Rated fuses must have a defined current response time specified by ANSI C37.46. E-Rated fuse of 100 amps and below must melt in 300 seconds at an RMS current within the range of 200% to 240% of the fuse's nameplate current rating. E-Rated fuses greater than 100 amps must melt in 600 seconds at an RMS current within the range of 220% to 264% of the fuse's nameplate current rating.
- E-Rated fuses are physically dimensioned for easy installation in existing hardware.
- Current-limiting fuses provide positive interruption even on low fault currents. The fuse limits the magnitude of electromechanical stresses in the protected apparatus.
- Constructions available in ferrule, bolt-on and clip-lock, and specialty mount fuses for AMPGARD motor starters.
- Outdoor rating available on select catalog numbers (requires installation in a suitable enclosure).
- Open fuse indicator easily integrates into automation schemes and speeds troubleshooting by providing a positive visual indication of fuse operation.
- Optional remote contact signaling microswitch available.
- 50/60Hz operating frequency for worldwide application.
- Mountings are available in disconnect and non-disconnect versions with porcelain or glass polyester insulators.
- Live parts and end fittings available.

Typical applications:

- Medium voltage transformer primary protection
- Medium voltage feeder circuit protection
- Medium voltage switches
- Medium voltage metal-enclosed switchgear



Powering Business Worldwide

E-Rated medium voltage ferrule fuses

Catalog symbols:

- General purpose:
 - 5CLE-_E-D (10-25A)
 - 5CLE-_E (10-1350A)
 - 5HLE-_E (10-450A)
 - JCY-_E (1-25A)
- Full range (per ANSI C37.40)
 - MV055F_ (10-450A)

Ratings*:

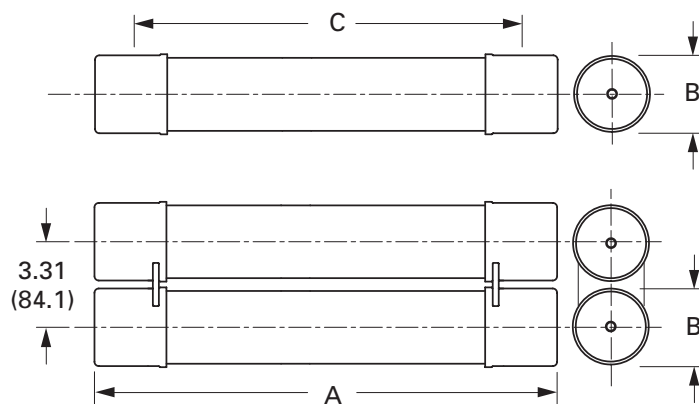
- Volts — 5.5kV
- Amps — 1 to 1350A
- Interrupting ratings — 40 to 65 kA RMS Sym

* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

Agency information:

- E-Rated fuses meet the performance characteristics of ANSI C37.46
- UL Listed, Guide JEEG, File E240398. See catalog numbers.

Dimensions (see catalog number tables for values)



Recommended CLE and HLE holders:

Amp rating	Fuse mounting type*	Voltage BIL (kV)	Catalog number						
			Approximate dimensions - in (mm)			Mounting (including live parts, end fittings)**		Live parts (including end fittings)	End fittings (disconnect only)
			Diameter A	Clip center B	Length C	Porcelain insulator	Glass-polyester insulator		
CLE									
10E-D-25E-D 30E-250E Single barrel	Non-disconnect Disconnect†	60 60	3.0 (76.2)	14.0 (355.6)	17.9 (454.7)	5CLE-PNM-D 5CLE-PDM-D	5CLE-GNM-D 5CLE-GDM-D	CLE-NL-D CLE-DL-D	— CLE-DF-D
15E-25E Single barrel	Non-disconnect Disconnect†	60 60	2.0 (50.8)	11.5 (292.1)	12.9 (327.7)	5CLE-PNM-C 5CLE-PDM-C	5CLE-GNM-C 5CLE-GDM-C	CLE-NL-C CLE-DL-C	— CLE-DF-C
300E-450E Double barrel	Non-disconnect Disconnect†	60 60	3.0 (76.2)	14.0 (355.6)	17.9 (454.7)	5CLE-PNM-E 5CLE-PDM-E	5CLE-GNM-E 5CLE-GDM-E	CLE-NL-E CLE-DL-E	— CLE-DF-E
600E and 750E Double barrel	Consult factory	60	4.0 (101.6)	N/A	N/A	—	—	—	—
1100E and 1350E Four barrel	Consult factory	—	4.0 (101.6)	N/A	N/A	—	—	—	—
HLE									
10E-D-250E Single barrel	Non-disconnect Disconnect	60 60	3.0 (76.2)	12.0 (304.8)	15.9 (403.9)	5HLE-PNM-D 5HLE-PDM-D	5HLE-GNM-D 5HLE-GDM-D	CLE-NL-D CLE-DL-D	— CLE-DF-D
300E-450E Double barrel	Non-disconnect Disconnect	60 60	3.0 (76.2)	12.0 (304.8)	15.9 (403.9)	5HLE-PNM-E 5HLE-PDM-E	5HLE-GNM-E 5HLE-GDM-E	CLE-NL-E CLE-DL-E	— CLE-DF-E

* See page 12 for illustrations and dimensions

** End fittings supplied only when required.

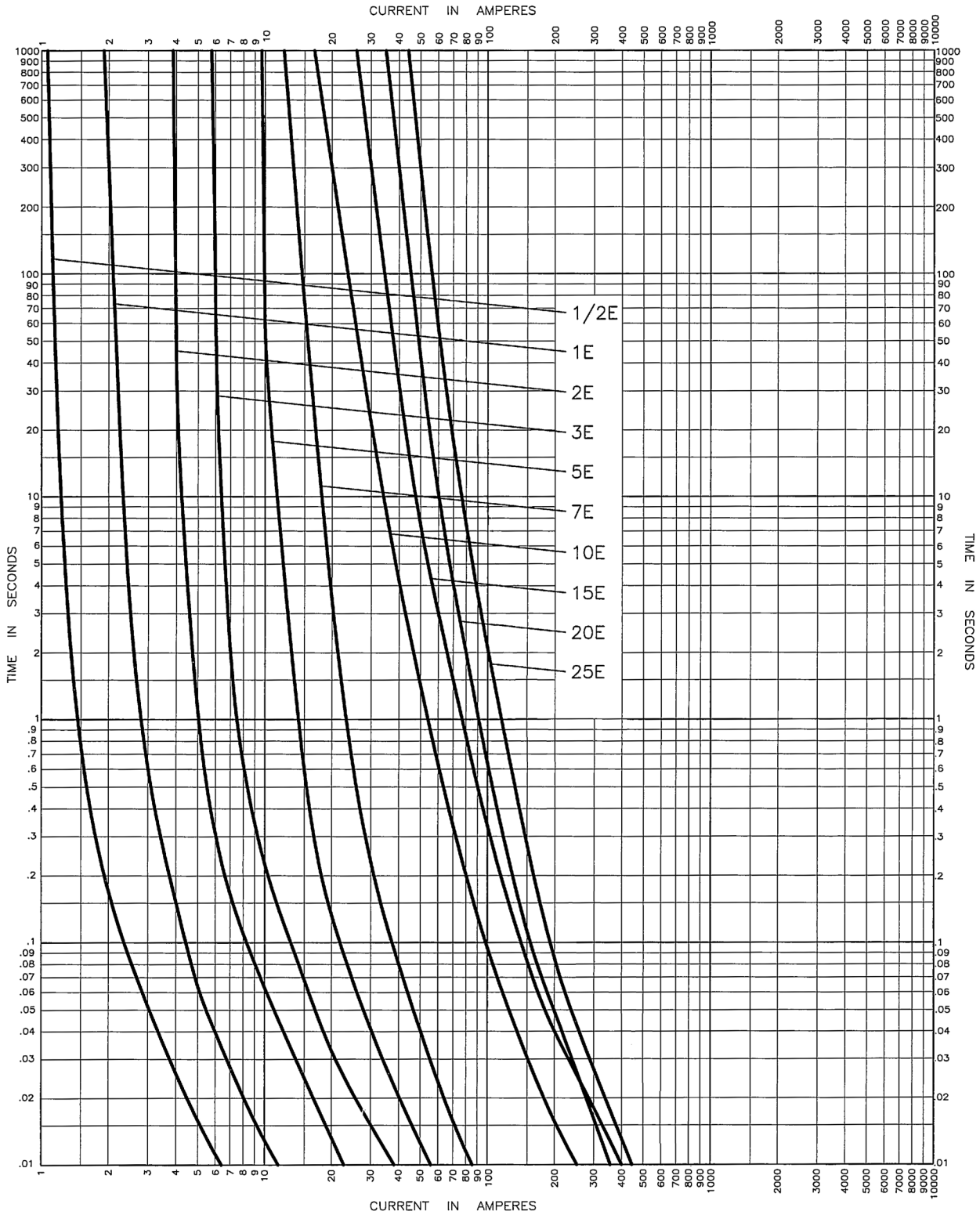
† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

CLE, HLE and JCY general purpose

Amps	Dimensions — in (mm)			IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
	Length A	Diameter B	Clip centers C				
1							JCY-1E
2							JCY-2E
3	11.2 (284)	2 (51)	9 (229)	40		Indoor/outdoor	JCY-3E
5							JCY-5E
7							JCY-7E
10							JCY-10E
10	17.9 (455)	3 (76)	14 (356)	63		5CLE-10E-D	
10	15.9 (404)		12 (305)			5HLE-10E	
15	11.2 (284)	2 (51)	9 (229)	40		JCY-15E	
15	12.9 (328)		11.5 (292)	50		Indoor	5CLE-15E*
15	17.9 (455)		14 (356)	63			5CLE-15E-D
15	15.9 (404)		12 (305)			Indoor/outdoor	5HLE-15E
20	11.2 (284)	2 (51)	9 (229)	40	JCY-20E		
20	12.9 (328)		11.5 (292)	50	Indoor	5CLE-20E*	
20	17.9 (455)		14 (356)	63		5CLE-20E-D	
20	15.9 (404)		12 (305)		Indoor/outdoor	5HLE-20E	
25	11.2 (284)	2 (51)	9 (229)	40	JCY-25E		
25	12.9 (328)	2 (51)	11.5 (292)	50	Indoor	5CLE-25E*	
25	17.9 (455)		14 (356)	63		5CLE-25E-D	
25	15.9 (404)		12 (305)			5HLE-25E	
30	17.9 (455)		14 (356)		1		5CLE-30E
30	15.9 (404)		12 (305)				5HLE-30E
40	17.9 (455)		14 (356)			5CLE-40E†	
40	15.9 (404)		12 (305)			5HLE-40E†	
50	17.9 (455)		14 (356)			5CLE-50E†	
50	15.9 (404)		12 (305)			5HLE-50E†	
65	17.9 (455)		14 (356)			5CLE-65E†	
65	15.9 (404)		12 (305)			5HLE-65E†	
80	17.9 (455)		14 (356)			5CLE-80E†	
80	15.9 (404)		12 (305)			5HLE-80E†	
100	17.9 (455)		14 (356)		5CLE-100E†		
100	15.9 (404)		12 (305)		5HLE-100E†		
125	17.9 (455)	3 (76)	14 (356)	65	Indoor/outdoor	5CLE-125E†	
125	15.9 (404)		12 (305)				5HLE-125E†
150	17.9 (455)		14 (356)				5CLE-150E†
150	15.9 (404)		12 (305)				5HLE-150E†
175	17.9 (455)		14 (356)				5CLE-175E†
175	15.9 (404)		12 (305)				5HLE-175E†
200	17.9 (455)		14 (356)				5CLE-200E†
200	15.9 (404)		12 (305)				5HLE-200E†
250	17.9 (455)		14 (356)				5CLE-250E†
250	15.9 (404)		12 (305)				5HLE-250E†
300	17.9 (455)		14 (356)	2		5CLE-300E†	
300	15.9 (404)		12 (305)			5HLE-300E†	
350	17.9 (455)		14 (356)			5CLE-350E†	
350	15.9 (404)		12 (305)			5HLE-350E†	
400	17.9 (455)		14 (356)			5CLE-400E†	
400	15.9 (404)		12 (305)			5HLE-400E†	
450	17.9 (455)		14 (356)			5CLE-450E†	
450	15.9 (404)		12 (305)			5HLE-450E†	

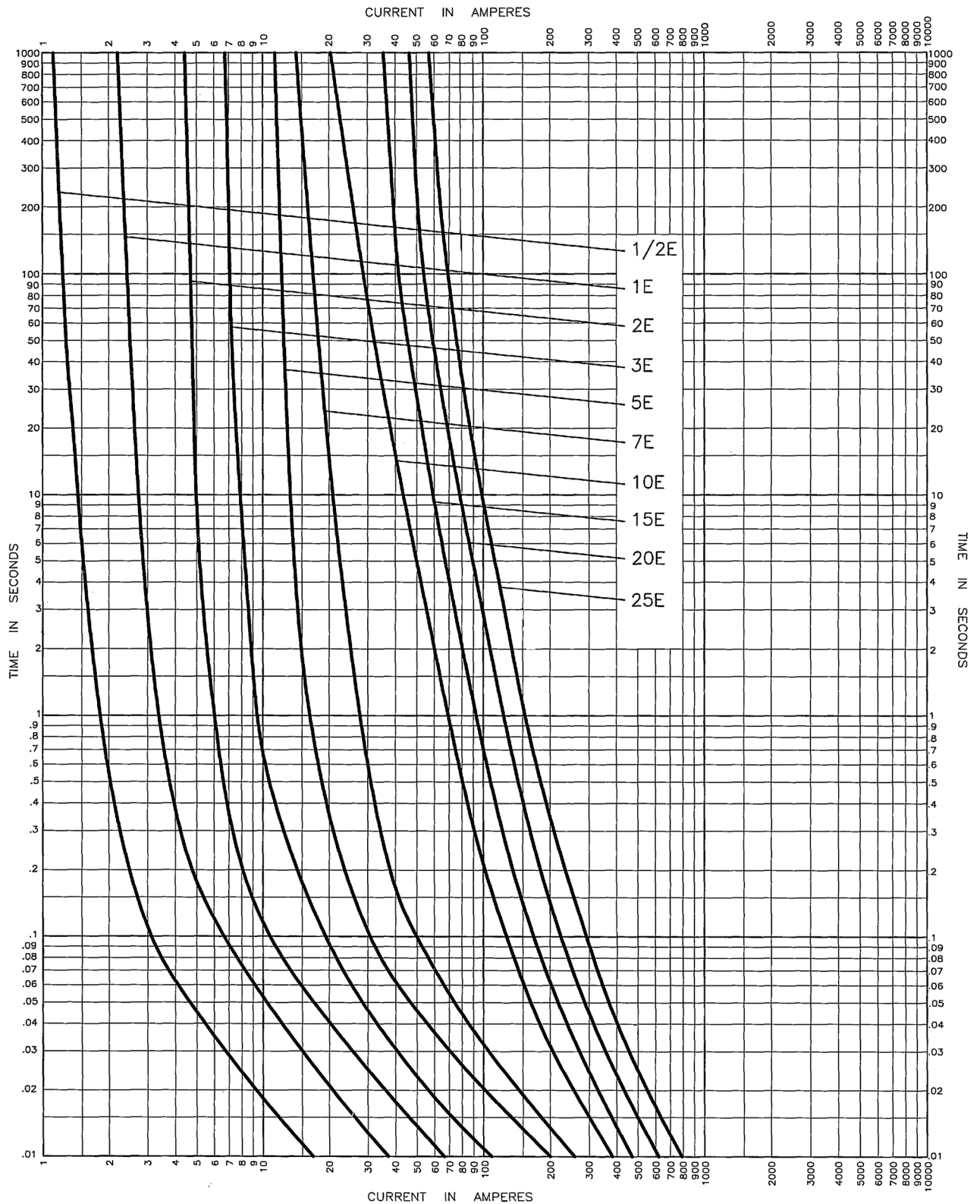
* Fuses conform to dimensional standards established by Westinghouse.
† UL Listed, Guide JEEG, File E240398.

5.5kV Time-current curves — minimum melt for JCY-E fuses



JCY-

5.5kV Time-current curves – total clear for JCY_E fuses



JCY-

MV055 full range

Dimensions — in (mm)							
Amps	Length A	Diameter B	Clip centers C	IR RMS Sym. (kA)	No. of Barrels	Installation location	Catalog no.
5							MV055F1CAX5E
7		2 (51)					MV055F1CAX7E
10							MV055F1CAX10E
10		3 (76)					MV055F1DAX10E
15		2 (51)					MV055F1CAX15E
15		3 (76)					MV055F1DAX15E
20		2 (51)					MV055F1CAX20E
20		3 (76)					MV055F1DAX20E
25		2 (51)					MV055F1CAX25E
25		3 (76)					MV055F1DAX25E
30		2 (51)					MV055F1CAX30E
30		3 (76)					MV055F1DAX30E
40		2 (51)			1		MV055F1CAX40E
40		3 (76)					MV055F1DAX40E
50	15.7 (399)	2 (51)	12 (305)	50		Indoor	MV055F1CAX50E
50		3 (76)					MV055F1DAX50E
65		2 (51)					MV055F1CAX65E
65							MV055F1DAX65E
80							MV055F1DAX80E
100							MV055F1DAX100E
125							MV055F1DAX125E
150							MV055F1DAX150E
175		3 (76)					MV055F1DAX175E
200							MV055F1DAX200E
250							MV055F2DAX250E
300							MV055F2DAX300E
350					2		MV055F2DAX350E
400							MV055F2DAX400E
450							MV055F2DAX450E

Recommended CLE, HLE and MV055 fuseclips

Description	Fuse diameter - in (mm)	Figure	Clip dimensions - in (mm)							Catalog number
			A	B	C	D	E	F	G	
Enclosed fuseclip	2 (51)	1	3.75 (95)	1.98 (50)	2.01 (51)	1.19 (30)	4.54 (115)	1.51 (38)	0.4 (10)	A3354710*
Enclosed fuseclip			4.14 (105)	2.45 (62)	3.01 (76)	1.19 (30)	5.64 (143)	1.51 (38)	0.4 (10)	A3354730*
Open fuseclip	3 (76)	2	See dimensions drawing							1A0065
Spring loaded open fuseclip		3								9078A67G04

*For single barrel applications only. Not sold in pairs.

Figure 1

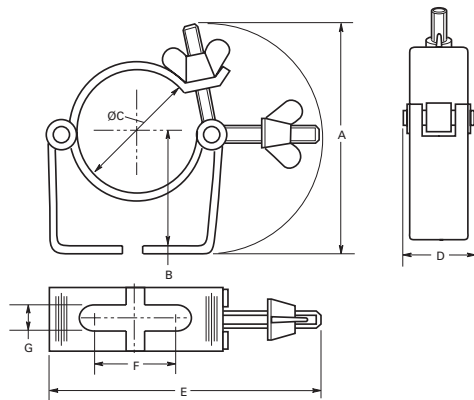


Figure 2

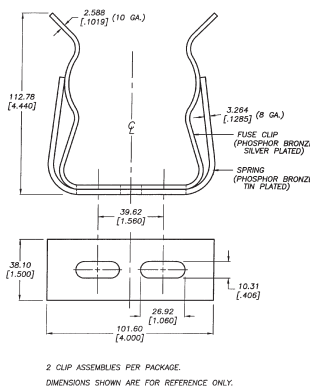
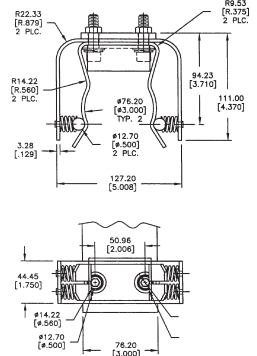
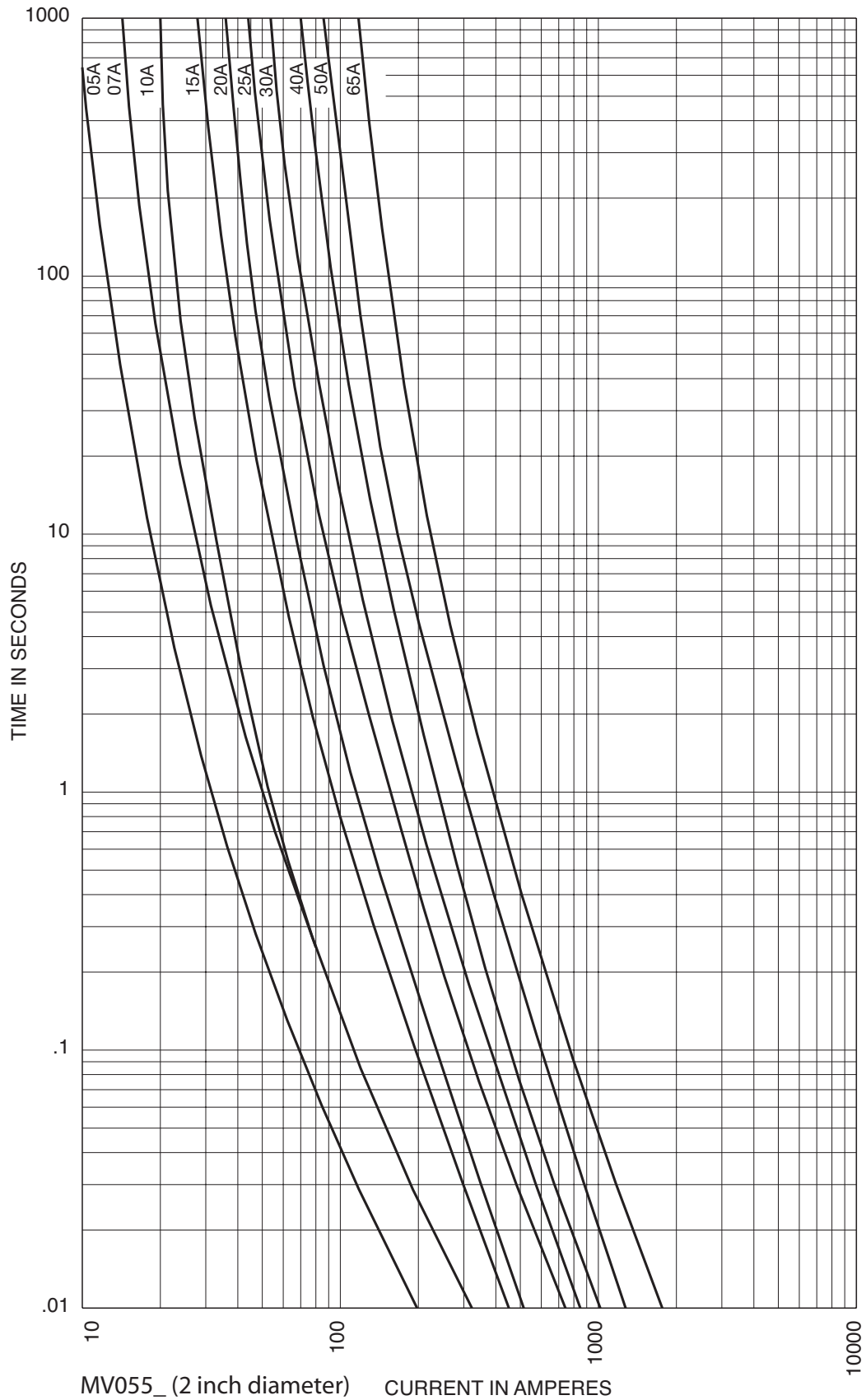


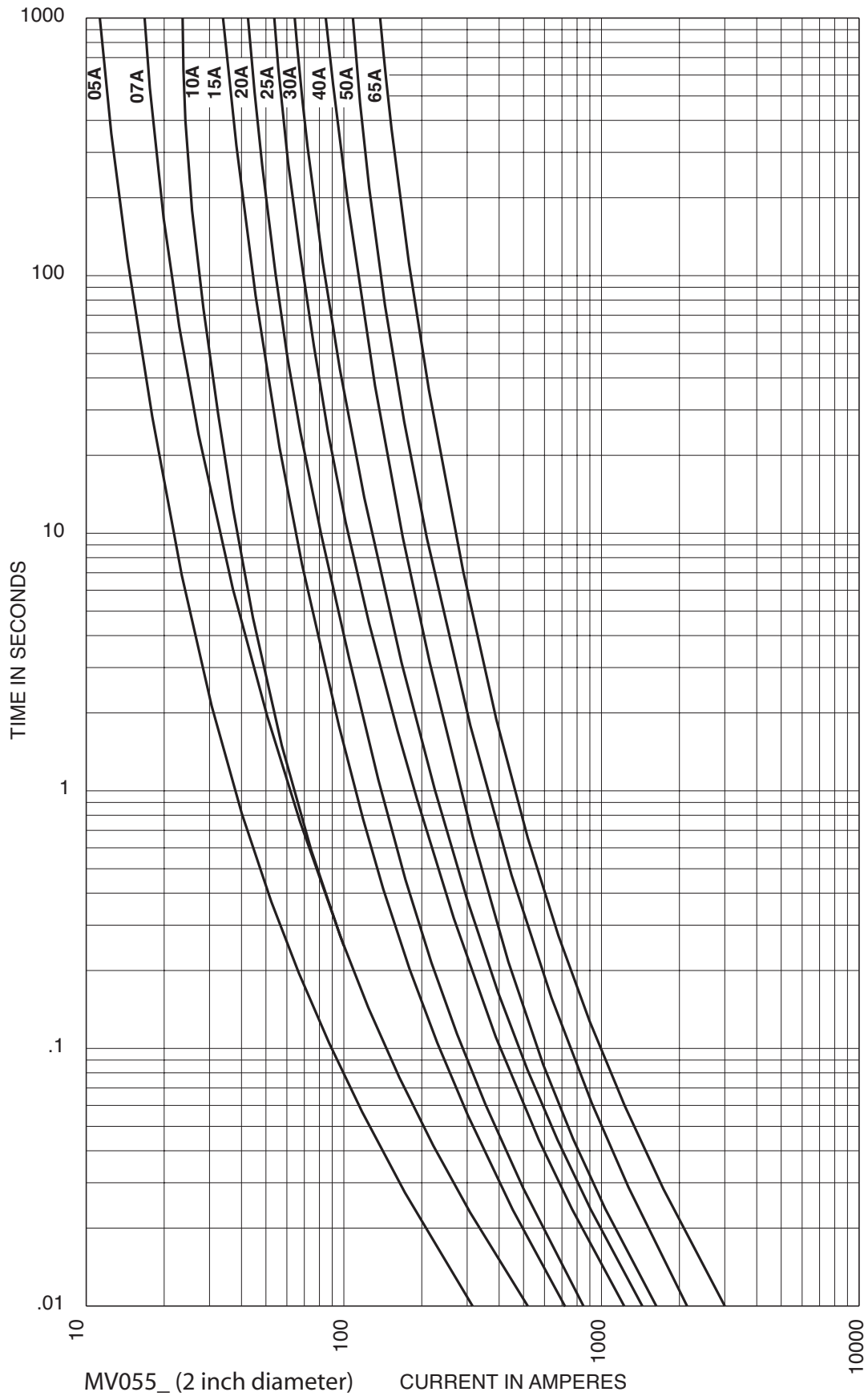
Figure 3



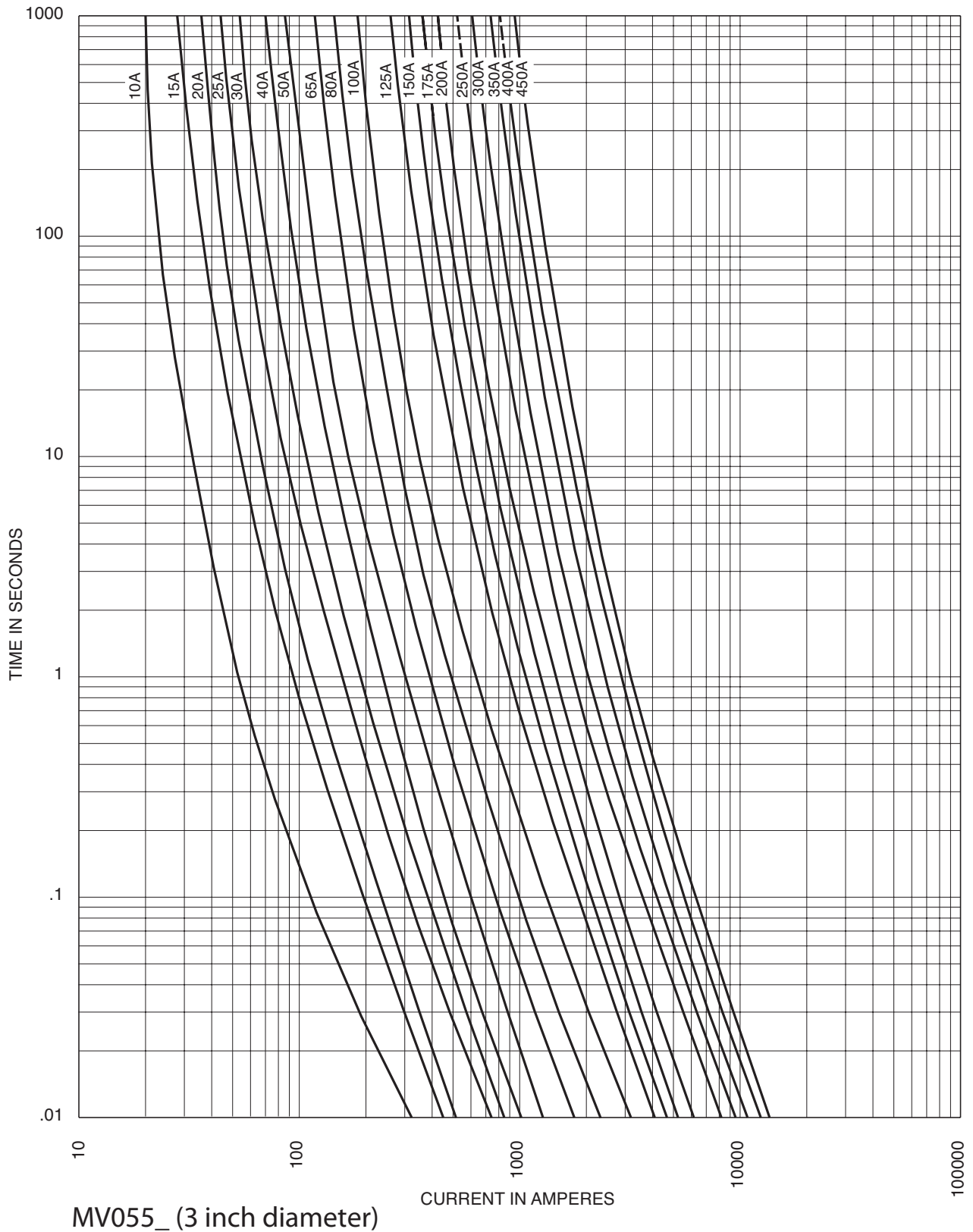
5.5kV Time-current curves – minimum melt for MV055_ 2 inch diameter fuses



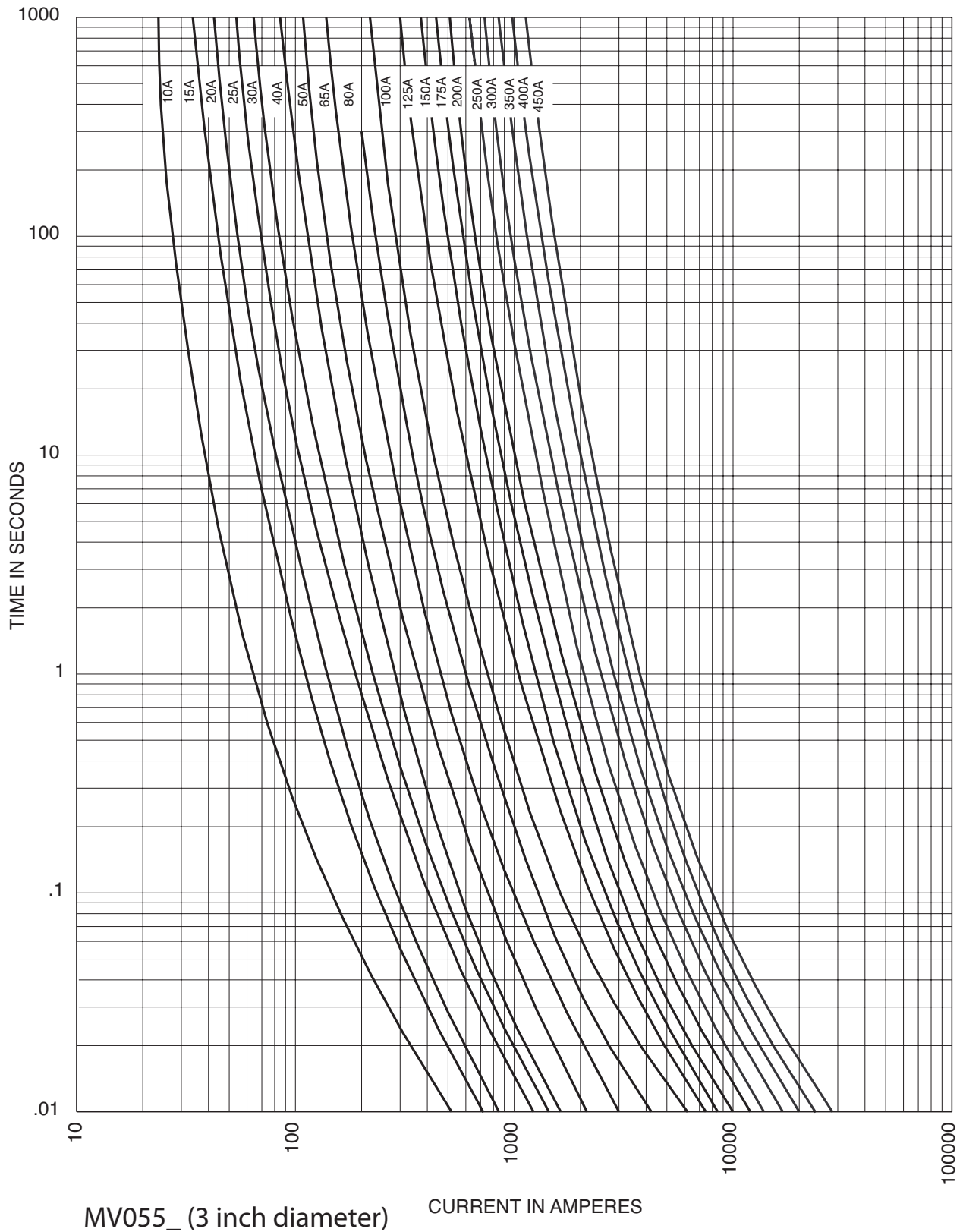
5.5kV Time-current curves – total clear for MV055_ 2 inch diameter fuses



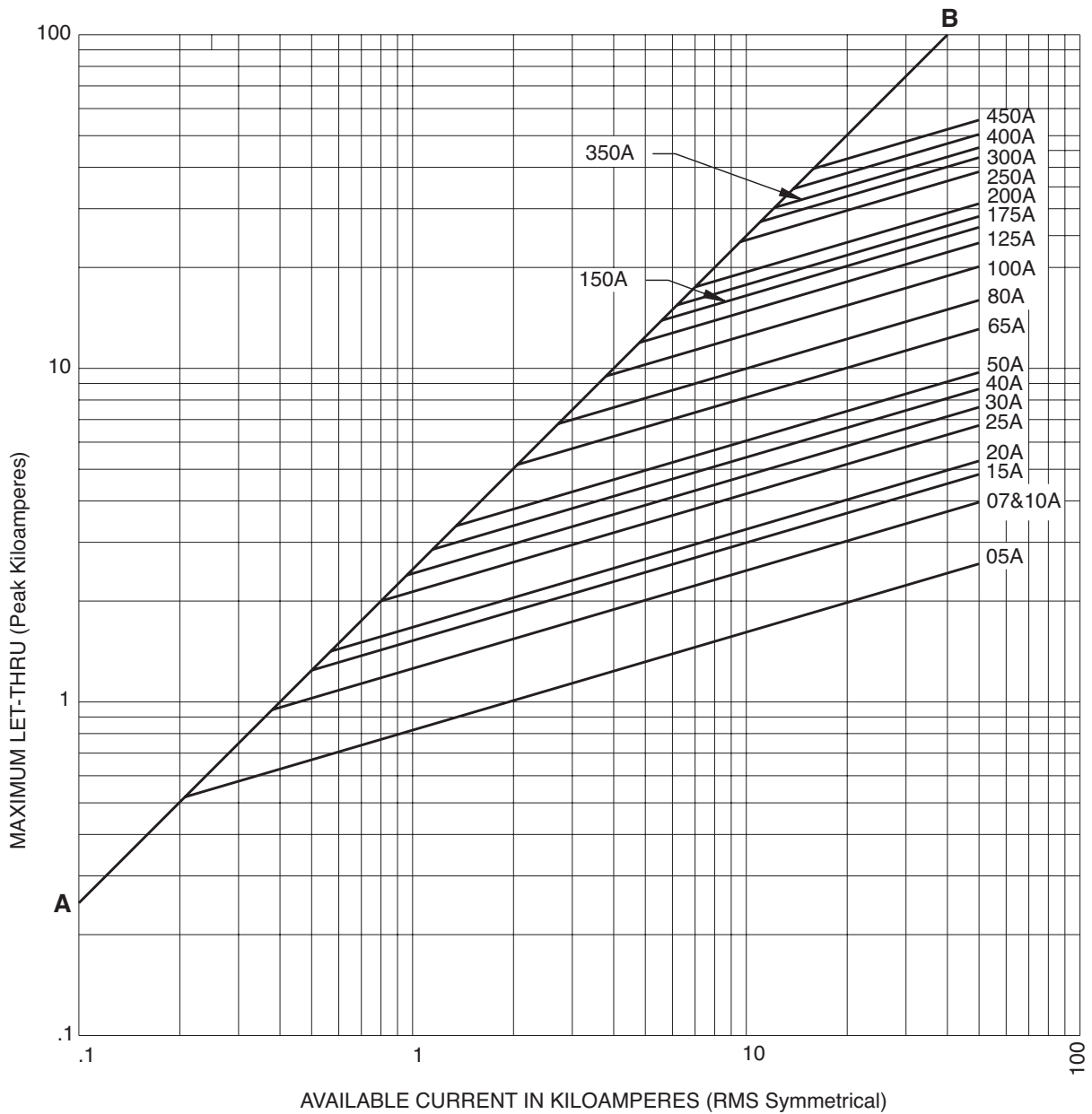
5.5kV Time-current curves – minimum melt for MV055_ 3 inch diameter fuses



5.5kV Time-current curves — total clear for MV055_ 3 inch diameter fuses



5.5kV Peak let-through for MV055_ 2 and 3 inch diameter fuses

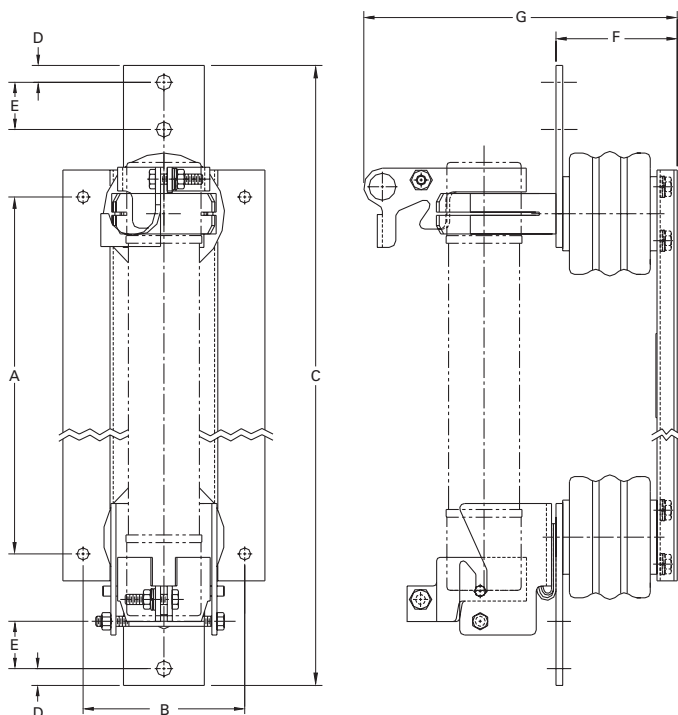


MV055_ (2 and 3 inch diameter)

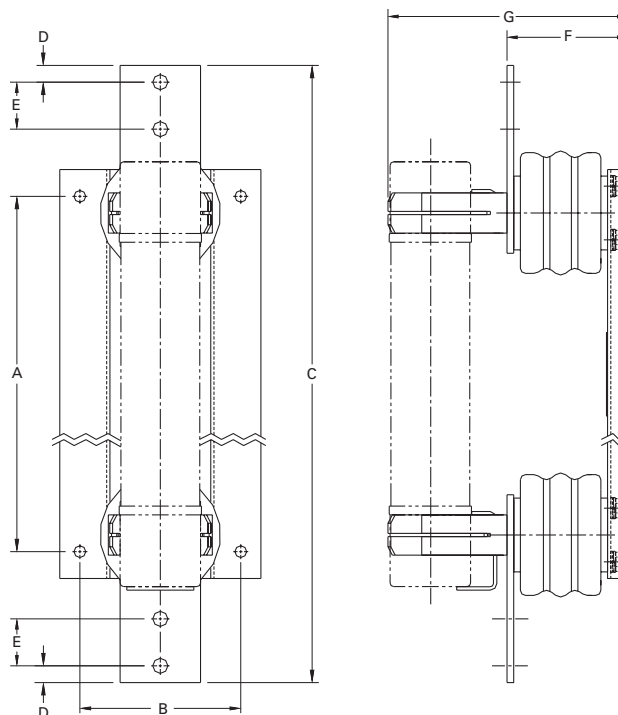
CLE and HLE Type mountings - in (mm)

Catalog number	Hole centers		Overall length C	Hole Inset D	Hole centers E	Contact height F	Overall height G	BIL kV
	A	B						
Disconnect single barrel†								
5CLE-GDM-C	12.74 (323.6)	6 (152.4)	25.5 (647.7)	0.75 (19)	1.75 (44.4)	4.5 (114.3)	9.75 (247.6)	60
5CLE-PDM-C	12.74 (323.6)	6 (152.4)	25.5 (647.7)	0.75 (19)	1.75 (44.4)	4.5 (114.3)	9.75 (247.6)	60
5CLE-GDM-D	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	11.72 (297.7)	60
5CLE-PDM-D	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	11.72 (297.7)	60
5HLE-GDM-D	16.25 (412.8)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	11.72 (297.7)	60
5HLE-PDM-D	16.25 (412.8)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	11.72 (297.7)	60
Disconnect double barrel†								
5CLE-GDM-E	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	15.28 (388.1)	60
5CLE-PDM-E	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	15.28 (388.1)	60
5HLE-GDM-E	16.25 (412.8)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	15.28 (388.1)	60
5HLE-PDM-E	16.25 (412.8)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	15.28 (388.1)	60
Non-disconnect single barrel								
5CLE-GNM-C	12.75 (323.8)	6 (152.4)	22 (558.8)	0.75 (19)	1.75 (44.4)	4.5 (114.3)	7.25 (184.1)	60
5CLE-PNM-C	12.75 (323.8)	6 (152.4)	22 (558.8)	0.75 (19)	1.75 (44.4)	4.5 (114.3)	7.25 (184.1)	60
5CLE-GNM-D	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	8.79 (223.3)	60
5CLE-PNM-D	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	8.79 (223.3)	60
5HLE-GNM-D	16.25 (412.7)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	8.79 (223.3)	60
5HLE-PNM-D	16.25 (412.7)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	8.79 (223.3)	60
Non-disconnect double barrel								
5CLE-GNM-E	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.42 (36.1)	4.5 (114.3)	12.48 (317)	60
5CLE-PNM-E	15.24 (387.1)	6 (152.4)	25 (635)	0.62 (15.7)	1.42 (36.1)	4.5 (114.3)	12.48 (317)	60
5HLE-GNM-E	16.25 (412.7)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	12.48 (317)	60
5HLE-PNM-E	16.25 (412.7)	6 (152.4)	23 (584.2)	0.62 (15.7)	1.75 (44.4)	4.5 (114.3)	12.48 (317)	60

CLE and HLE Type disconnect mounting†



CLE and HLE Type non-disconnect mounting



† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

E-Rated medium voltage specialty mount fuses

Catalog symbols:

- _AHLE-_E (for Eaton AMPGARD motor starting assemblies)
- _BHLE-_E/_BHCL-_E (bolt-on version)
- _HCL-_E (clip-lock version)

Ratings*:

- Volts — 5.5 kV
- Amps — 10 to 900A
- Interrupting ratings — 31 to 65 kA RMS Sym

* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

Agency information:

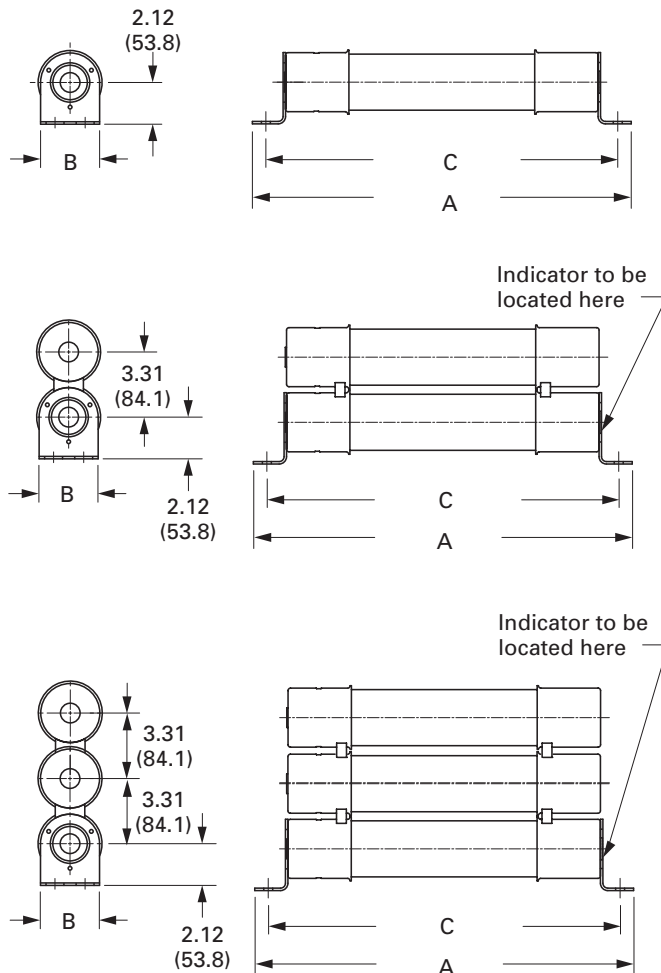
- E-Rated fuses meet the performance characteristics of ANSI C37.46

Recommended live parts for clip-lock fuses

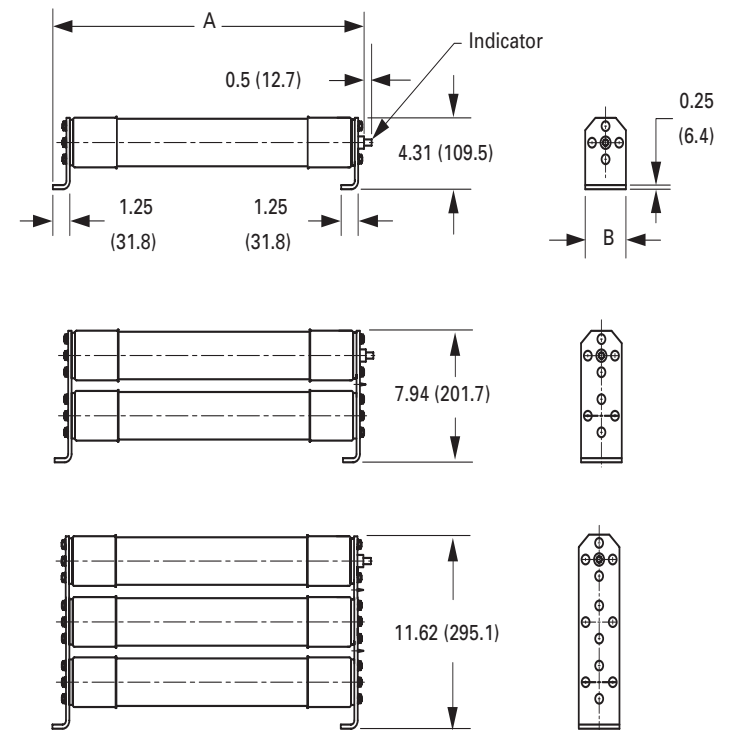
- Catalog number HCL-NL-1

Dimensions - in (mm)

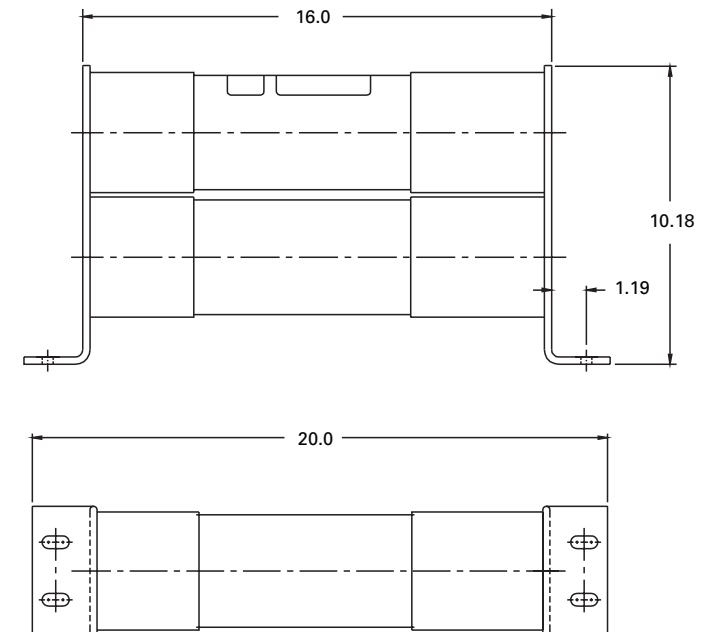
BHLE bolt-on



HCL clip-lock



CLE four barrel bolt-on



Note: 1100E and 1350E fuses require two double barrel fuses (4 total barrels) customer to parallel.

AHLE for Eaton AMPGARD motor starting assemblies

Amps	IR RMS Sym. (kA)	No. of barrels	Catalog no.
10			5AHLE-10E
15			5AHLE-15E
20			5AHLE-20E
25			5AHLE-25E
30			5AHLE-30E
40			5AHLE-40E†
50			5AHLE-50E†
65		1	5AHLE-65E†
80			5AHLE-80E†
100	65		5AHLE-100E†
125			5AHLE-125E†
150			5AHLE-150E†
175			5AHLE-175E†
200			5AHLE-200E†
250			5AHLE-250E†
300			5AHLE-300E†
350		2	5AHLE-350E†
400			5AHLE-400E†
450			5AHLE-450E†

† UL Listed, Guide JEEG, File E240398.

HCL clip-lock versions

Amps	Dimensions — in (mm)			IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
	Length A	Diameter B	Hole centers C				
10							5HCL-10E
15							5HCL-15E
20							5HCL-20E
25							5HCL-25E
30							5HCL-30E
40	16.8 (427)						5HCL-40E†
50					1		5HCL-50E†
65							5HCL-65E†
80							5HCL-80E†
100		3 (76)	N/A	65		Indoor	5HCL-100E†
125							5HCL-125E†
150							5HCL-150E†
200							5HCL-200E†
250							5HCL-250E†
300							5HCL-300E†
400	22.8 (579)						5HCL-400E†
450					2		5HCL-450E†
500							5HCL-500E
600							5HCL-600E

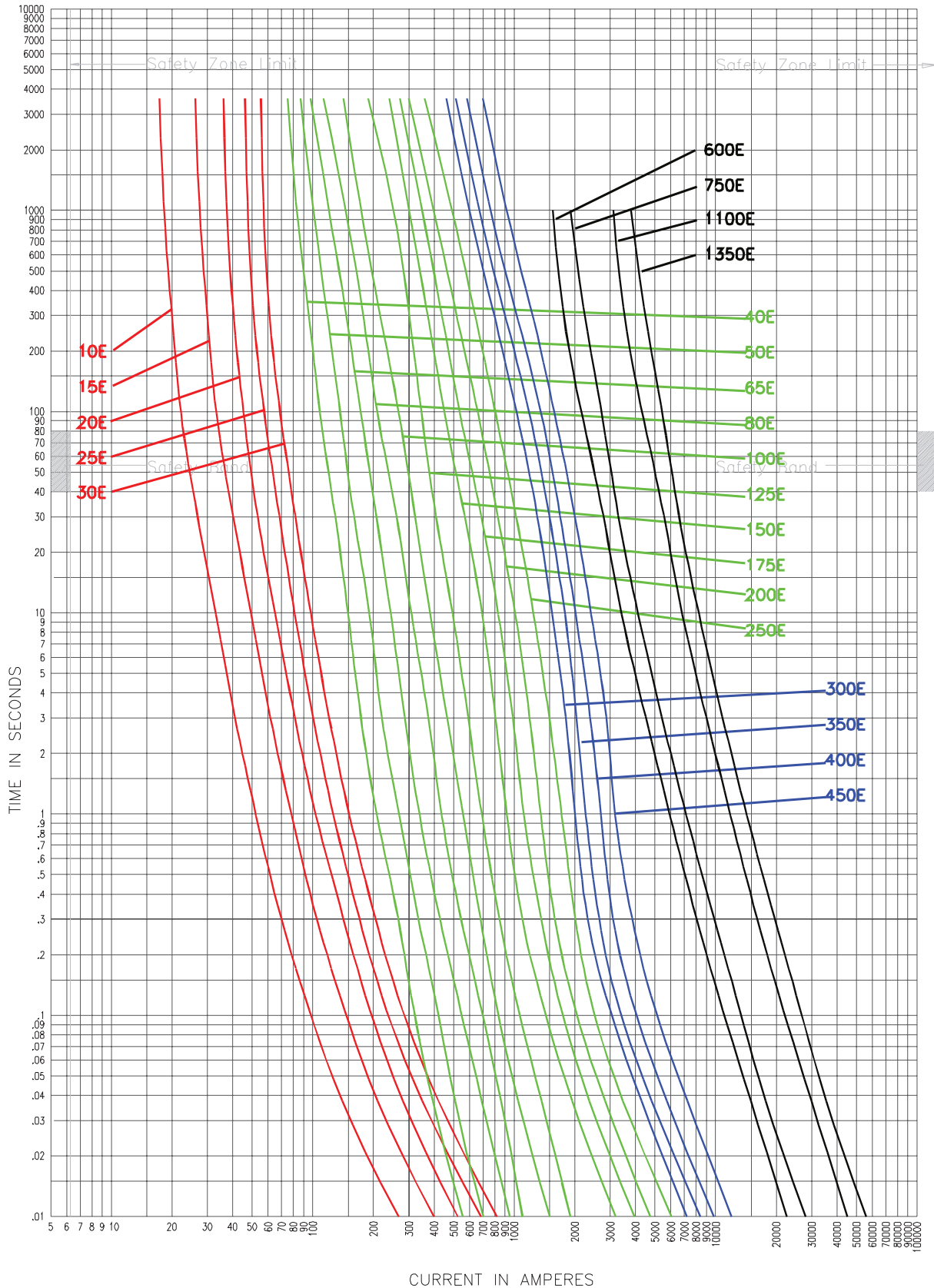
† UL Listed, Guide JEEG, File E240398.

CLE, BHLE and BHCL bolt-on versions

Amps	Dimensions — in (mm)			IR RMS Sym. (kA)	No. of barrels	Installation location	Catalog no.
	Length A	Diameter B	Hole centers C				
10							5BHLE-10E
15							5BHLE-15E
20							5BHLE-20E
25							5BHLE-25E
30							5BHLE-30E
40							5BHLE-40E†
50	19.2 (488)		17.9 (455)				5BHLE-50E†
65							5BHLE-65E†
80					1		5BHLE-80E†
100							5BHLE-100E†
125							5BHLE-125E†
150							5BHLE-150E†
175							5BHLE-175E†
200		3 (76)		65			5BHLE-200E†
200	25.1 (637)		23.7 (602)				5BHCL-200E
250	19.2 (488)		17.9 (455)			Indoor	5BHLE-250E†
250	25.1 (637)		23.7 (602)				5BHCL-250E
300	19.2 (488)		17.9 (455)				5BHLE-300E†
300	25.1 (637)		23.7 (602)				5BHCL-300E
350							5BHLE-350E†
400	19.2 (488)		17.9 (455)				5BHLE-400E†
400	25.1 (637)		23.7 (602)				5BHCL-400E
450	19.2 (488)		17.9 (455)		2		5BHLE-450E†
450							5BHCL-450E
500	25.1 (637)		23.7 (602)				5BHCL-500E
600							5BHCL-600E
600	28.9 (734)	4 (102)	18.4 (467)	40			5CLE-600E
750	25.1 (637)	3 (76)	23.7 (602)	63	3		5BHCL-750E
750	28.9 (734)	4 (102)	18.4 (467)	40	2		5CLE-750E
900	25.1 (637)	3 (76)	23.7 (602)	63	3		5BHCL-900E
1100							5CLE-1100E
1350	19.8 (503)	4 (102)	18.4 (467)	31	4		5CLE-1350E

† UL Listed, Guide JEEG, File E240398.

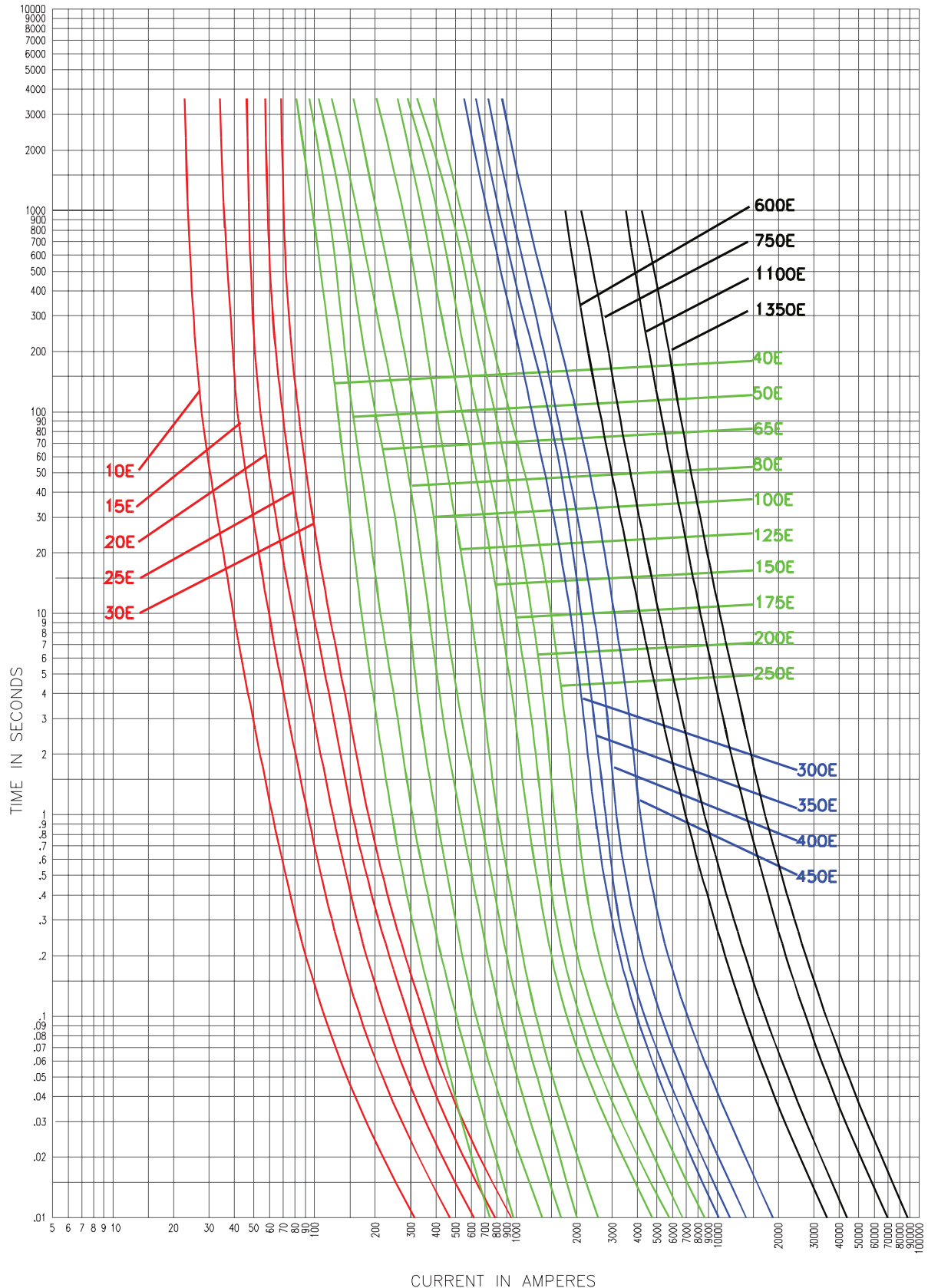
5.5kV Time-current curves — minimum melt for 5CLE-E and 5CLE-D



Curve 70548501	Curve 70545801	Curve 70546001	Curve 62908902
April 16, 1999	April 16, 1999	April 20, 1999	April 1999
Reference # 563532	Reference # 705458	Reference # 705460	Reference # 629089

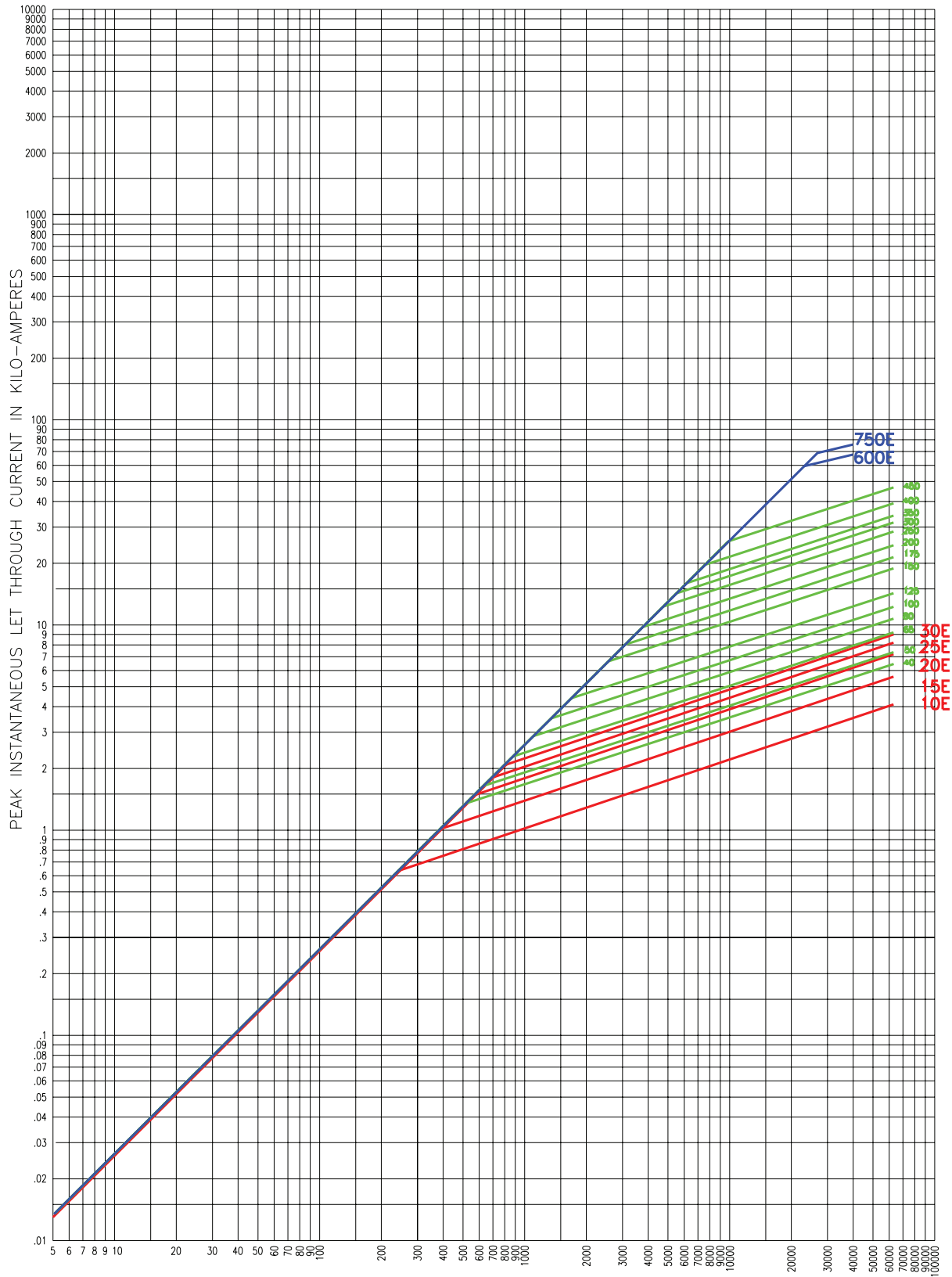
5CLE-

5.5kV Time-current curves — total clear for 5CLE-E and 5CLE-D



<p>5CLE-<u> </u></p>	<p>Curve 70548702 April 16, 1999 Reference # 563533</p>	<p>Curve 70545901 April 20, 1999 Reference # 705459</p>	<p>Curve 70546101 April 20, 1999 Reference # 705461</p>	<p>Curve 62908903 April 1999 Reference # 629089</p>
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5.5kV Peak let-through for 5CLE-E and 5CLE-D

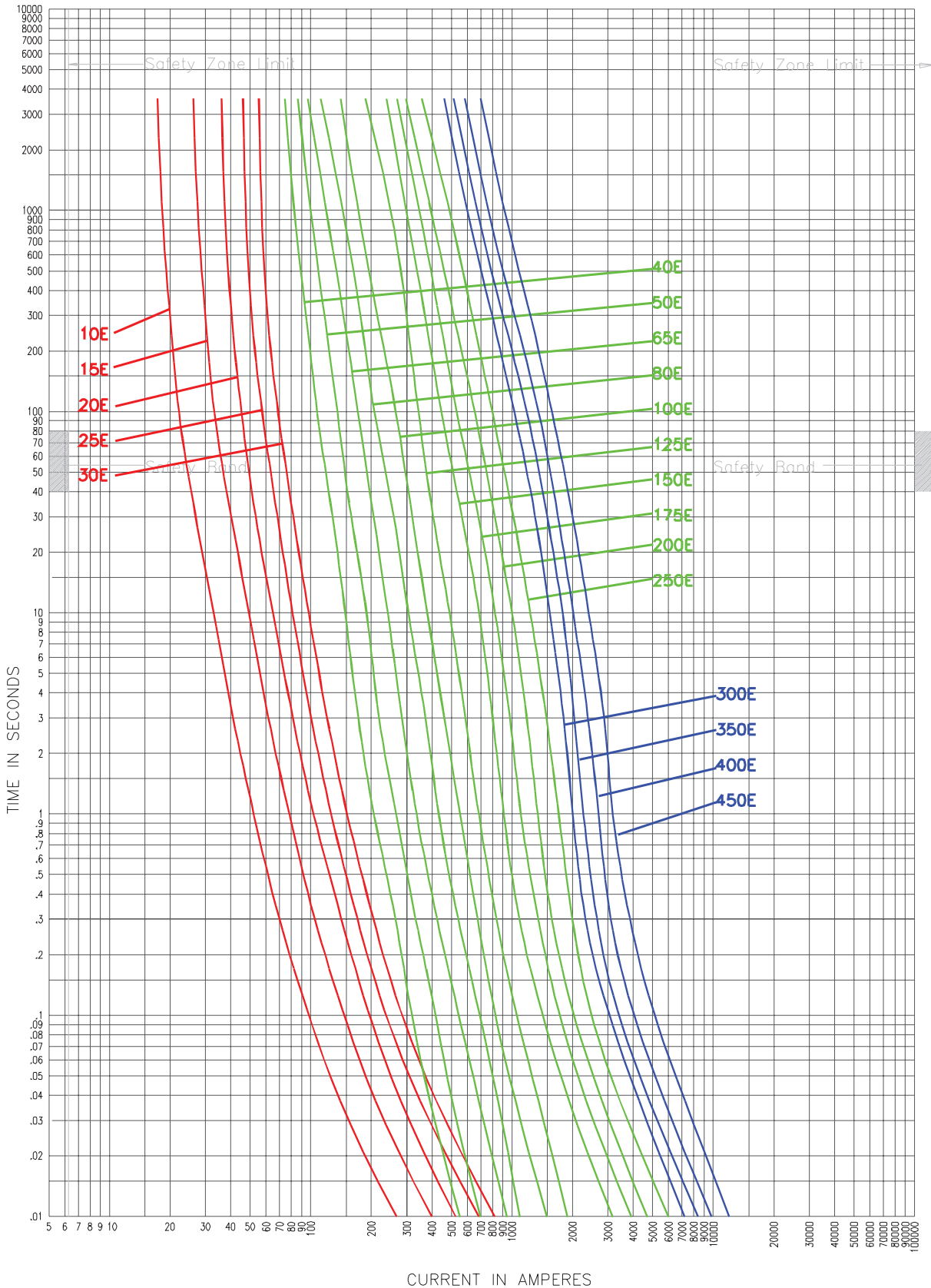


AVAILABLE CURRENT IN AMPERES

Curve 70548701	Curve 70547601	Curve 62908904
April 1999	April 1999	April 1999
Reference # 705487	Reference # 705476	Reference # 629089

5CLE-

5.5kV Time-current curves — minimum melt for 5HLE- _E, 5AHLE- _E and 5BHLE- _E



5HLE- _, 5BHLE- _, 5AHLE- _

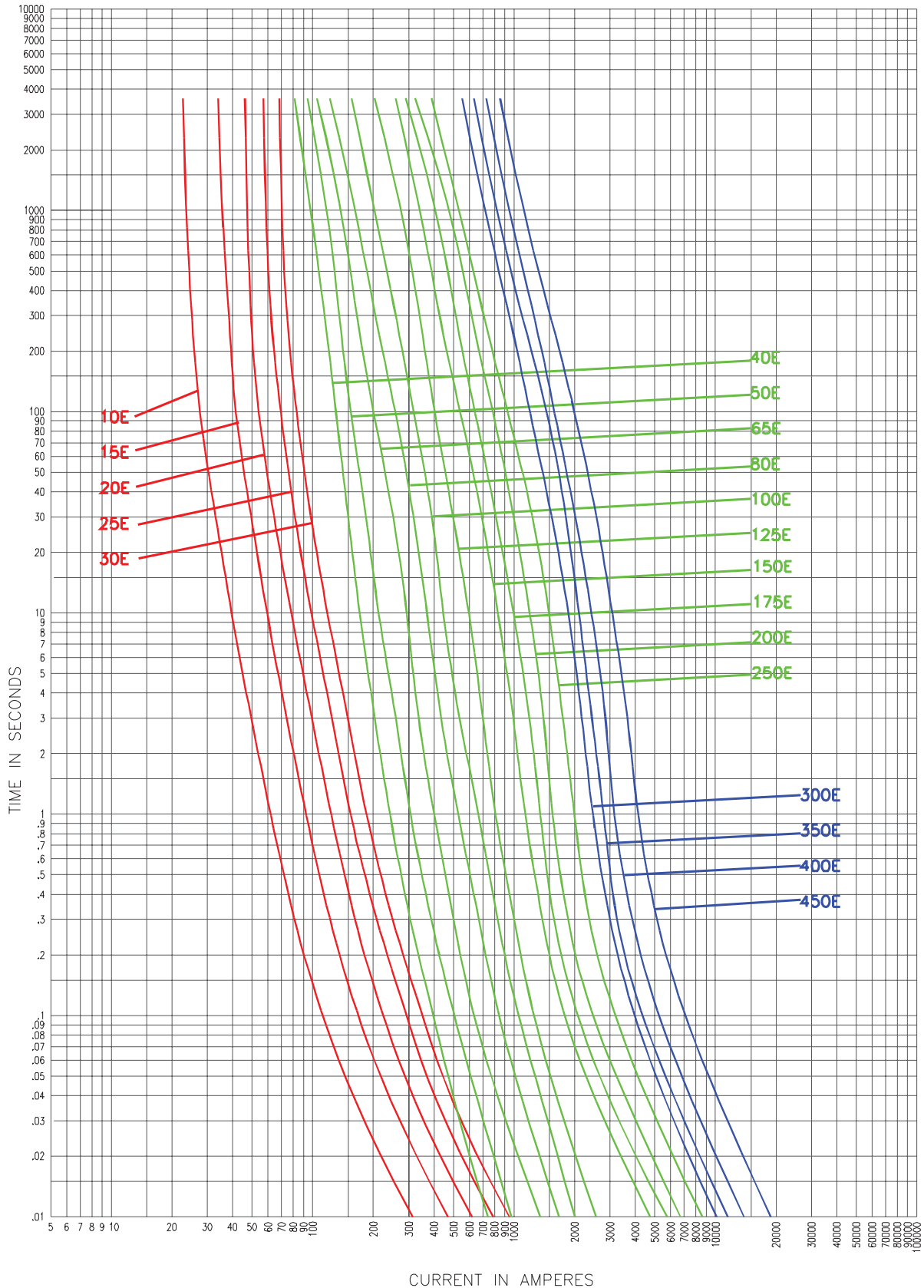
CURRENT IN AMPERES

Curve 70548507
April 16, 1999
Reference # 563532

Curve 70545805
April 16, 1999
Reference # 705458

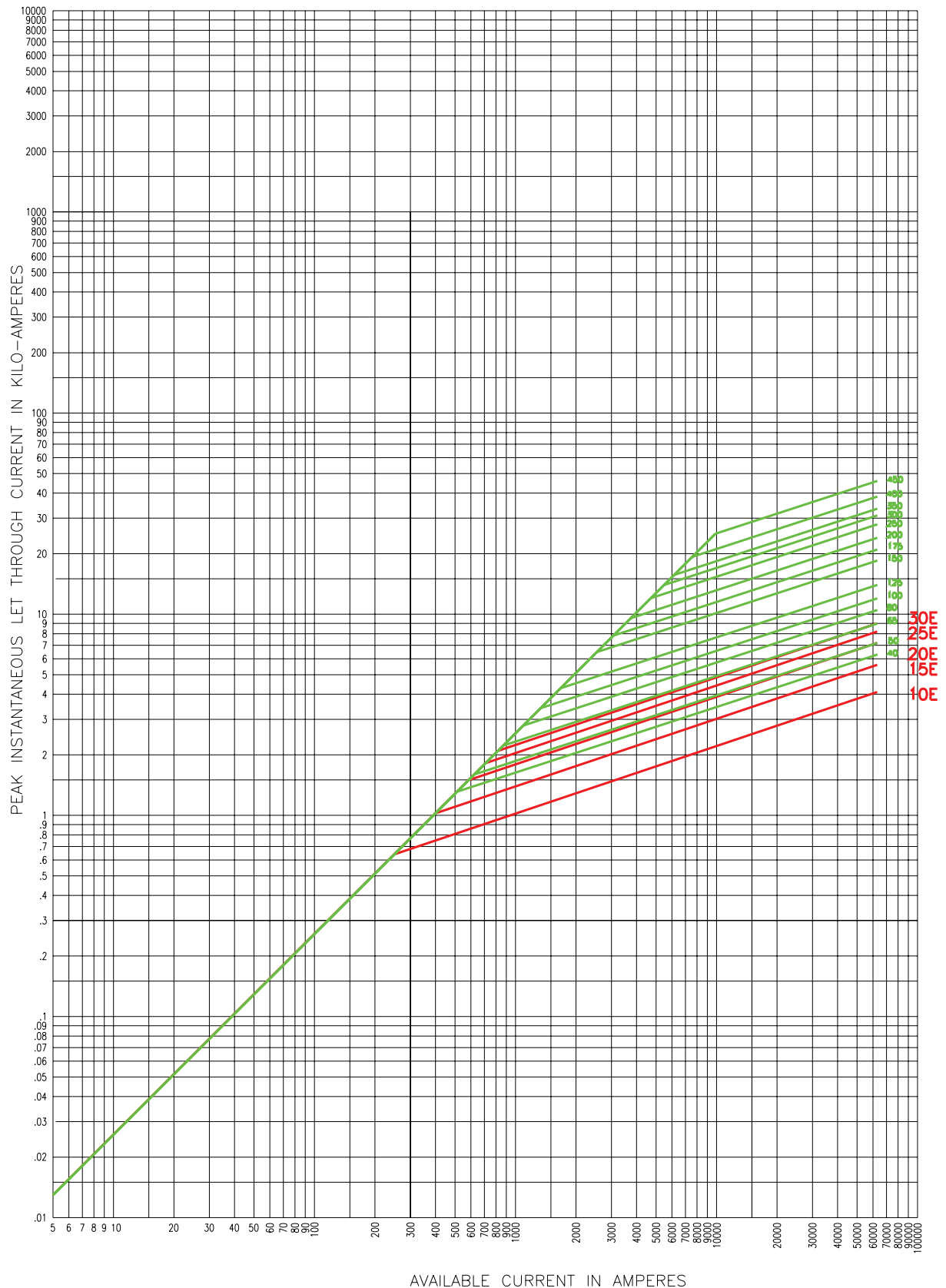
Curve 70546005
April 20, 1999
Reference # 705460

5.5kV Time-current curves — total clear for 5HLE- , 5AHLE- and 5BHLE-



5HLE- <u> </u> , 5BHLE- <u> </u> , 5AHLE- <u> </u>	Curve 70548607 April 16, 1999 Reference # 563533	Curve 70545905 April 20, 1999 Reference # 705459	Curve 70546105 April 20, 1999 Reference # 705461
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5.5kV Peak let-through for 5HLE- E, 5AHLE- E and 5BHLE- E

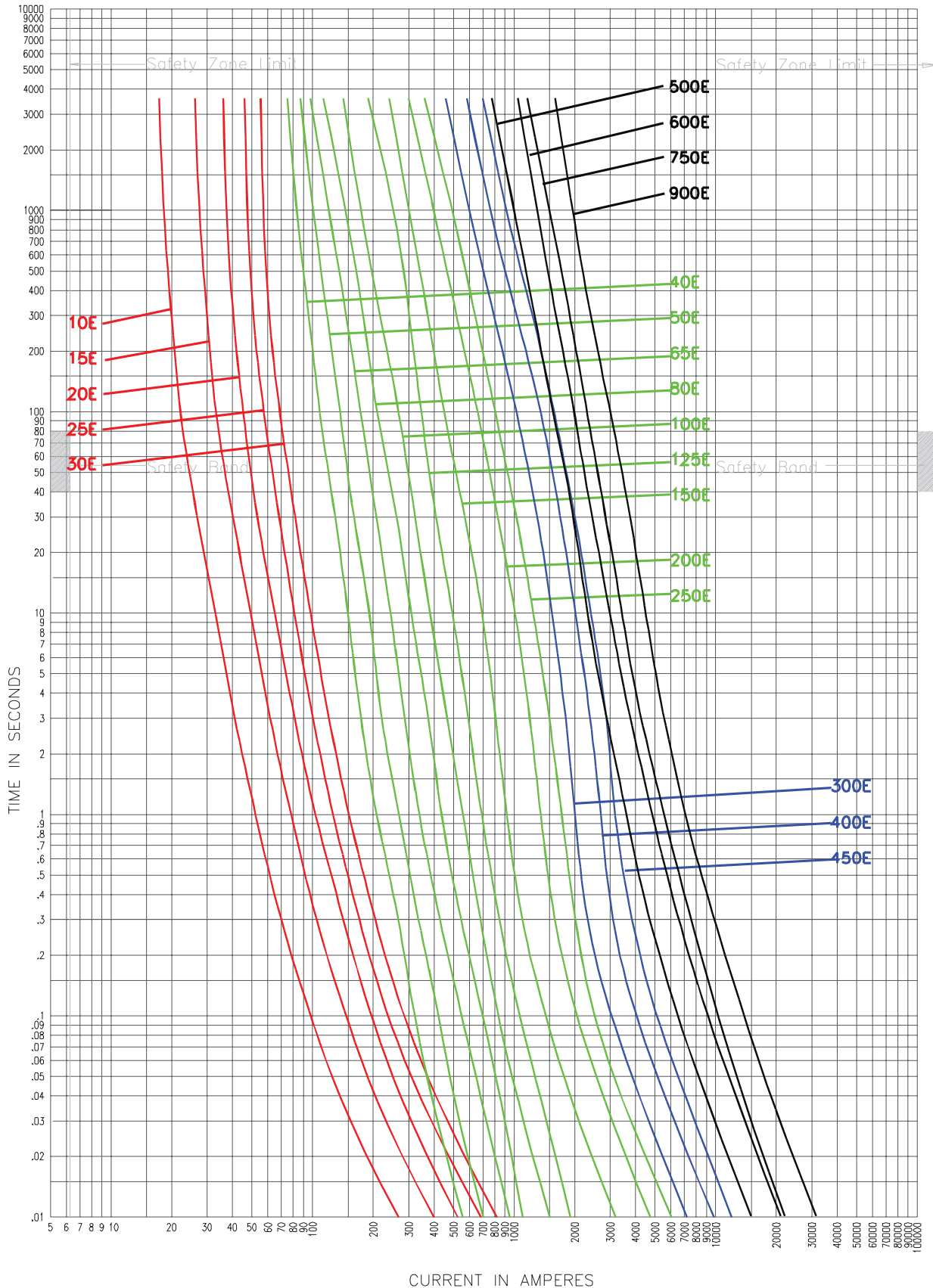


5HLE- , 5BHLE- , 5AHLE-

Curve 70548703
April 1999
Reference # 705487

Curve 70547603
April 1999
Reference # 705476

5.5kV Time-current curves – minimum melt for 5HCL_E



5HCL_

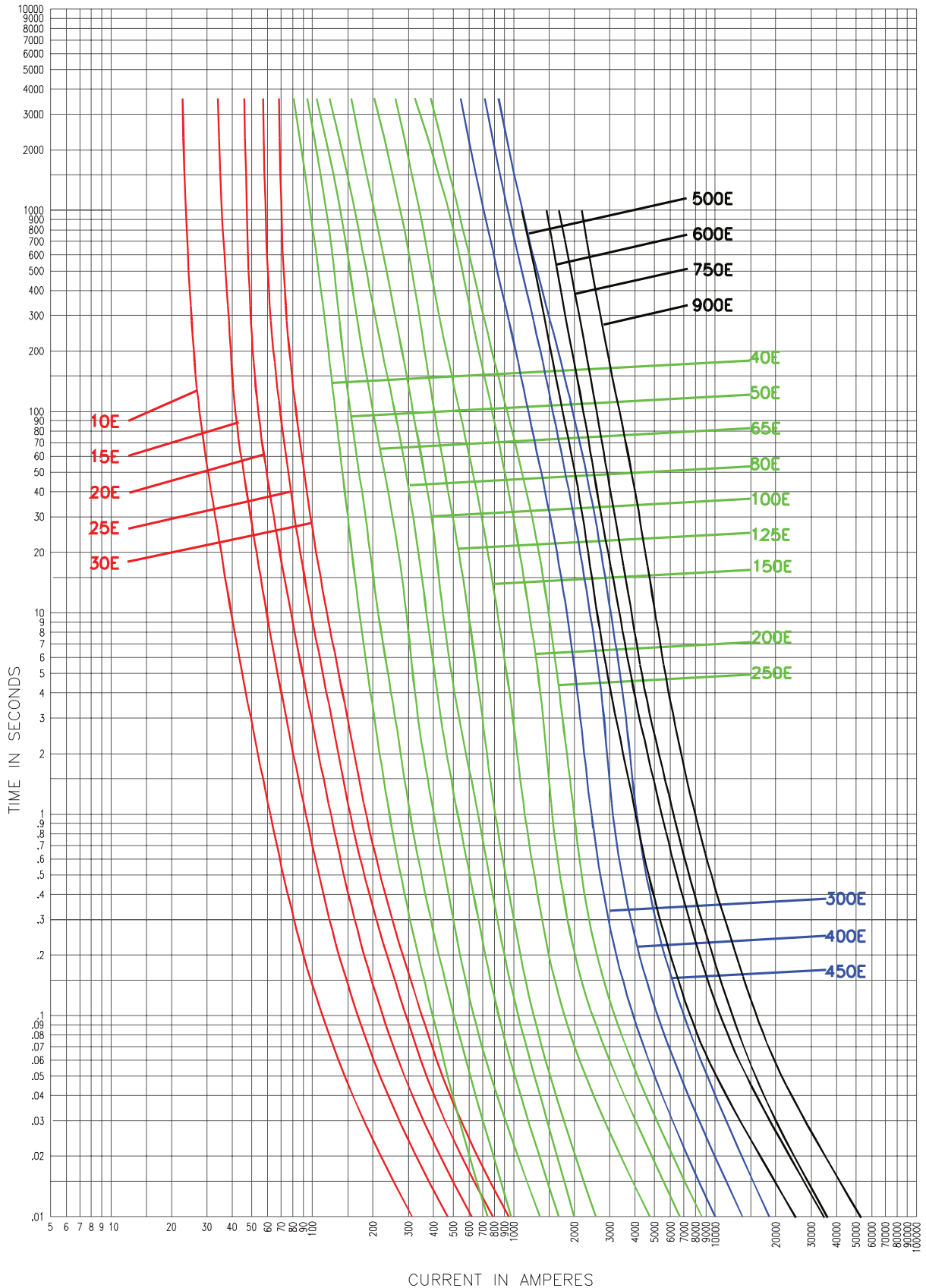
Curve 70548505
 January 2001

Curve 70545803
 January 2001

Curve 70546003
 April 2001

Curve 66703401
 January 2001

5.5kV Time-current curves — total clear for 5HCL_E



5HCL-

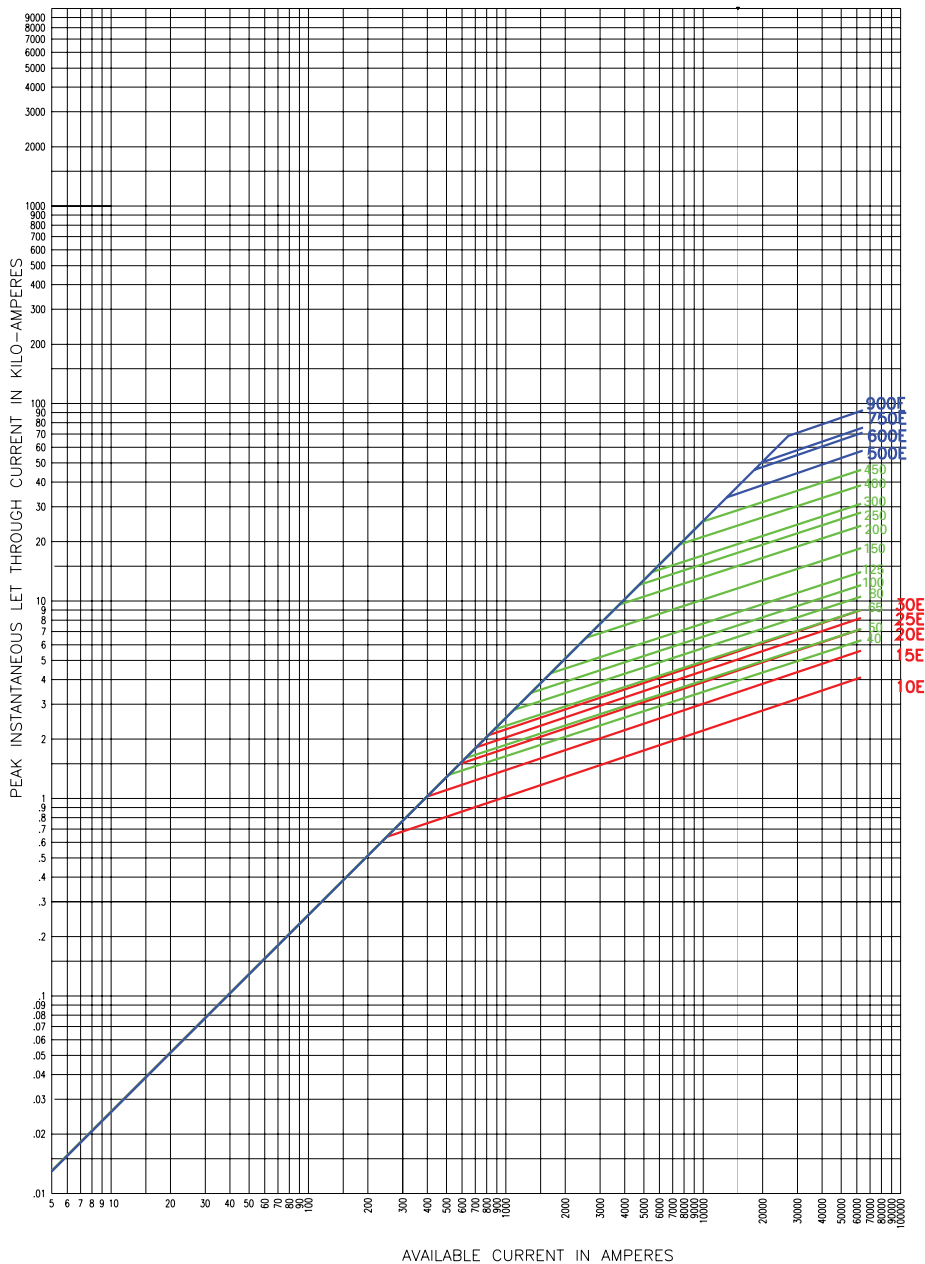
Curve 70548605
January 2001

Curve 70545903
January 2001

Curve 70516103
January 2001

Curve 66703501
January 2001

5.5kV Peak let-through for 5HCL_E



5HCL_

Curve 70548702 January 2001 Curve 70547602 January 2001 Curve 66703701 January 2001

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