

Westinghouse



High Voltage Power Fuses

Types BAL, CLV, CLT, CLE-PT, CLE,
CLE-1, CLS-1, CLE-2 and CLS-2

Performance Curves

This envelope contains time-current characteristic curves of high voltage current limiting fuses as listed below:

Fuse Type	Voltage Range, Kv	Curve Number	
		Melting	Total Clearing
BAL-PT, 10, 25, 200 and 300	2.4 to 23.00	18	19
CLS and BAL-LR	2.4 to 4.8	20	21
CLS-2	2.0 to 5.5	24	25
CLE-1, 50E to 225X	2.0 to 5.5	26	27
CLE-1, 30E and 40E	2.0 to 5.5	28	29
CLE-2, 250E to 400X	2.0 to 5.5	30	31
CLE-1, 30E to 125E; CLE-2, 150E to 200E	7.2 to 8.25	32	33
CLE-1, 30E to 65E; CLE-2, 80E to 125X	14.4	34	35
CLE-2, 450X	2.0 to 5.5	36	36
CLE, CLE-PT, .5E to 25E (Indicating)	2.4 to 23.0	37	38
CLE-PT, .25E to 5E (Non-Indicating)	2.0 to 5.5	39	40
CLV 2E to 20E (Non-Indicating)	600 Volts	41	42
CLT S#678C245G02-G03	15.0	43	43
CLT 4A to 18A	15.0	44	44
CLT 5A to 75A	2.4 to 8.0	45	45
CLT-1, 30A, 60A and 150A	2.4 to 5.0	46	47 (Long Time)
CLT, 4A to 18A	15.0	..	48 (Long Time)
CLE-PT, 2.0E (Non-Indicating)	8.0	49	49
CLTB S#678C245G01	8.3	50	..
BAL-1, 1A and 5A	600 VDC	51	..
CLE-1 and CLE-2 (Emergency Overload)	15.0	52	..

① 23 Kv for potential transformer (PT).

These curves to be used in conjunction with Application Data 36-660 and 36-661.

Note: The new fuse types are to use the curve numbers for melting and total clearing time-current characteristics as indicated below:

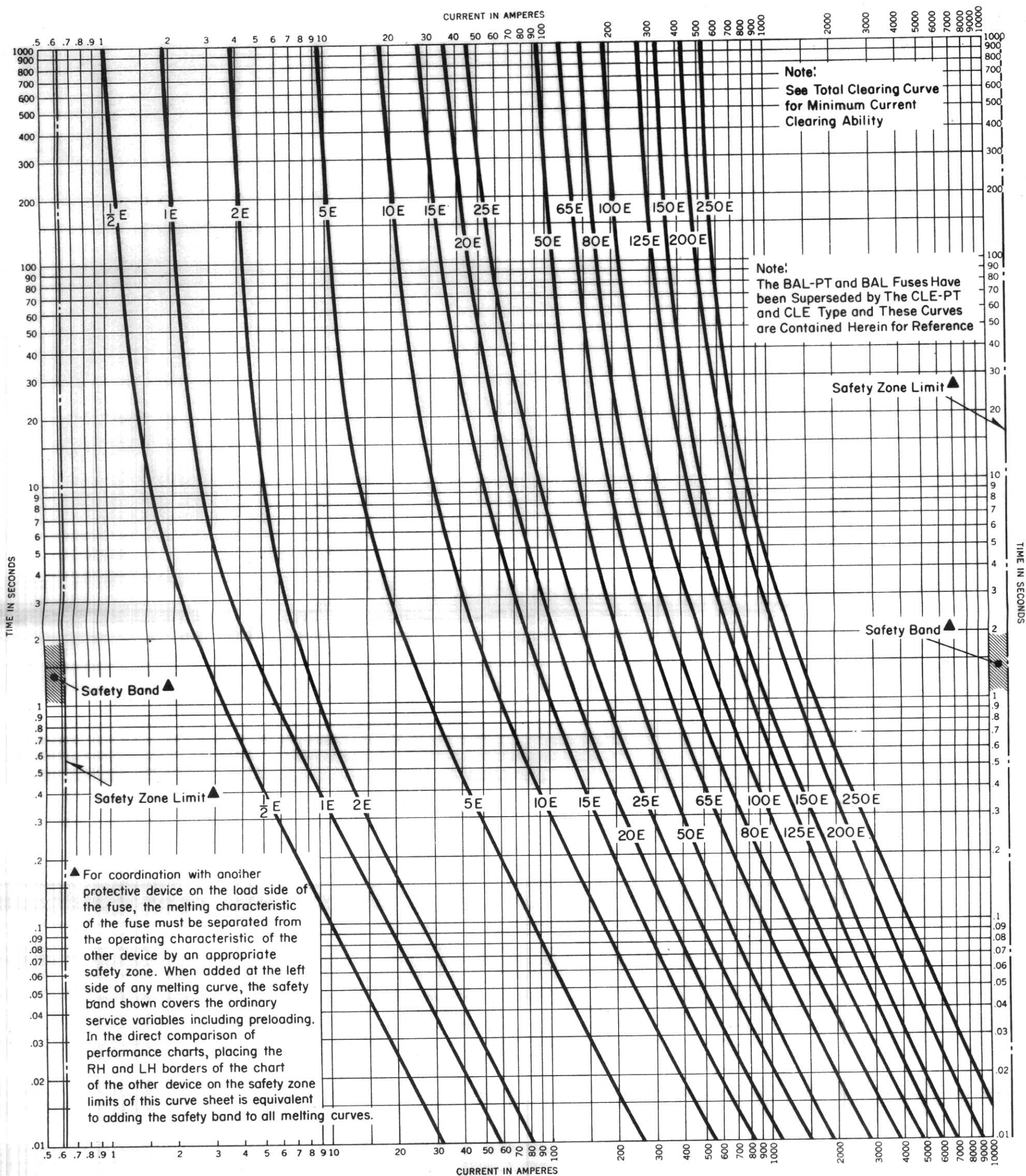
CLE-11, CLE-12	2.0 Kv to 5.5 Kv, Curve Nos. 26, 27, 28, 29
CLE-21, CLE-22	2.0 Kv to 5.5 Kv, Curve Nos. 30, 31
CLS-11, CLS-12, CLS-13, CLS-14	2.4 Kv to 4.8 Kv, Curve Nos. 20, 21
CLS-21, CLS-22, CLS-23, CLS-24	2.4 Kv to 4.8 Kv, Curve Nos. 24, 25
CLE-3, 150E, 175E/200X	14.4 Kv, Curve Nos. 53, 54

Westinghouse Electric Corporation

Switchgear Division, Power Switching Equipment, East Pittsburgh, Pa.
Printed in USA

December, 1967

Supersedes Envelope dated November 1966
E. D. C/1971/AD



Type BAL-PT, -10, -25, -200 and -300 Current Limiting Power Fuses

Melting time-current characteristics, 2.4 to 34.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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Printed in USA

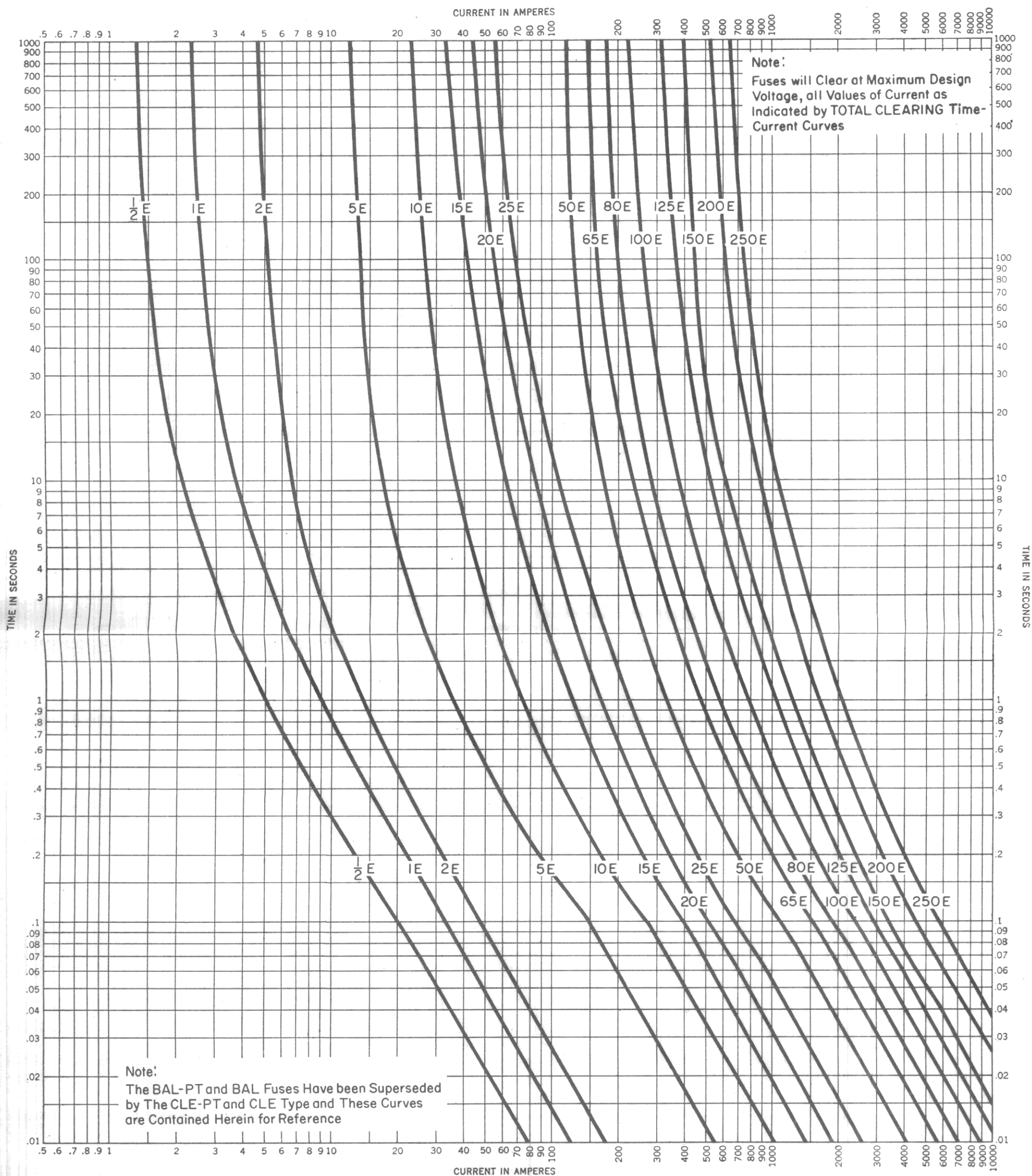
Curve No.

18

Supersedes Curve No. 18, dated January, 1961

Reference No. 459344

May, 1968



Type BAL-PT, -10, -25, -200 and -300 Current Limiting Power Fuses

Total clearing time-current characteristics, 2.4 to 34.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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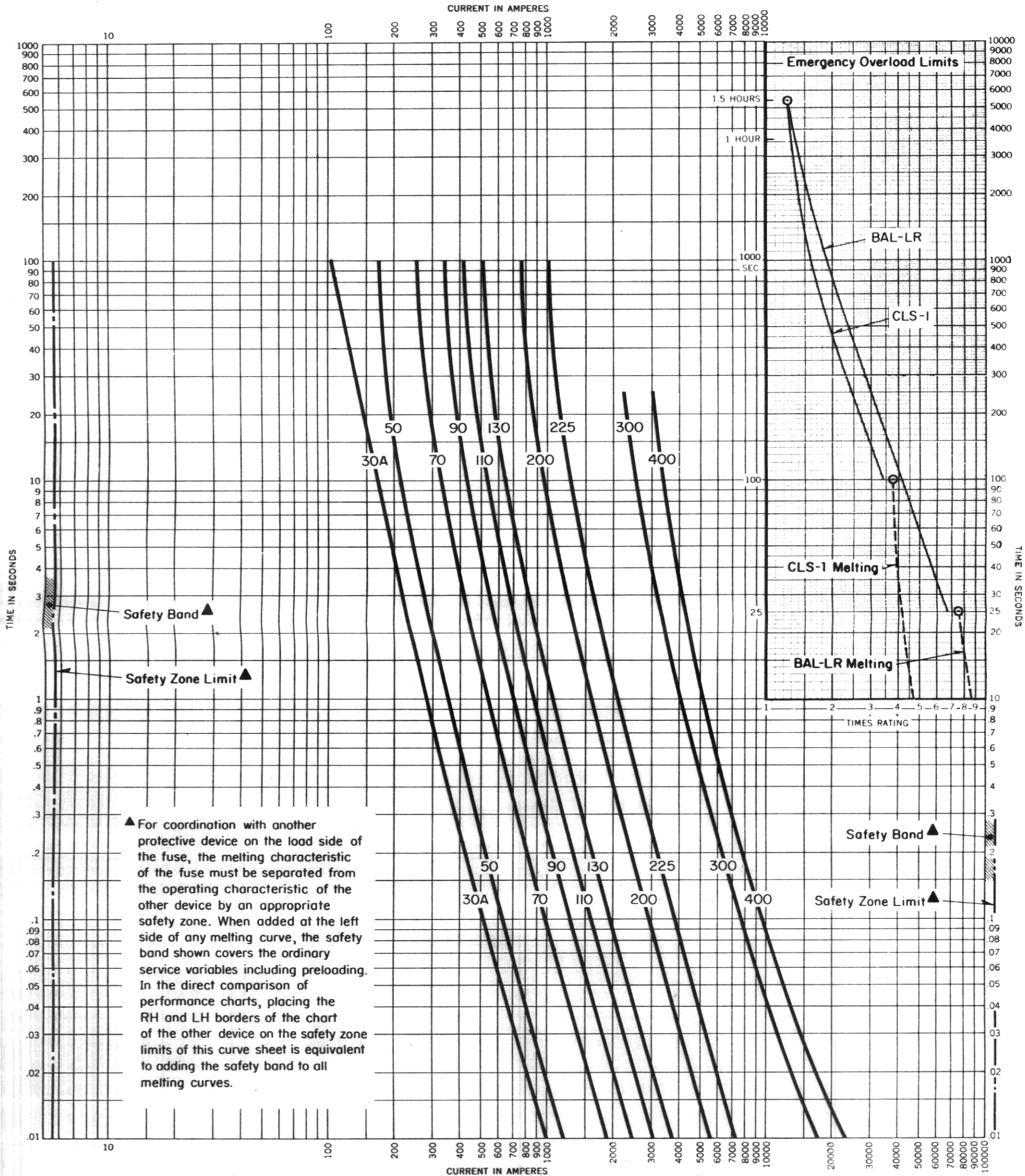
Curve No.

19

Supersedes Curve No. 19, dated January, 1961

Reference No. 459292

May, 1968



Type CLS-1 and BAL-LR Current Limiting Fuses
Melting time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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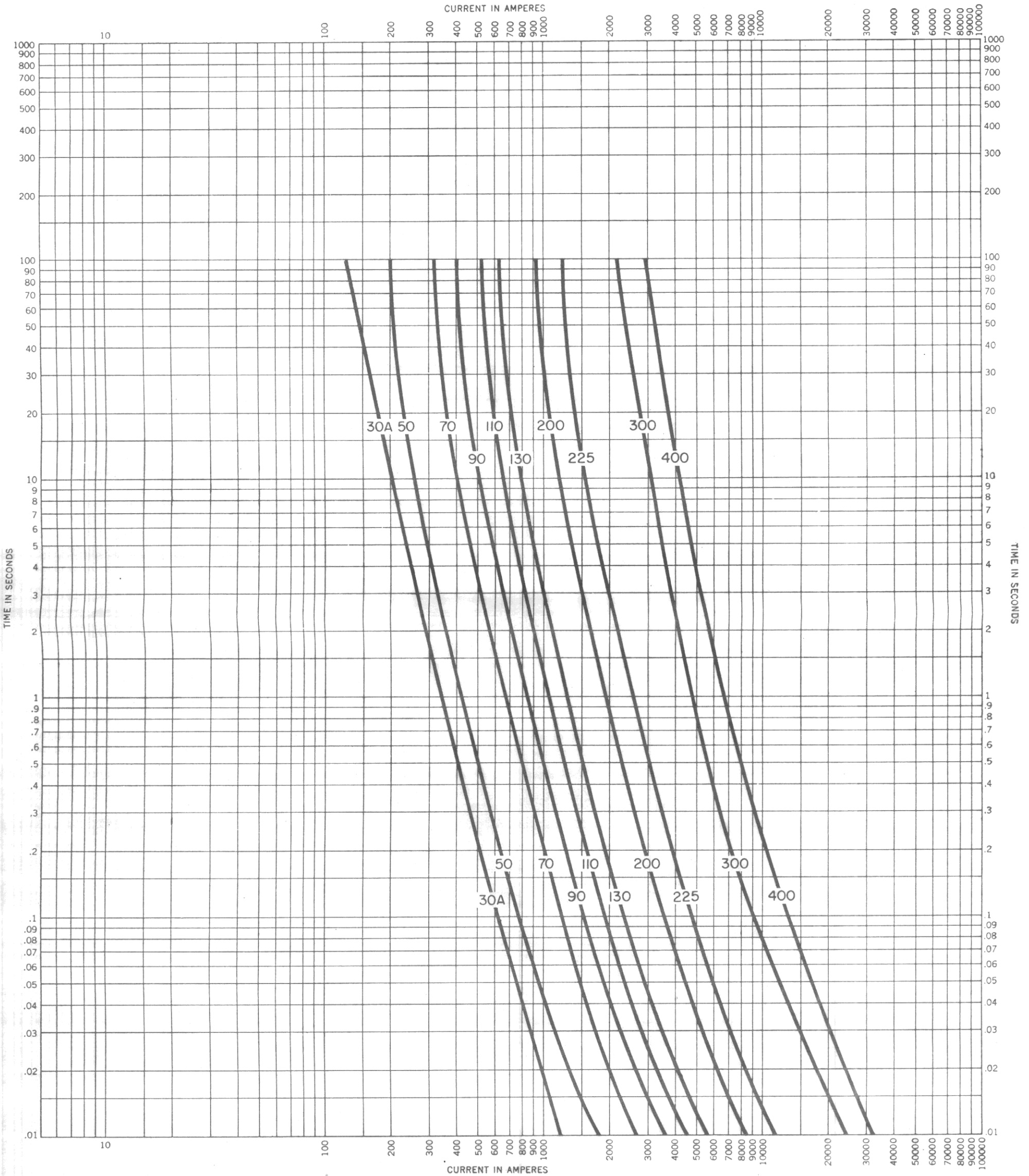
Curve No.

20

Supersedes Curve No. 20, dated January, 1961

Reference No. 512853

May, 1968



Type CLS-1 and BAL-LR Current Limiting Fuses
Total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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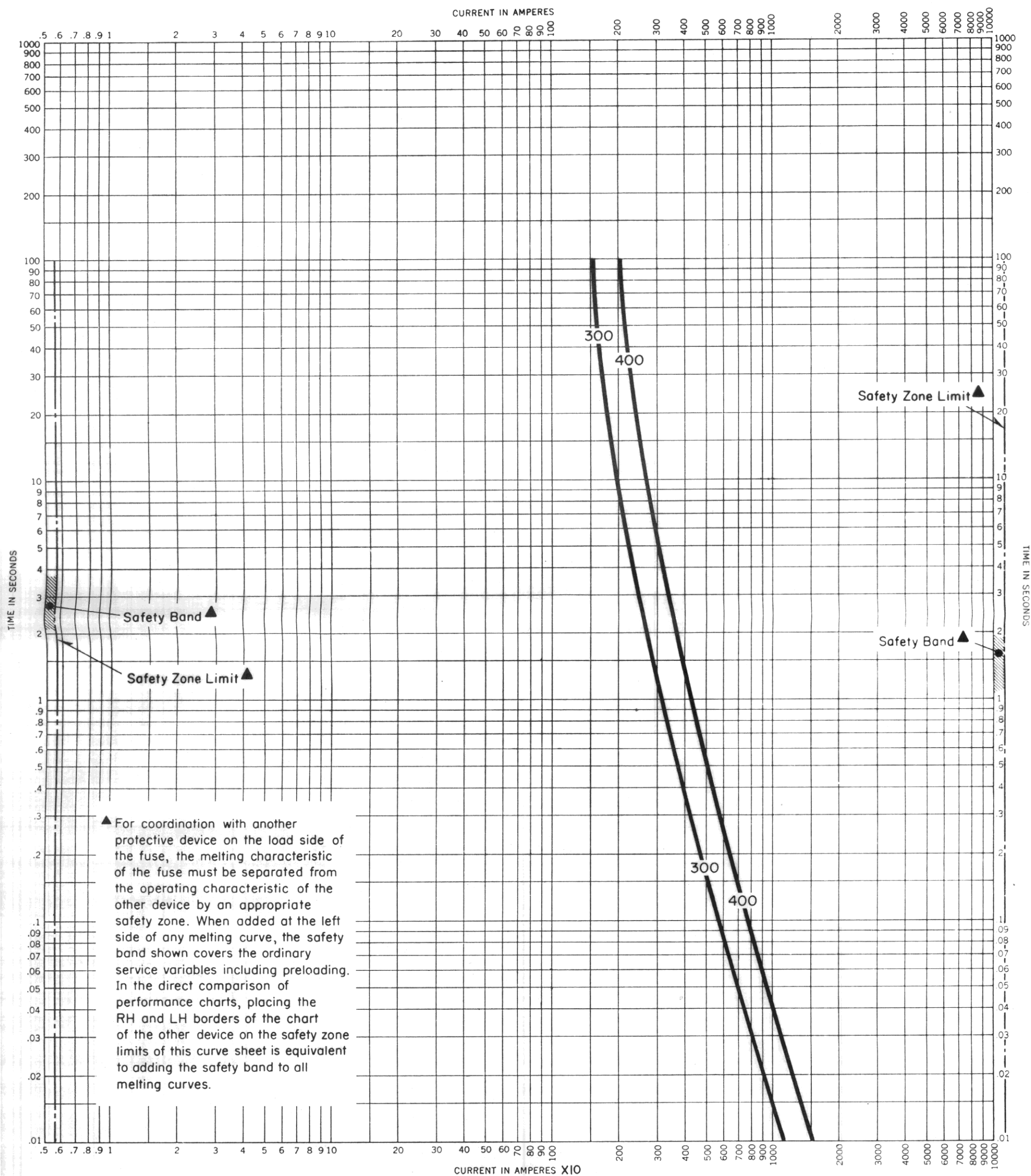
Curve No.

21

Supersedes Curve No. 21, dated January, 1961

Reference No. 512854

May, 1968



Type CLS-2 Current Limiting Power Fuses

Melting time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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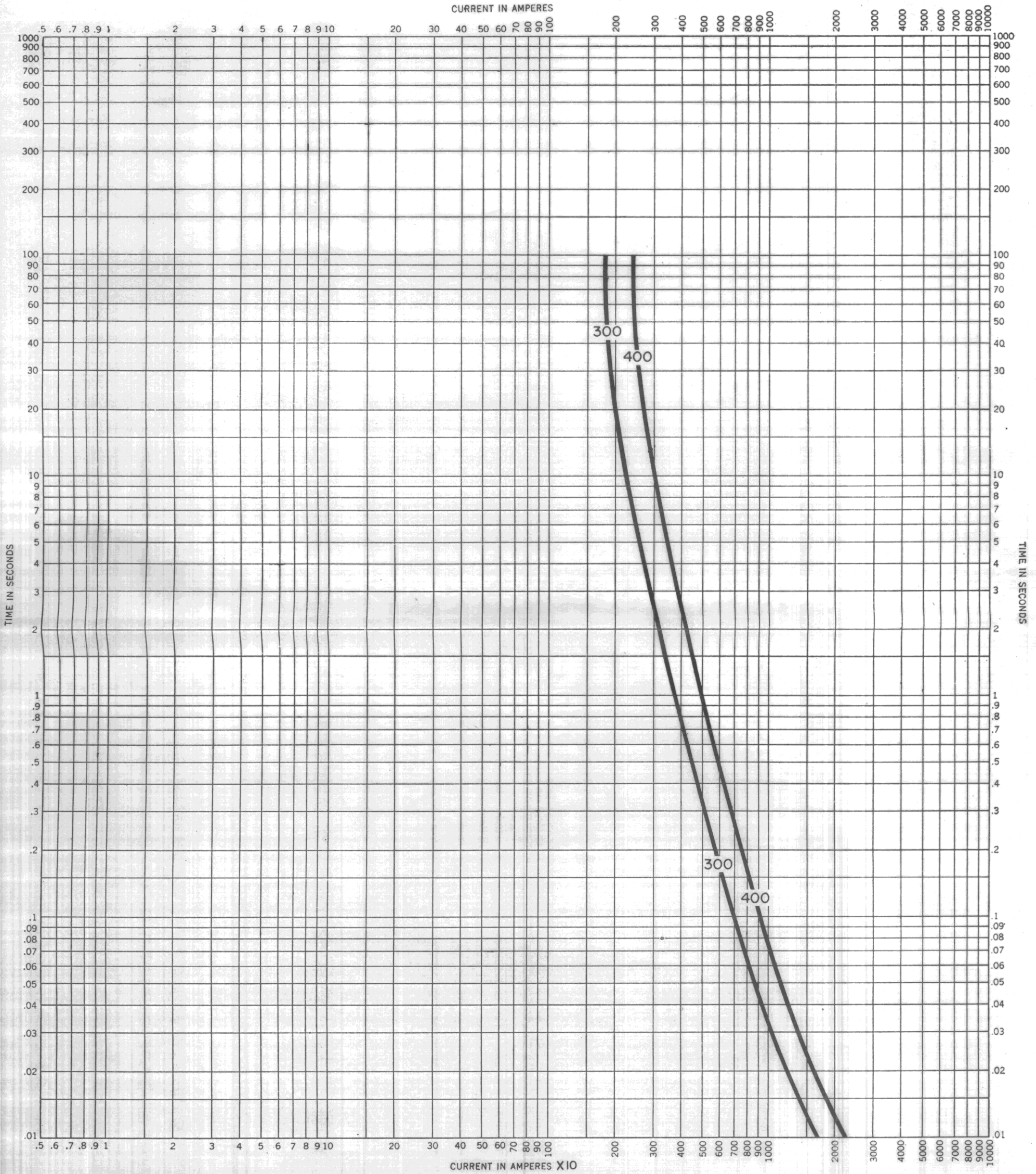
Curve No.

24

Supersedes Curve No. 24, dated April, 1962

Reference No. 536863

May, 1968



Type CLS-2 Current Limiting Power Fuses

Total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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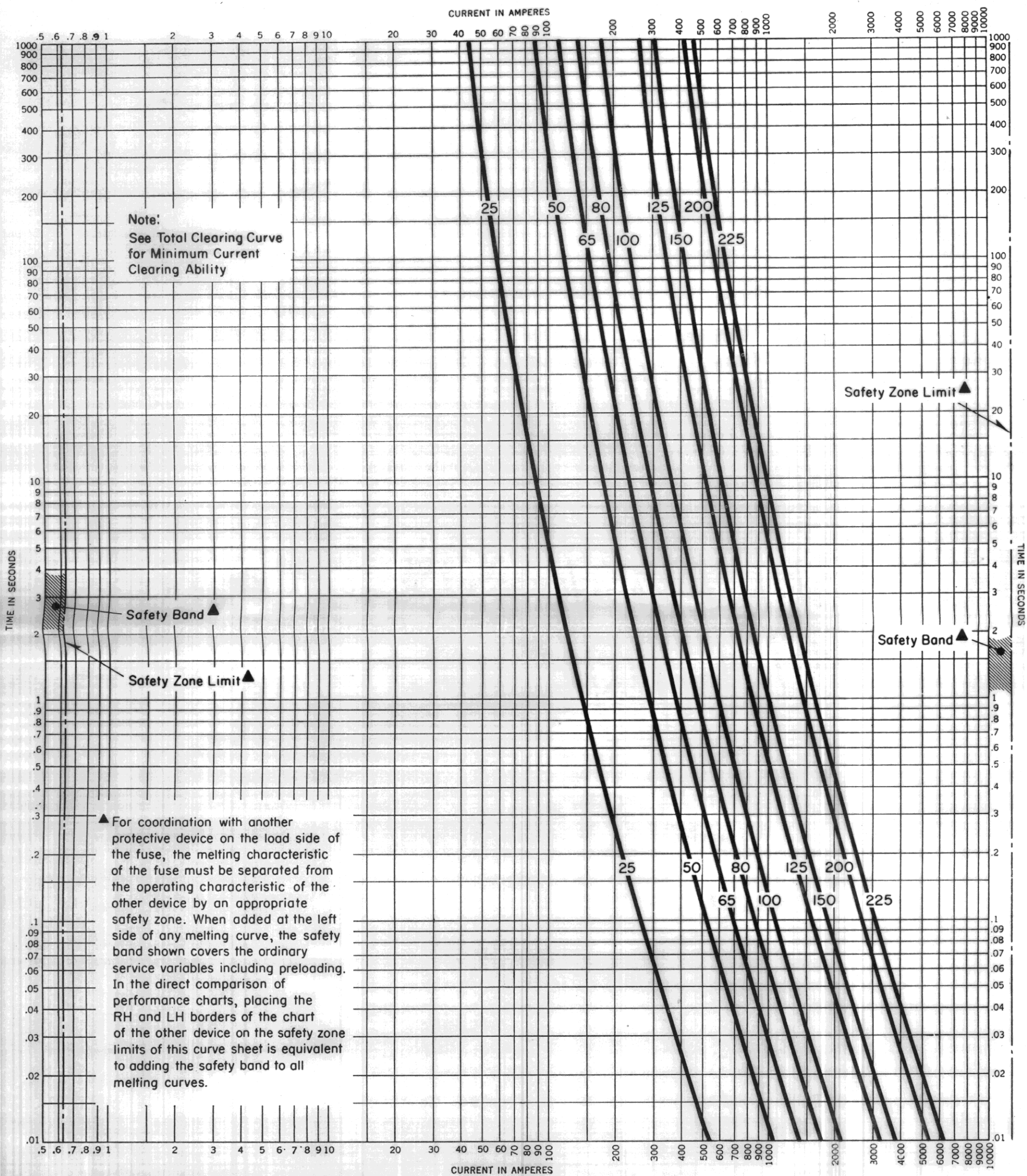
Curve No.

25

Supersedes Curve No. 25, dated April, 1962

Reference No. 536864

May, 1968



Type CLE-1 Current Limiting Power Fuses

Melting time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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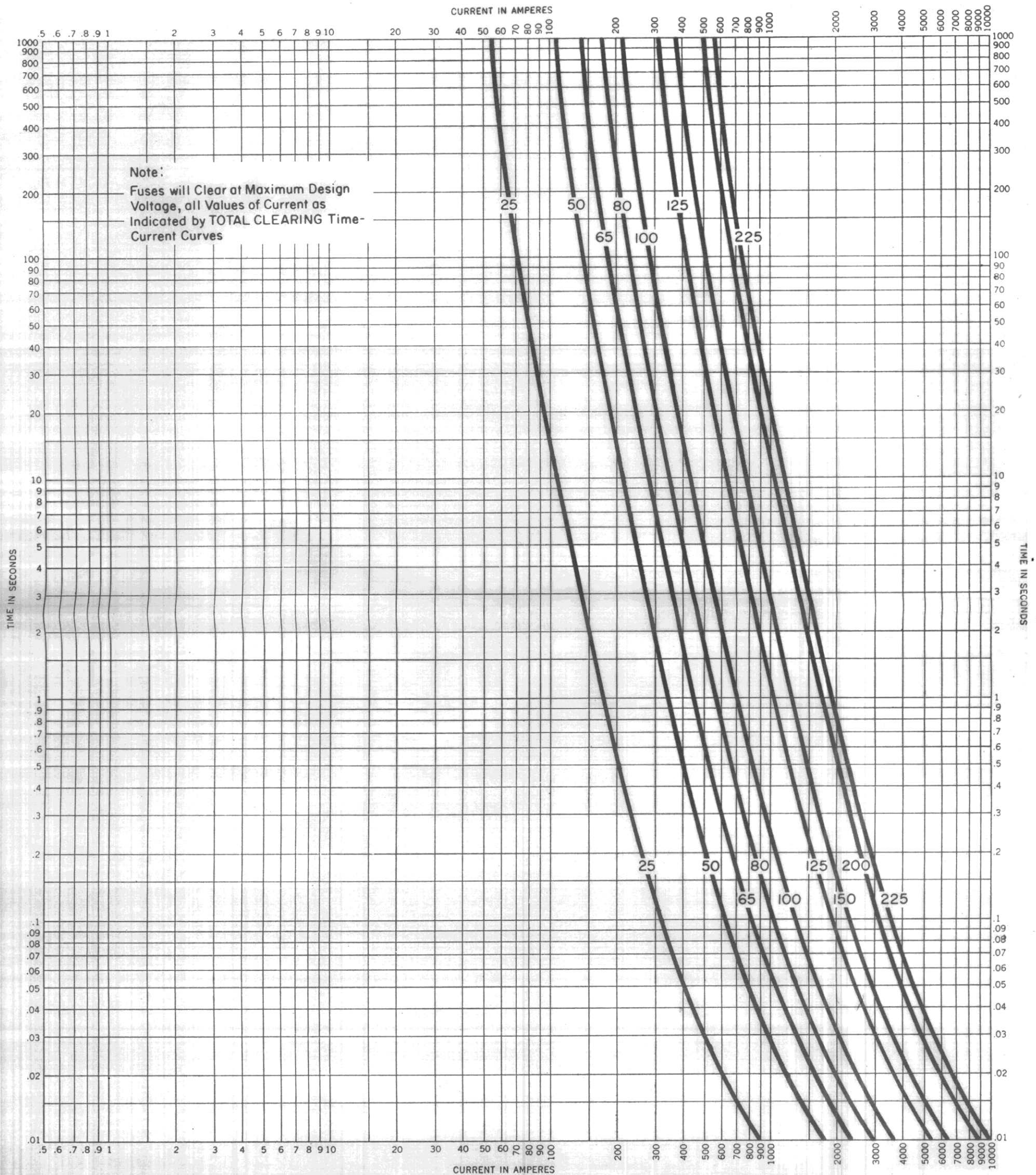
Curve No.

26

Supersedes Curve No. 26, dated April, 1962

Reference No. 536861

May, 1968

**Type CLE-1 Current Limiting Power Fuses**

Total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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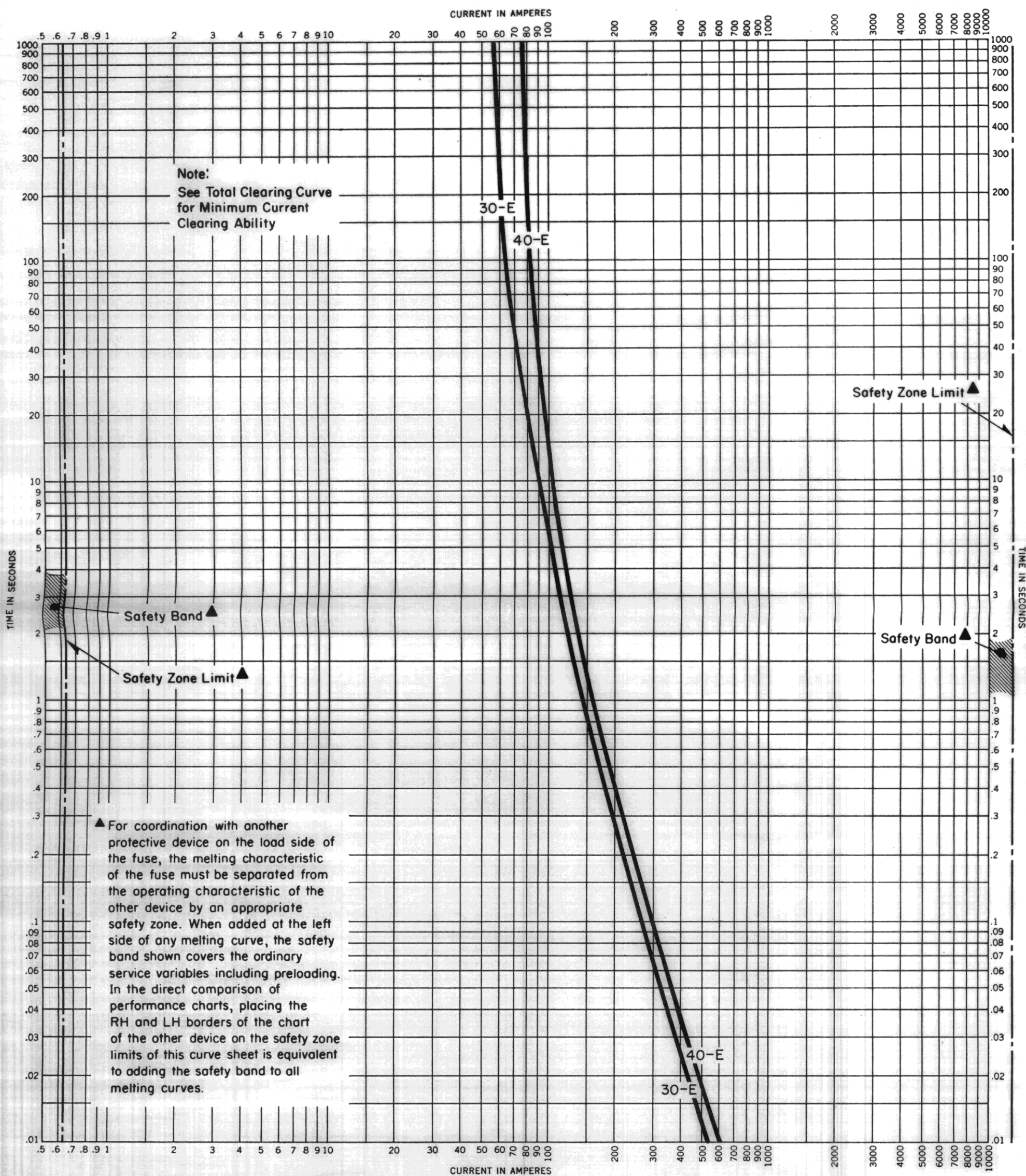
Curve No.

27

Supersedes Curve No. 27, dated April, 1962

Reference No. 536862

May, 1968



Type CLE-1 Current Limiting Power Fuses
Melting time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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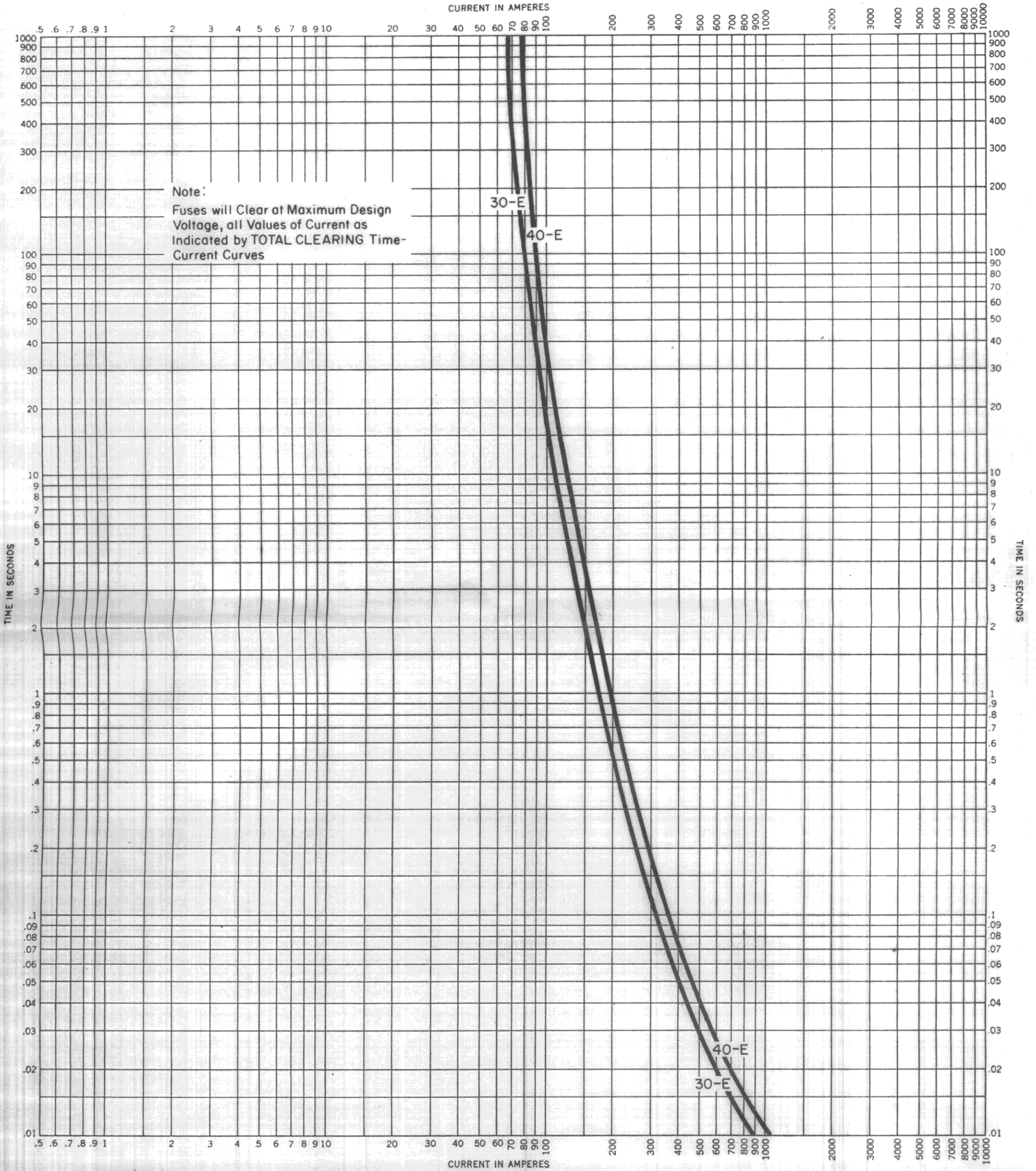
Curve No.

28

Supersedes Curve No. 28, dated September, 1964

Reference No. 536903

May, 1968



Type CLE-1 Current Limiting Power Fuses

Total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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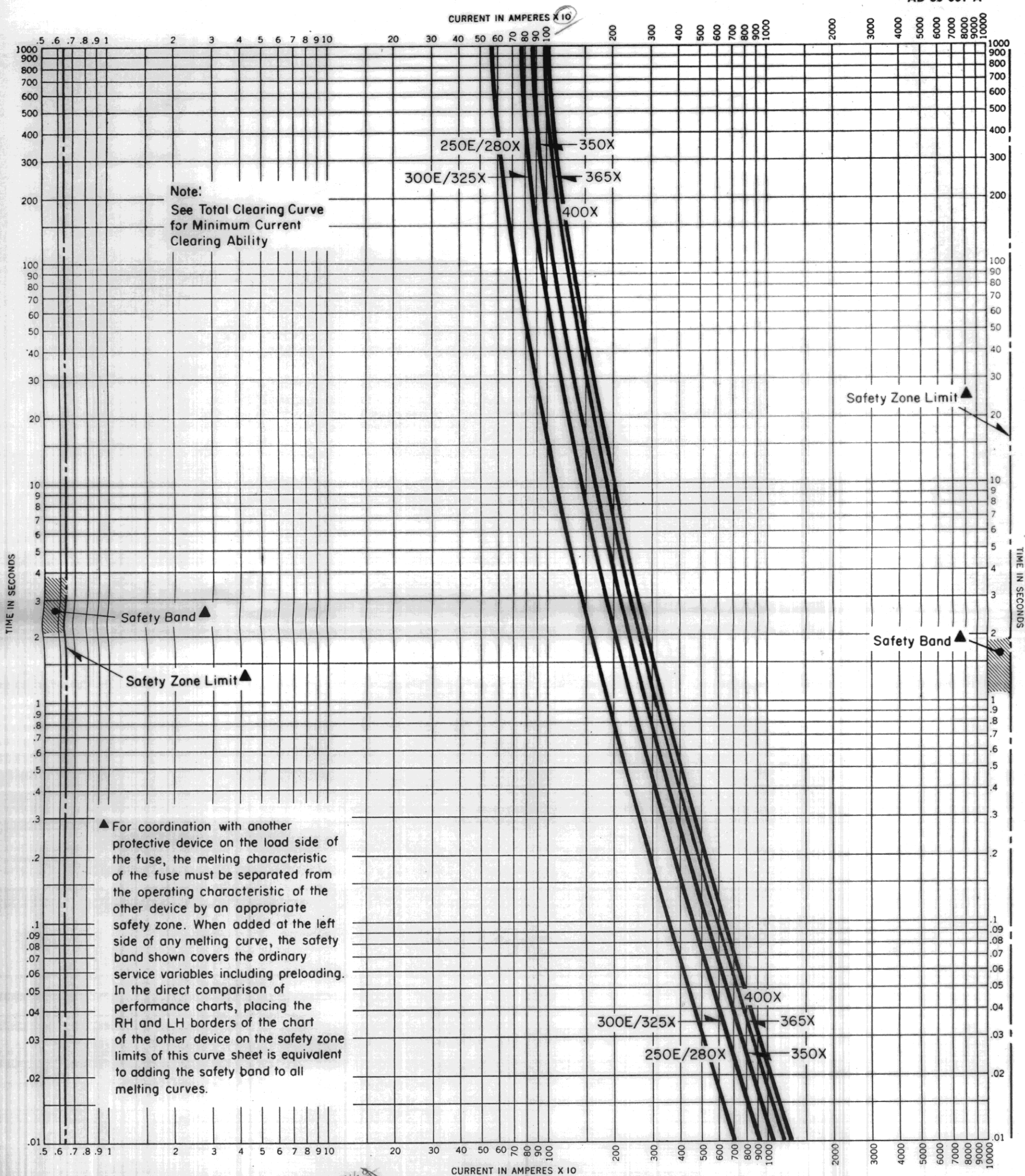
Curve No.

29

Supersedes Curve No. 29, dated September, 1964

Reference No. 536904

May, 1968



Type CLE-2 Current Limiting Power Fuses

Melting time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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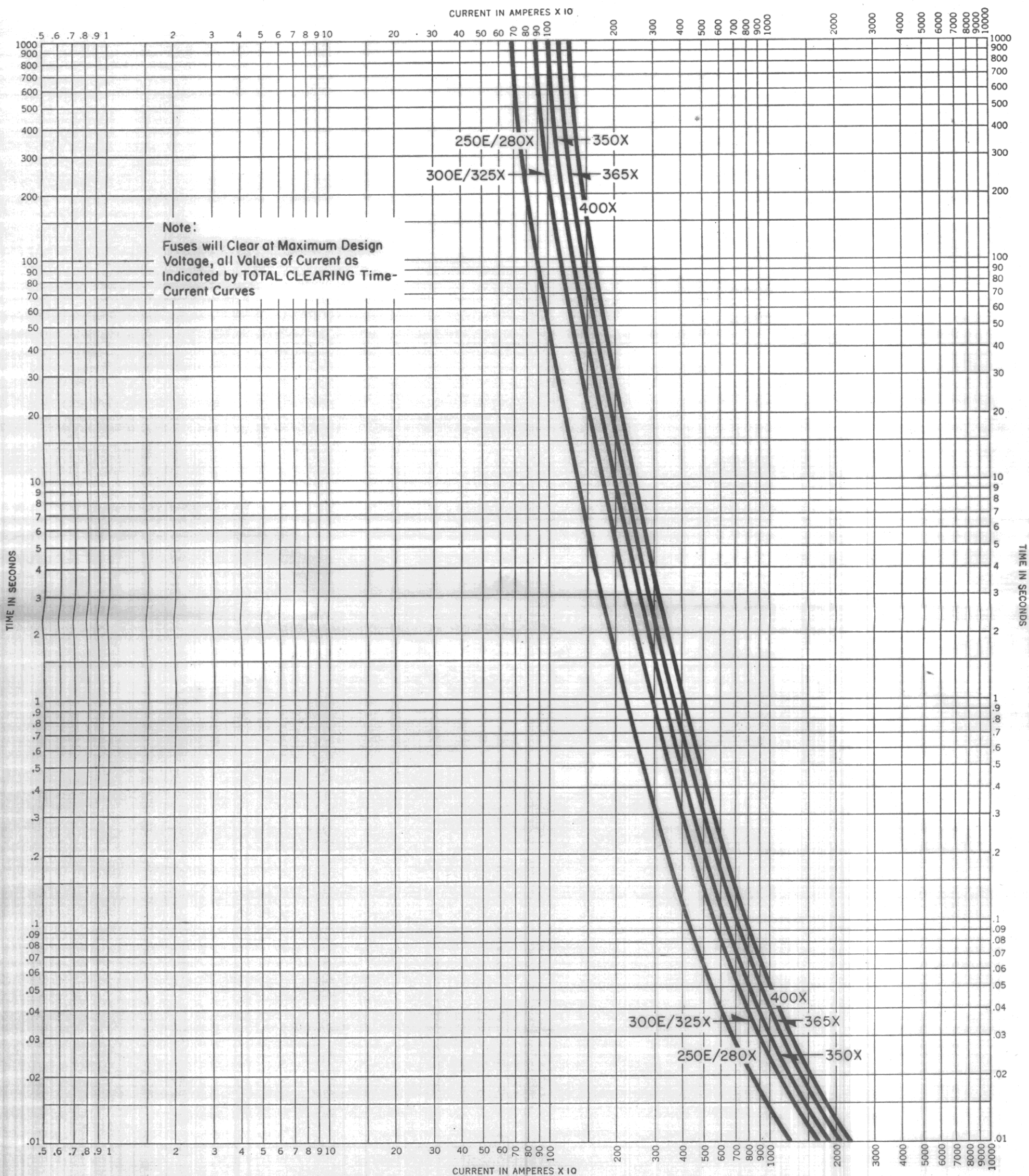
Curve No.

30

Supersedes Curve No. 30, dated September, 1964

Reference No. 536900

May, 1968



Type CLE-2 Current Limiting Power Fuses

Total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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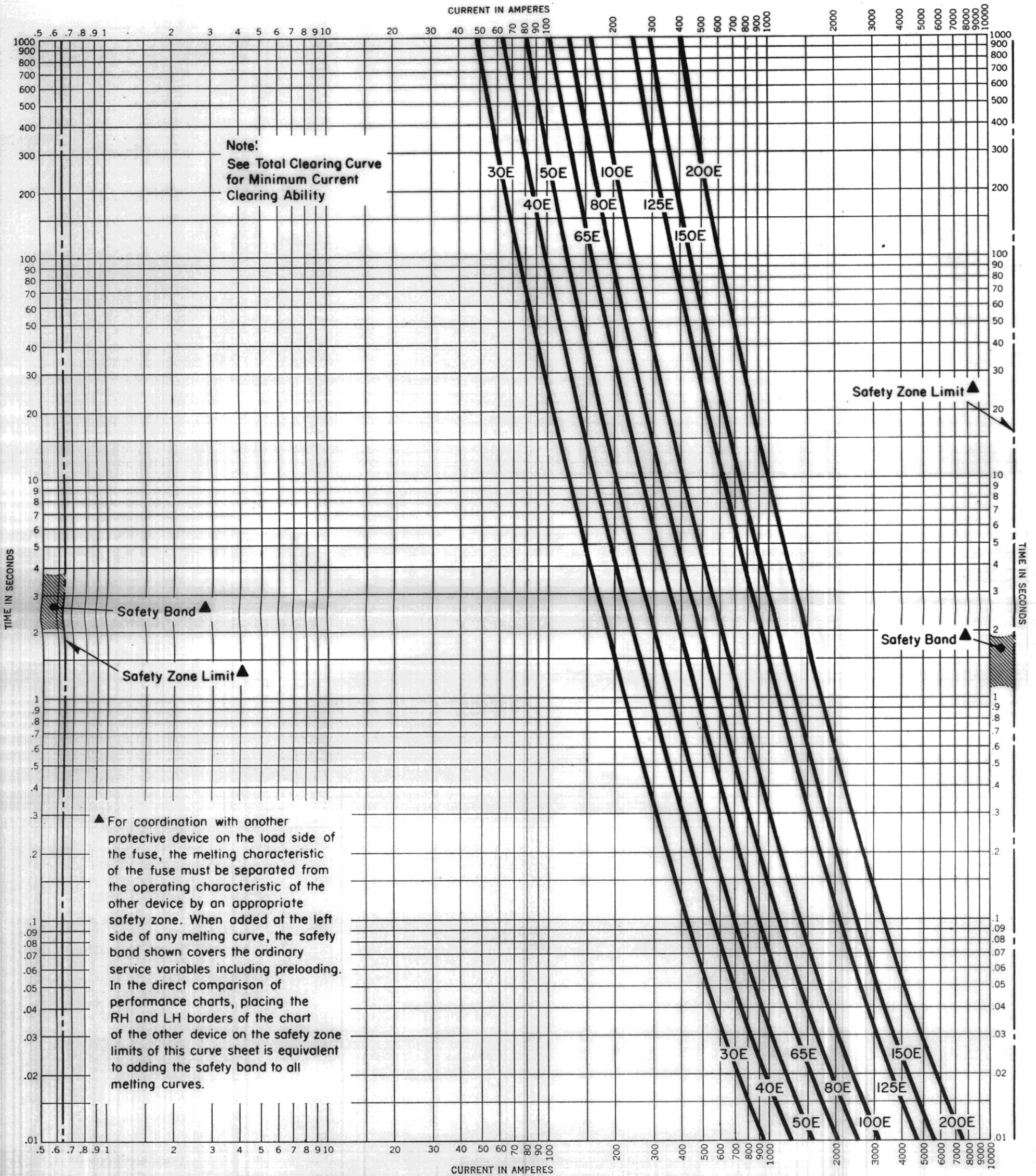
Curve No.

31

Supersedes Curve No. 31, dated September, 1964

Reference No. 536901

May, 1968



Types CLE-1 and CLE-2 Current Limiting Power Fuses

Melting time-current characteristics, 7.2 to 8.25 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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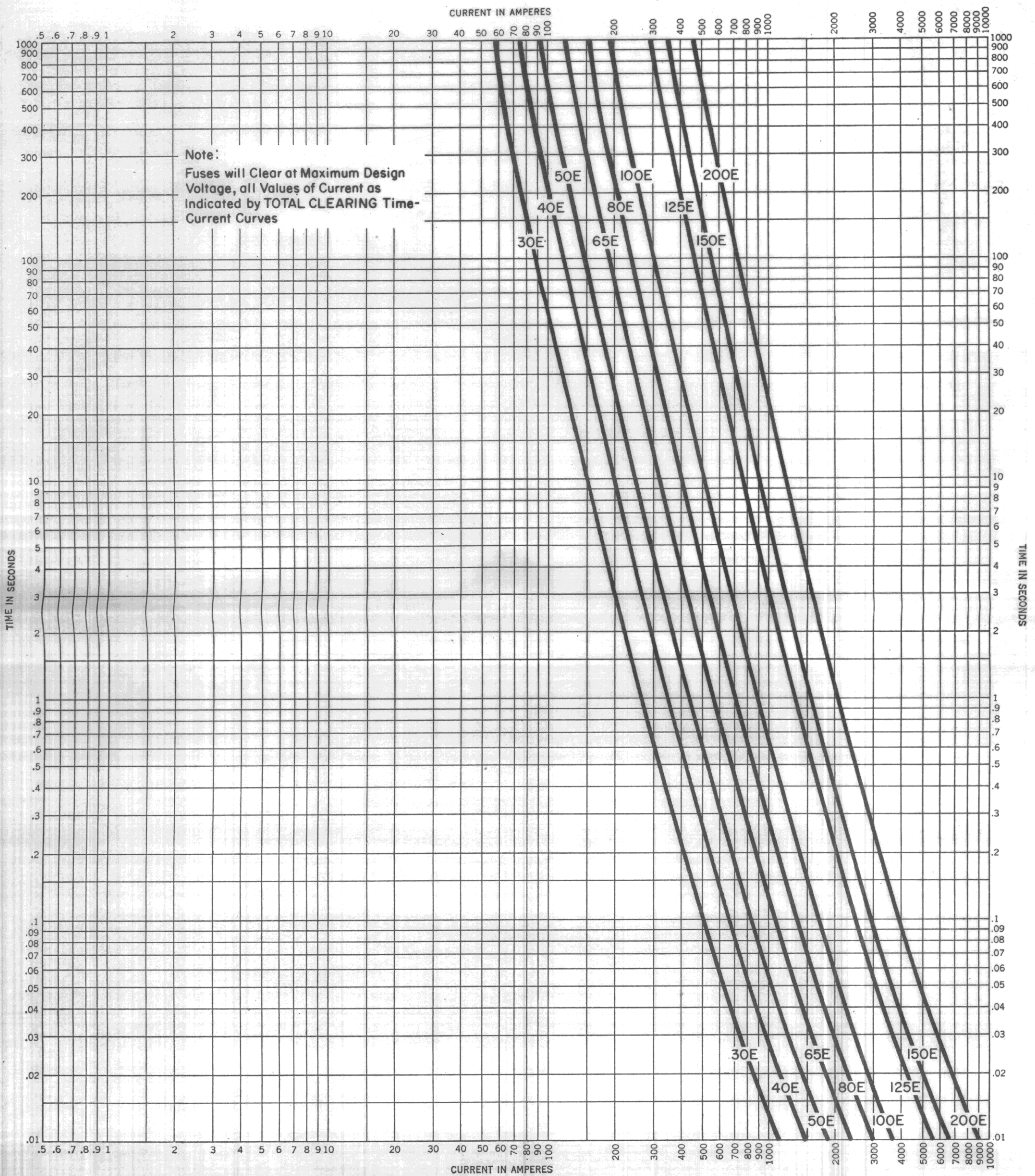
Curve No.

32

Supersedes Curve No. 32, dated September, 1964

Reference No. 536910-A

May, 1968



Types CLE-1 and CLE-2 Current Limiting Power Fuses
Total clearing time-current characteristics, 7.2 to 8.25 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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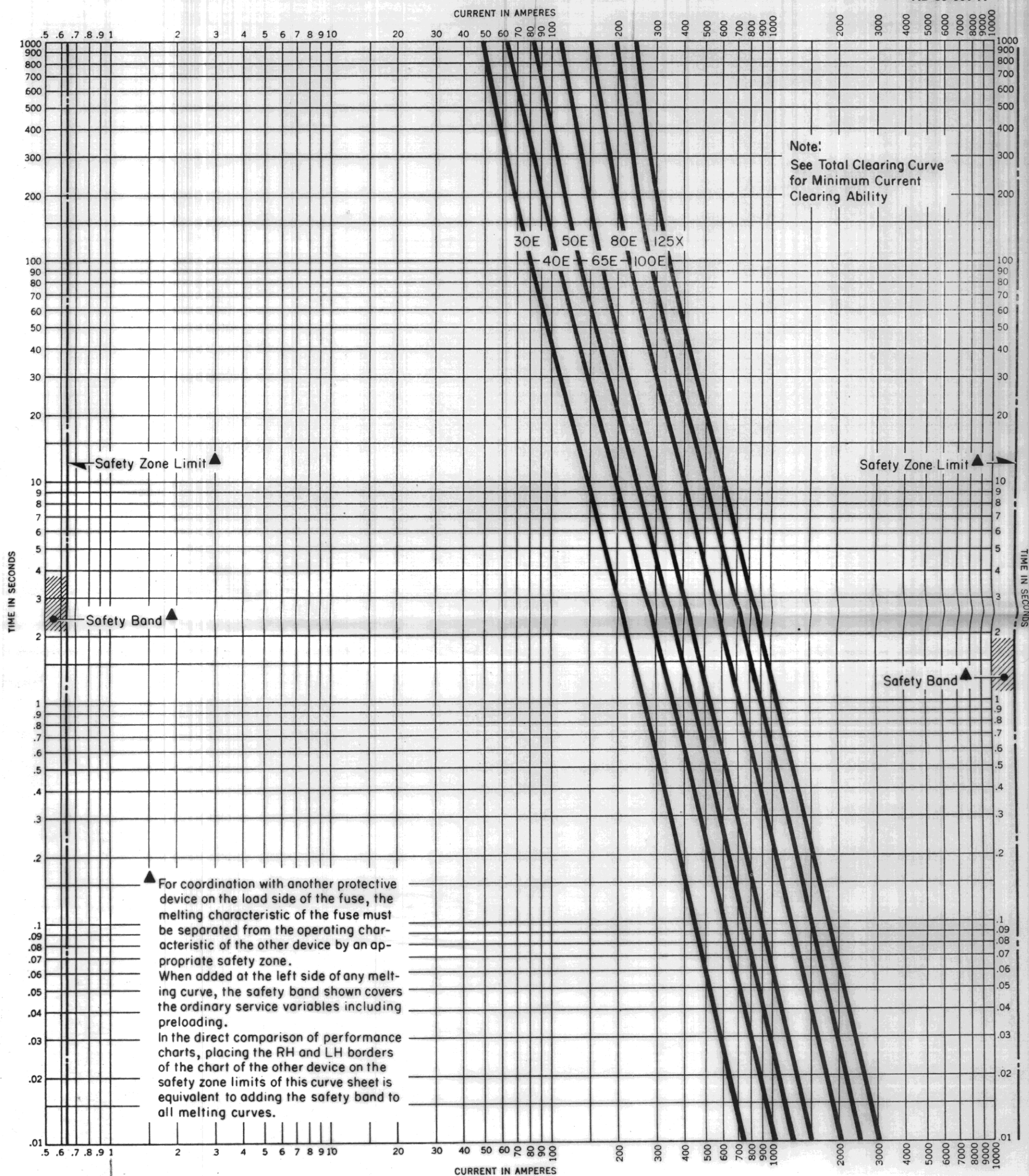
Curve No.

33

Supersedes Curve No. 33, dated September, 1964

Reference No. 536911-A

May, 1968



Type CLE-1 and CLE-2 Current Limiting Power Fuses

Melting time-current characteristics, 14.4 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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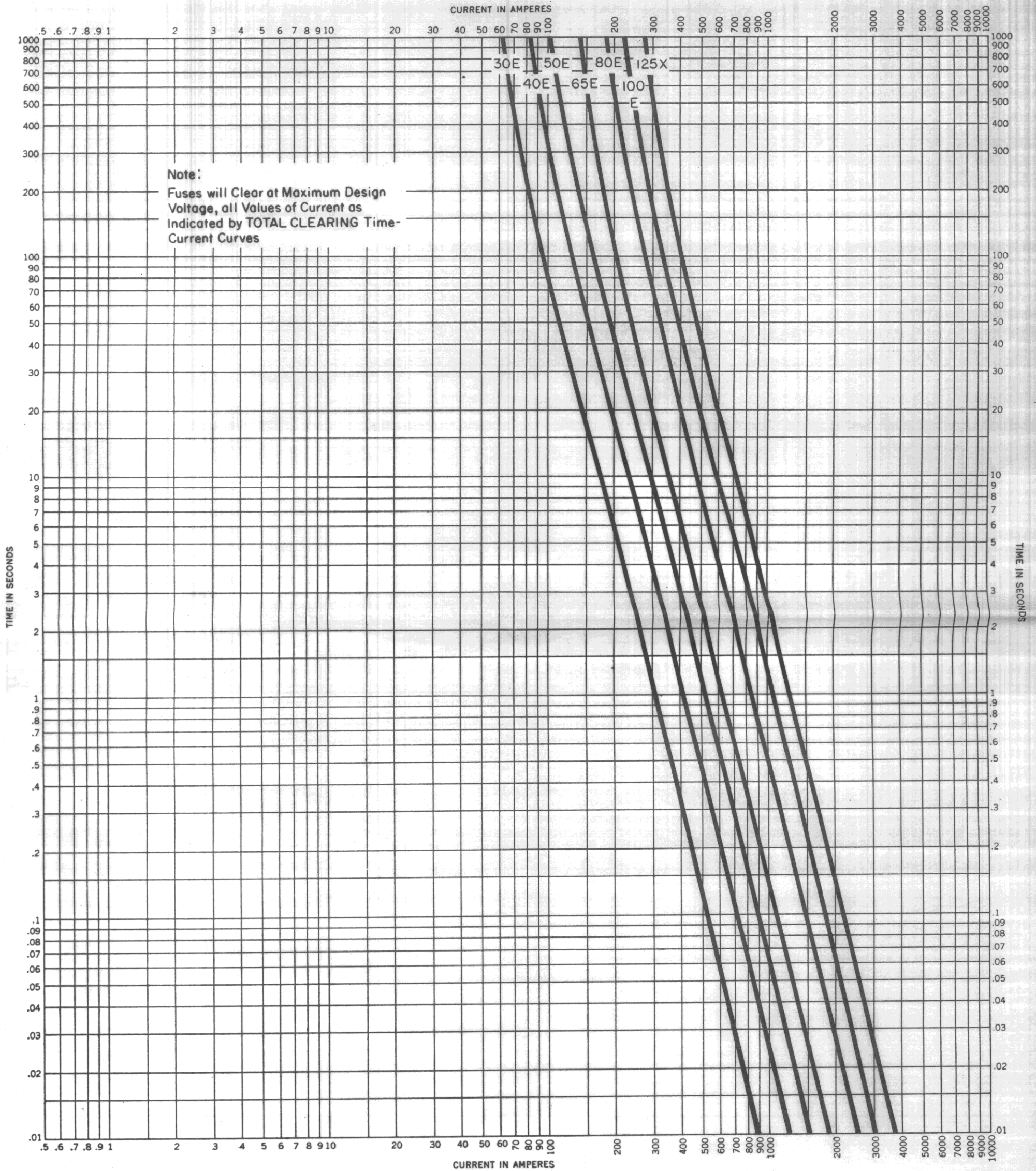
Curve No.

34

Supersedes Curve No. 34, dated November, 1966

Reference No. 598783

May, 1968



Types CLE-1 and CLE-2 Current Limiting Power Fuses
Total clearing time-current characteristics, 14.4 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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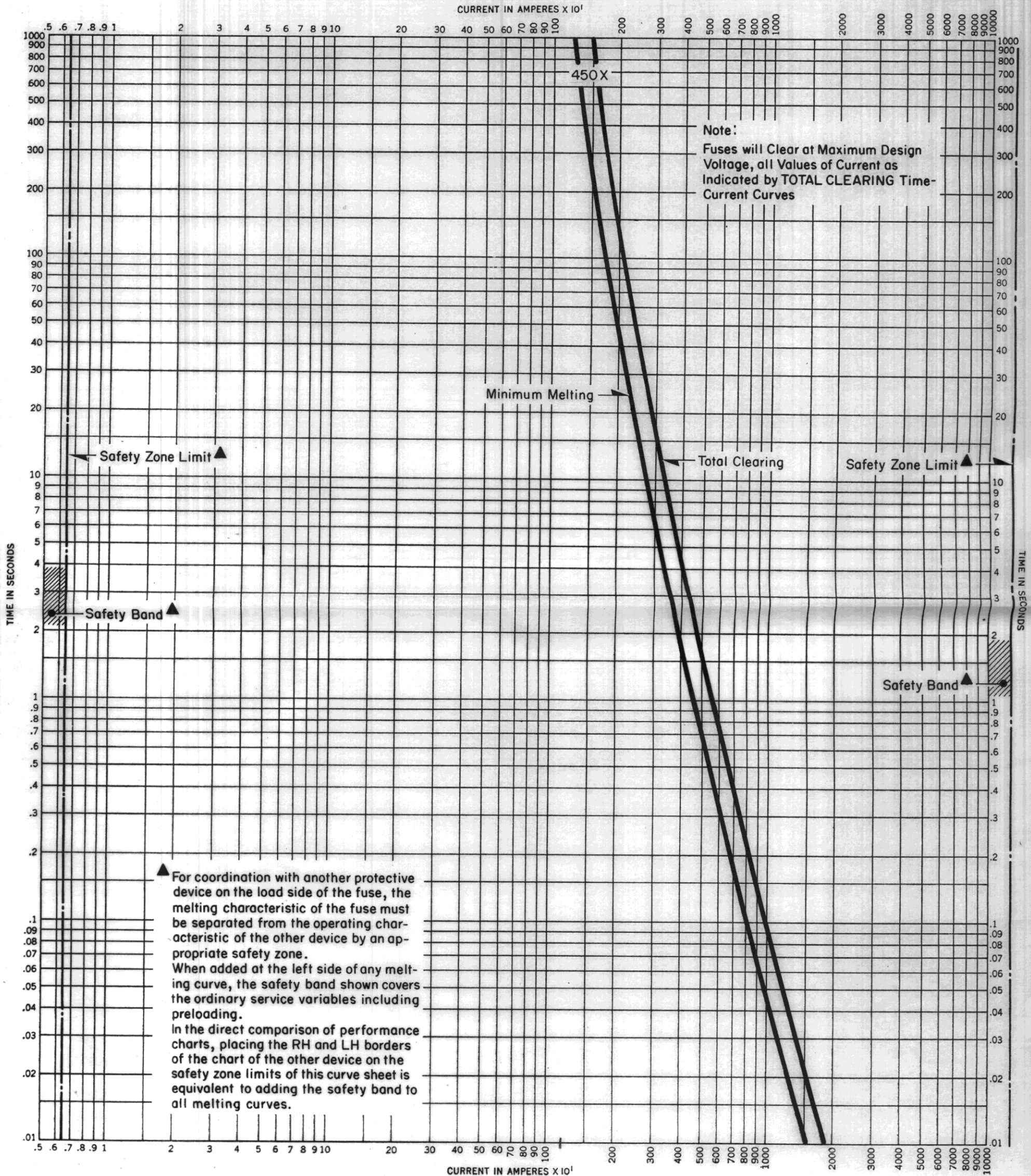
Curve No.

35

Supersedes Curve No. 35, dated November, 1966

Reference No. 598784

May, 1968



Type CLE-2 Current Limiting Power Fuses

Melting and total clearing time-current characteristics, 2.0 to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points on melting, and maximum on total clearing, so variations should be positive on melting and negative on total clearing.

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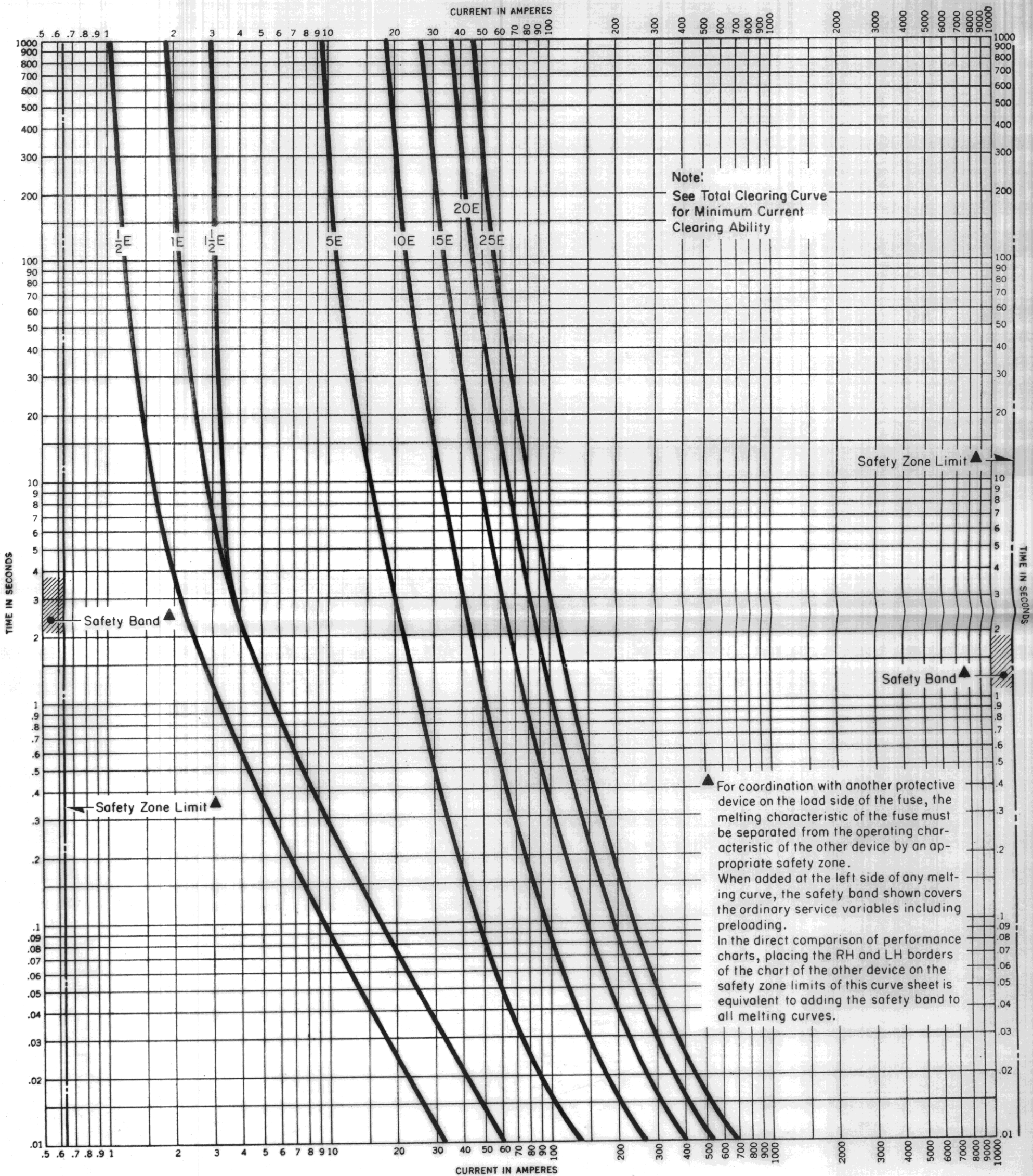
Curve No.

36

Supersedes Curve No. 36, dated November, 1964

Reference No. 598839

May, 1968



Type CLE-PT and CLE (Indicating) Current Limiting Power Fuses

Melting time-current characteristics, 2.4 Kv to 23.0 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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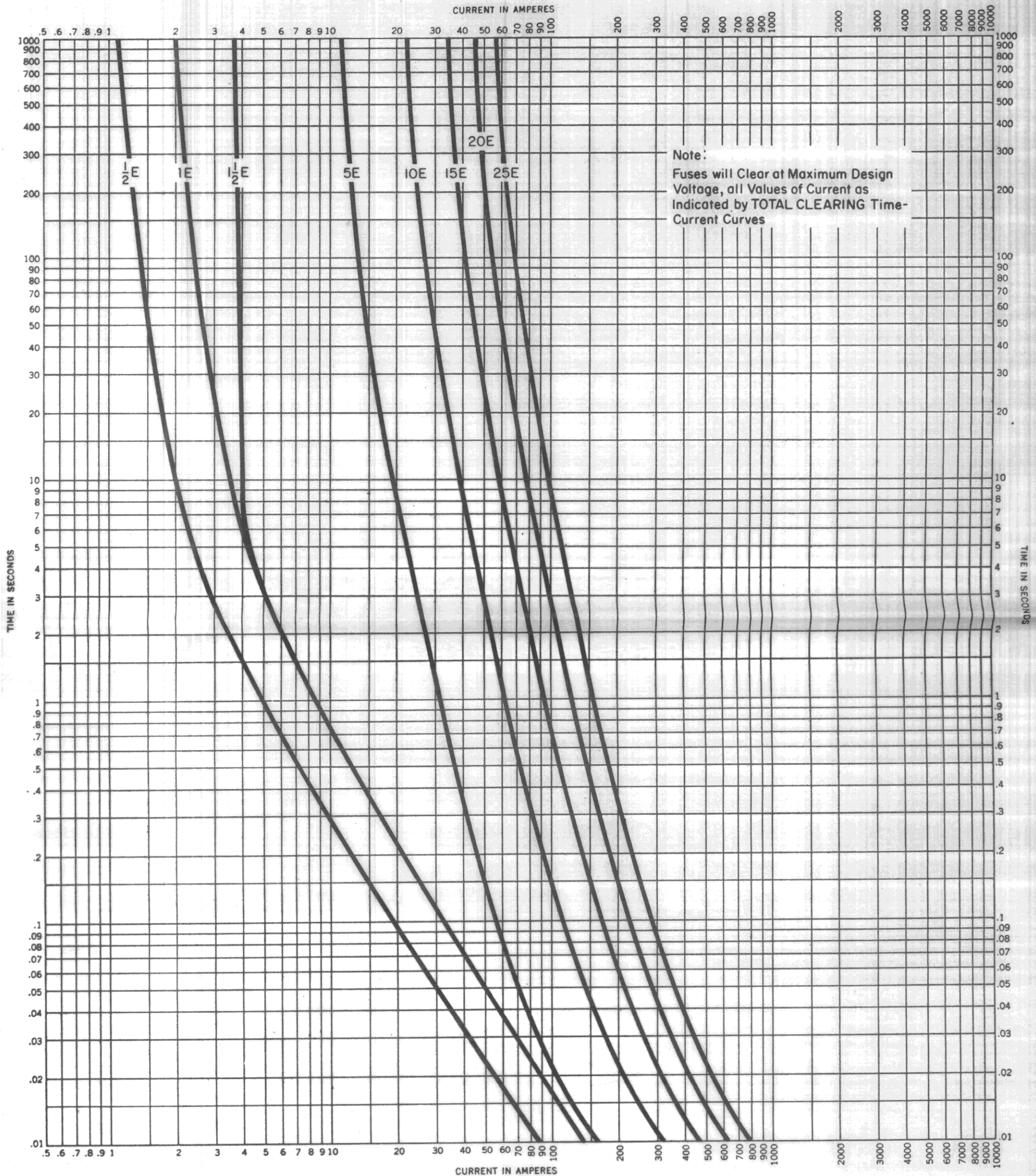
Curve No.

37

Supersedes Curve No. 37, dated November, 1966

Reference No. 563532

May, 1968



Type CLE-PT and CLE (Indicating) Current Limiting Power Fuses

Total clearing time-current characteristics, 2.4 to 23.0 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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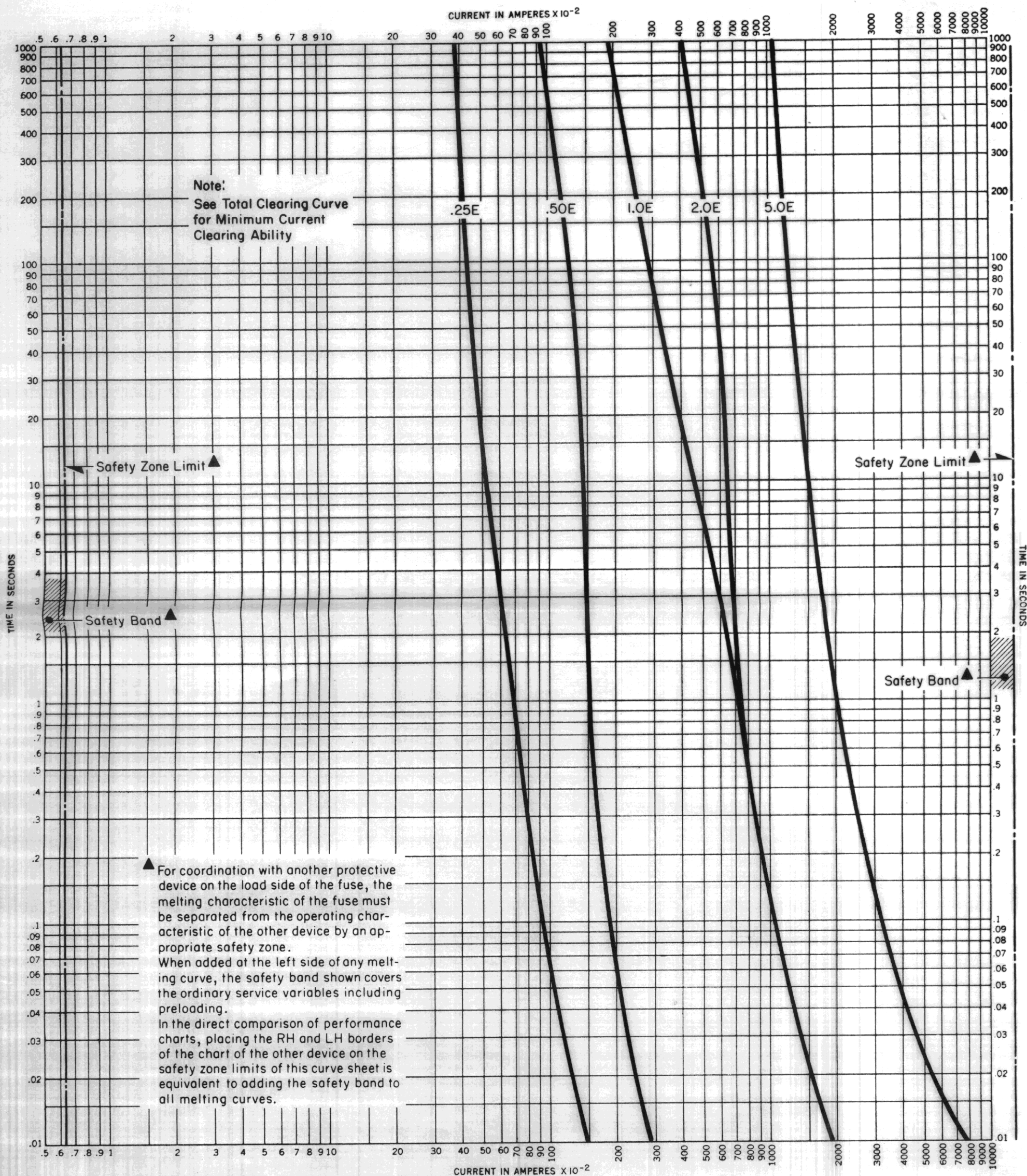
Curve No.

38

Supersedes Curve No. 38, dated November, 1966

Reference No. 563533

May, 1968



Type CLE-PT (Non-Indicating) Current Limiting Power Fuses

Melting time-current characteristics, 2.0 Kv to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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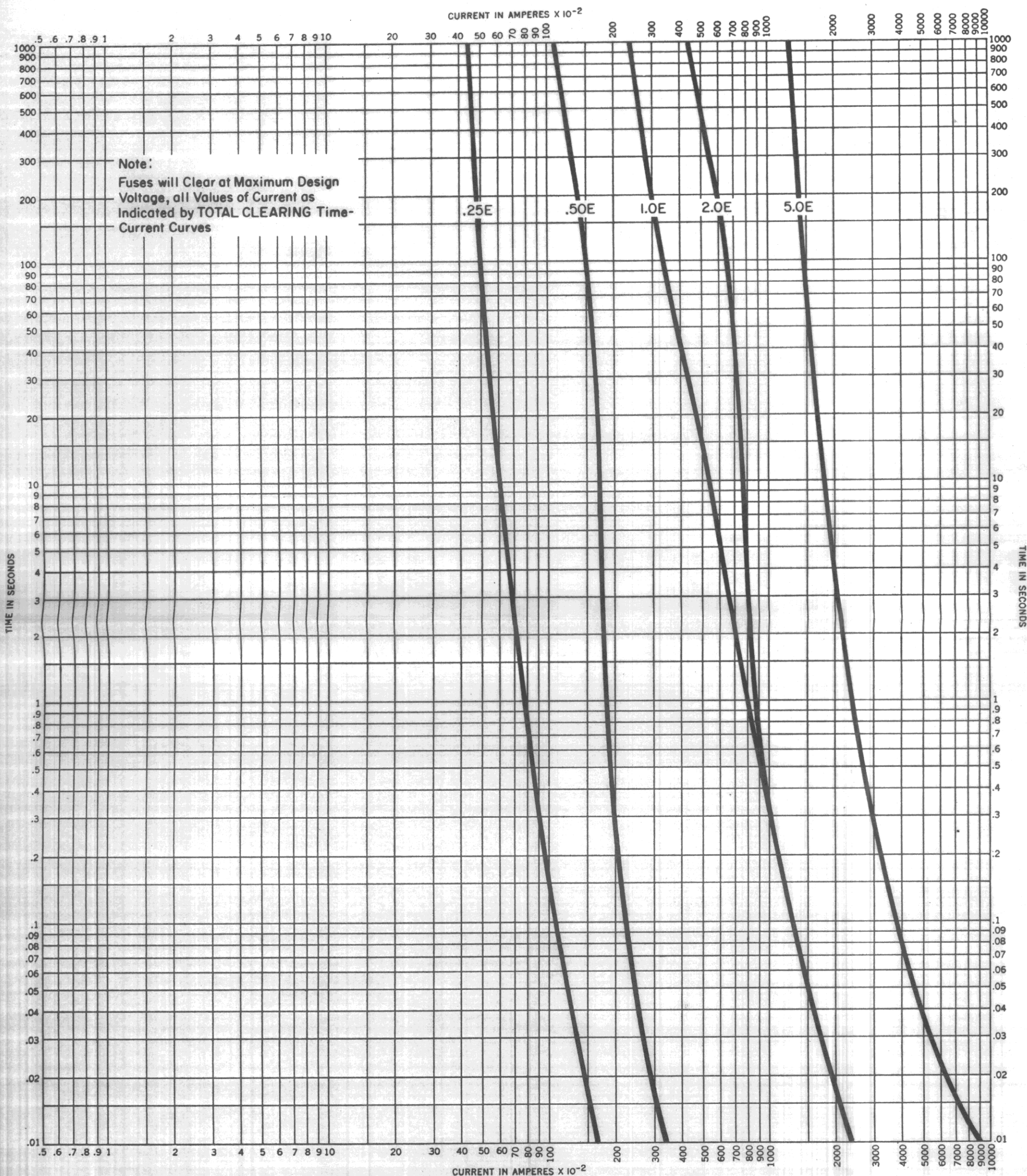
Curve No.

39

Supersedes Curve No. 39, dated November, 1966

Reference No. 563572

May, 1968



Type CLE-PT (Non-Indicating) Current Limiting Power Fuses

Total clearing time-current characteristics, 2.0 Kv to 5.5 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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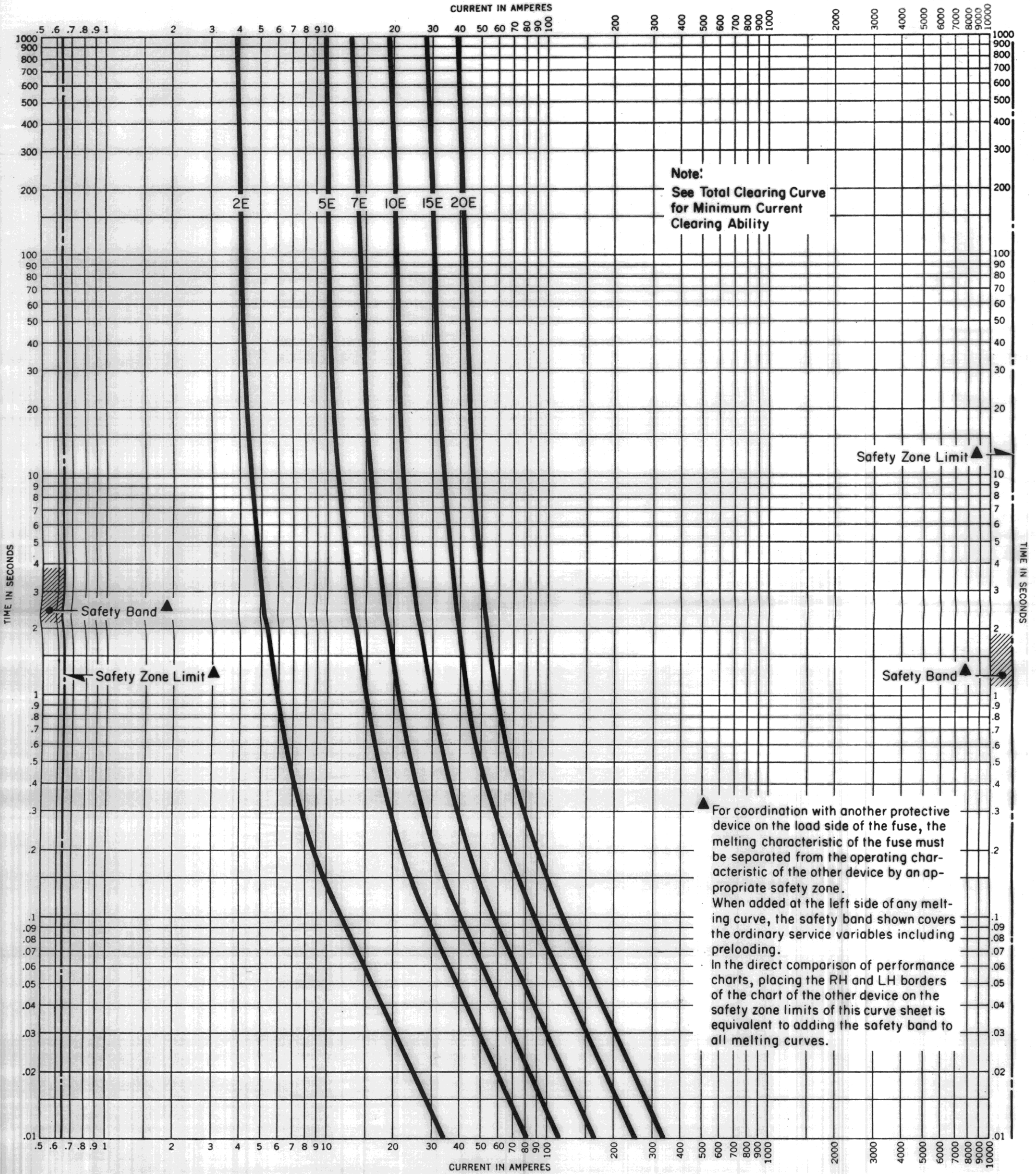
Curve No.

40

Supersedes Curve No. 40, dated November, 1966

Reference No. 598837

May, 1968



Type CLV (Non-Indicating) Current Limiting Power Fuses
Melting time-current characteristics, 600 Volts

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

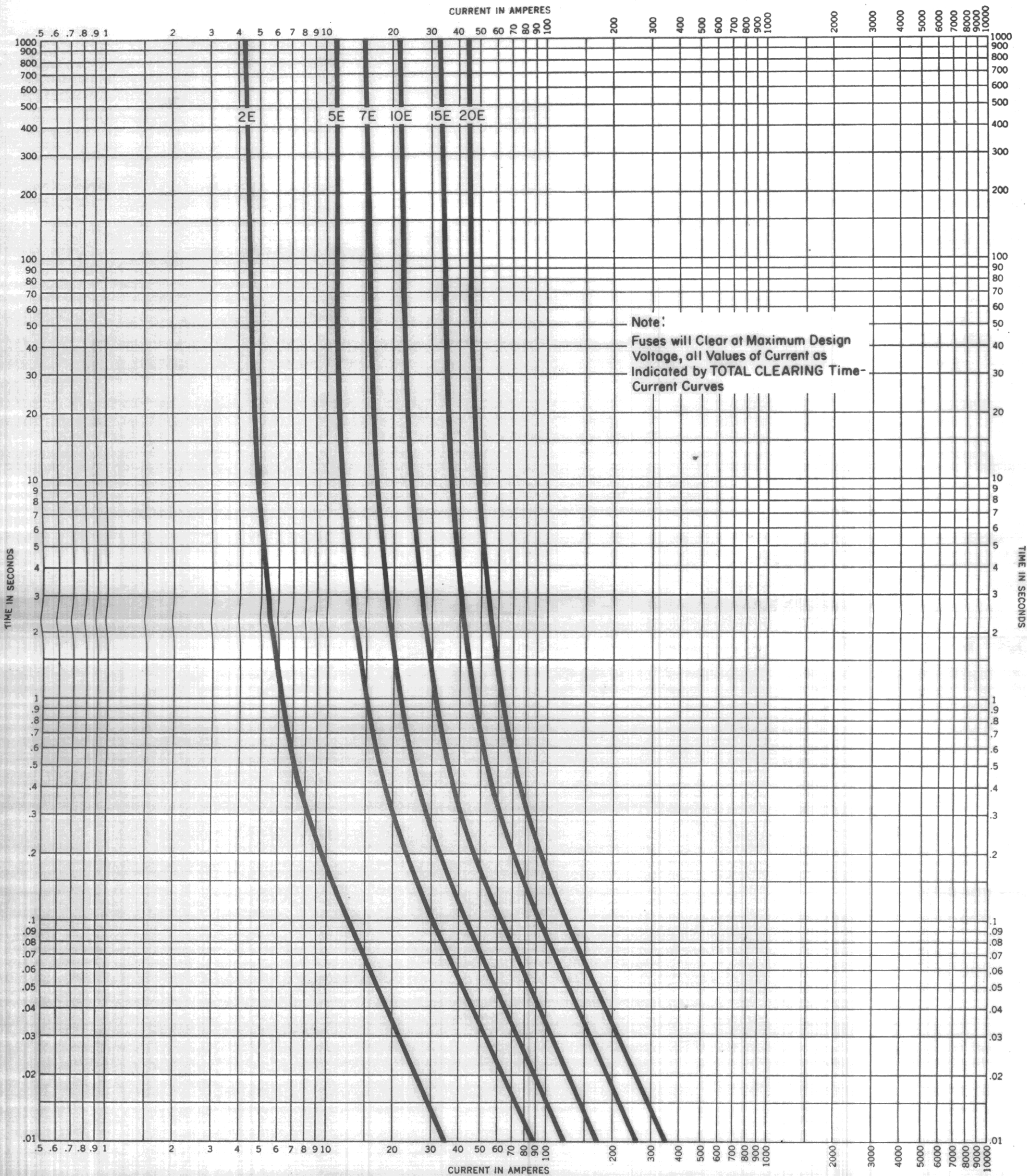
Westinghouse Electric Corporation
Switchgear Division, Power Switching Equipment, East Pittsburgh, Pa.
Printed in USA

Curve No. **41**

Supersedes Curve No. 41, dated November, 1966

Reference No. 563562

May, 1968



Type CLV (Non-Indicating) Current Limiting Power Fuses
Total clearing time-current characteristics, 600 Volts

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to maximum test points so variations should be negative.

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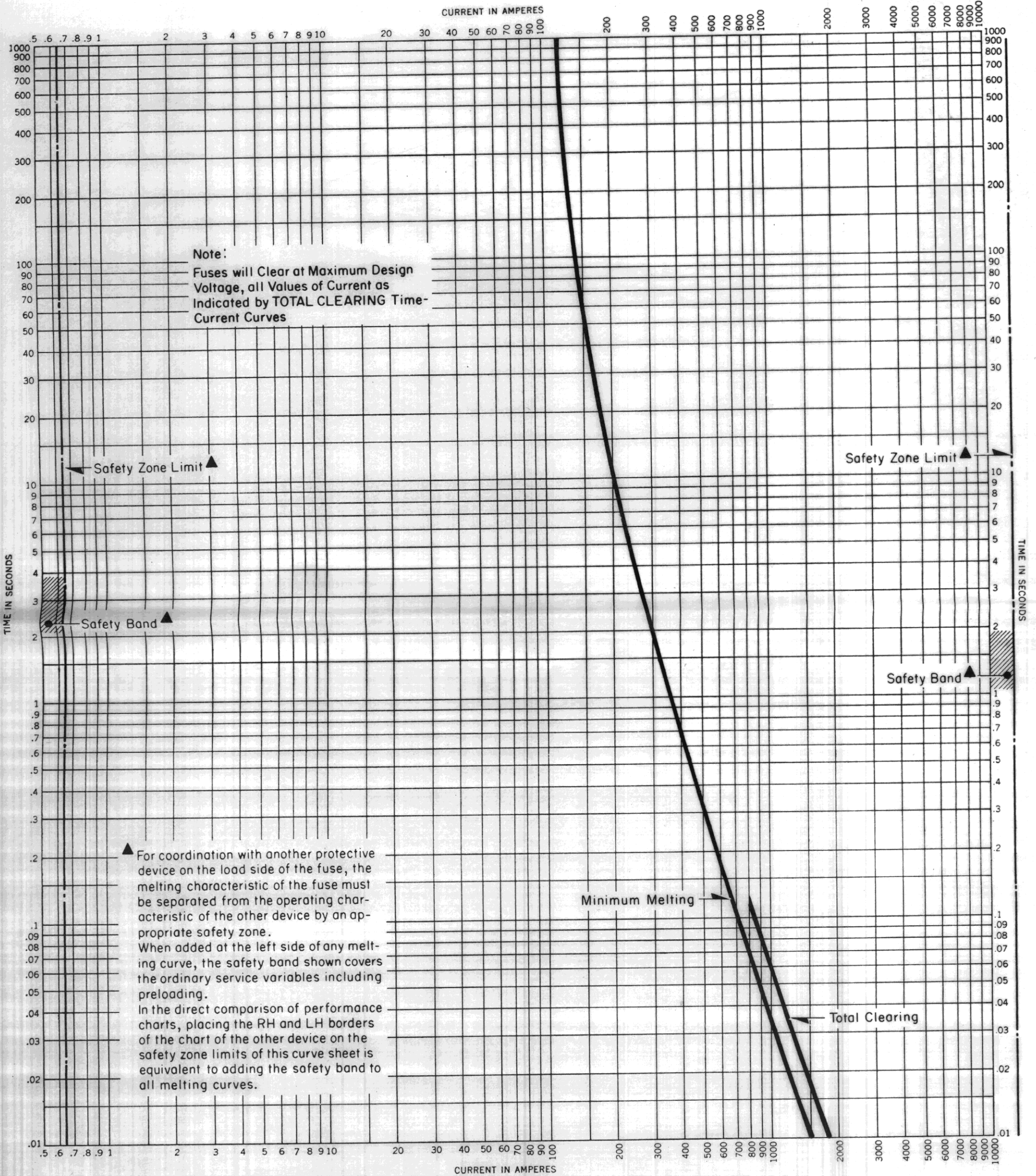
Curve No.

42

Supersedes Curve No. 42, dated November, 1966

Reference No. 563563

May, 1968



Type CLT Current Limiting Power Fuses (S#678C245G02 and G03)

Melting and total clearing time-current characteristics, 14.4 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points on melting, and maximum on total clearing, so variations should be positive on melting, and negative on total clearing.

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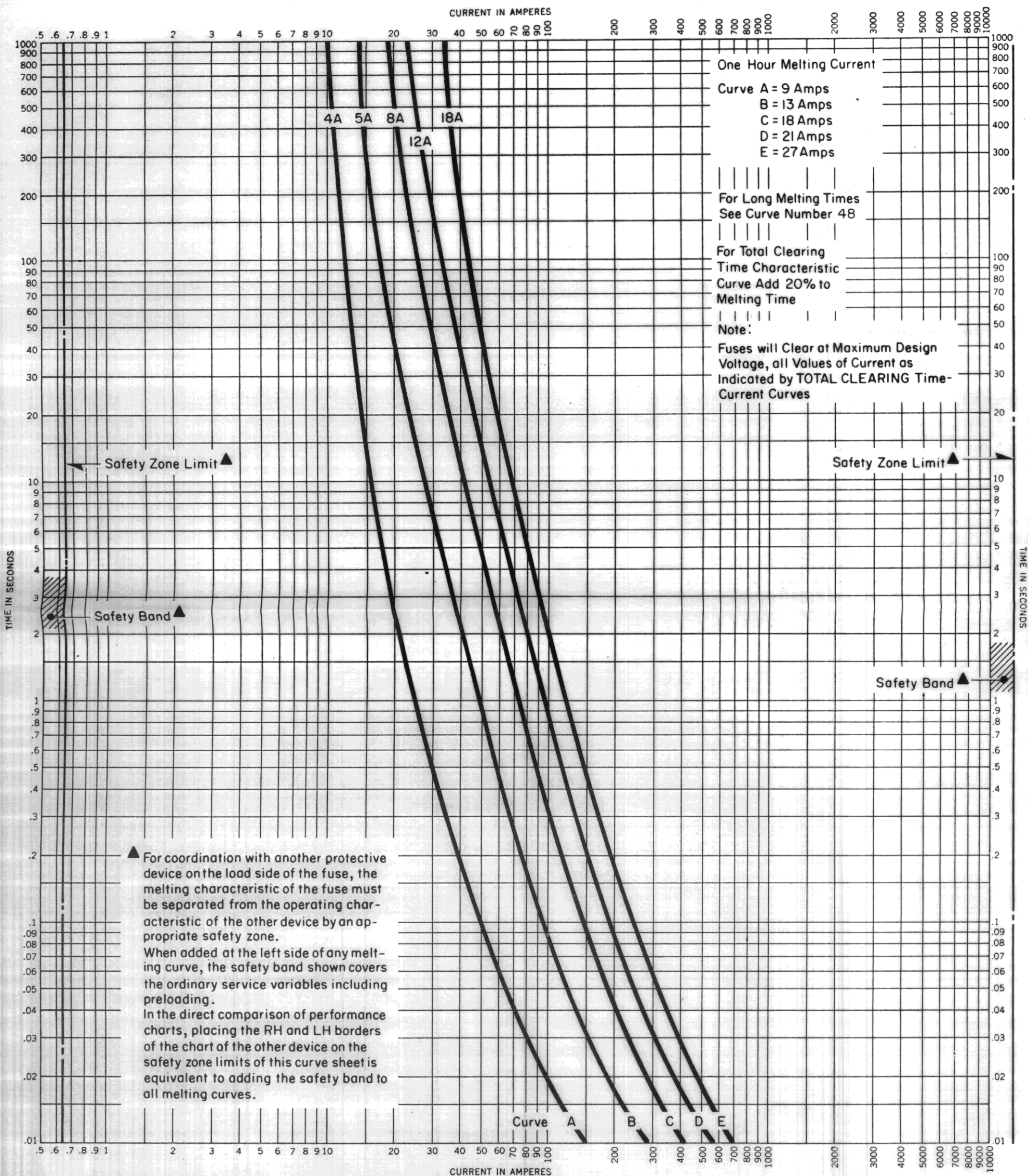
Curve No.

43

Supersedes Curve No. 43, dated November, 1966

Reference No. 598838

May, 1968



Type CLT Current Limiting Power Fuses (EFD Type)

Melting time-current characteristics, 15 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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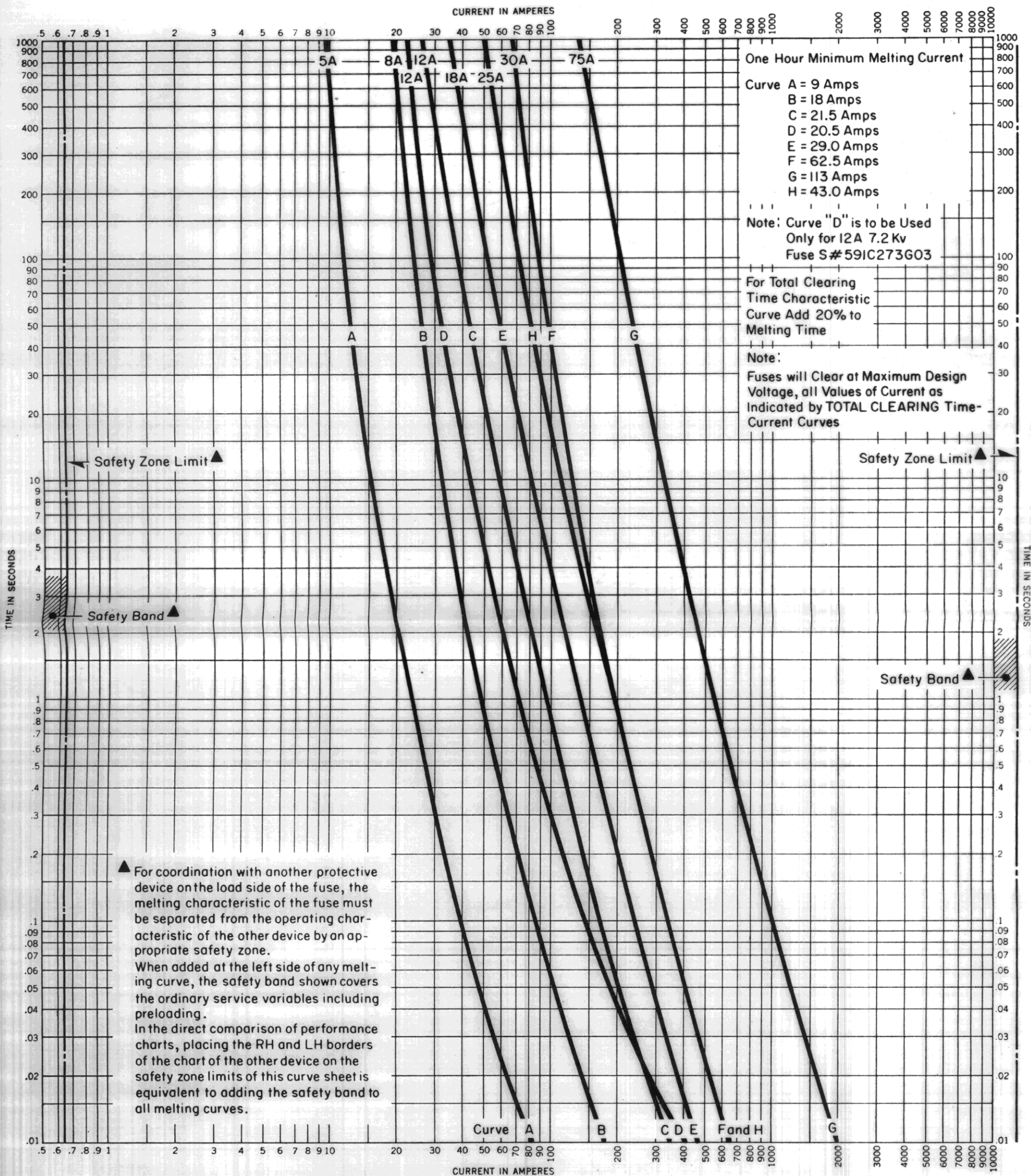
Curve No.

44

Supersedes Curve No. 44, dated November, 1966

Reference No. 598857

May, 1968



Type CLT Current Limiting Power Fuses (EFD Type)

Melting time-current characteristics, 2.4 to 8.0 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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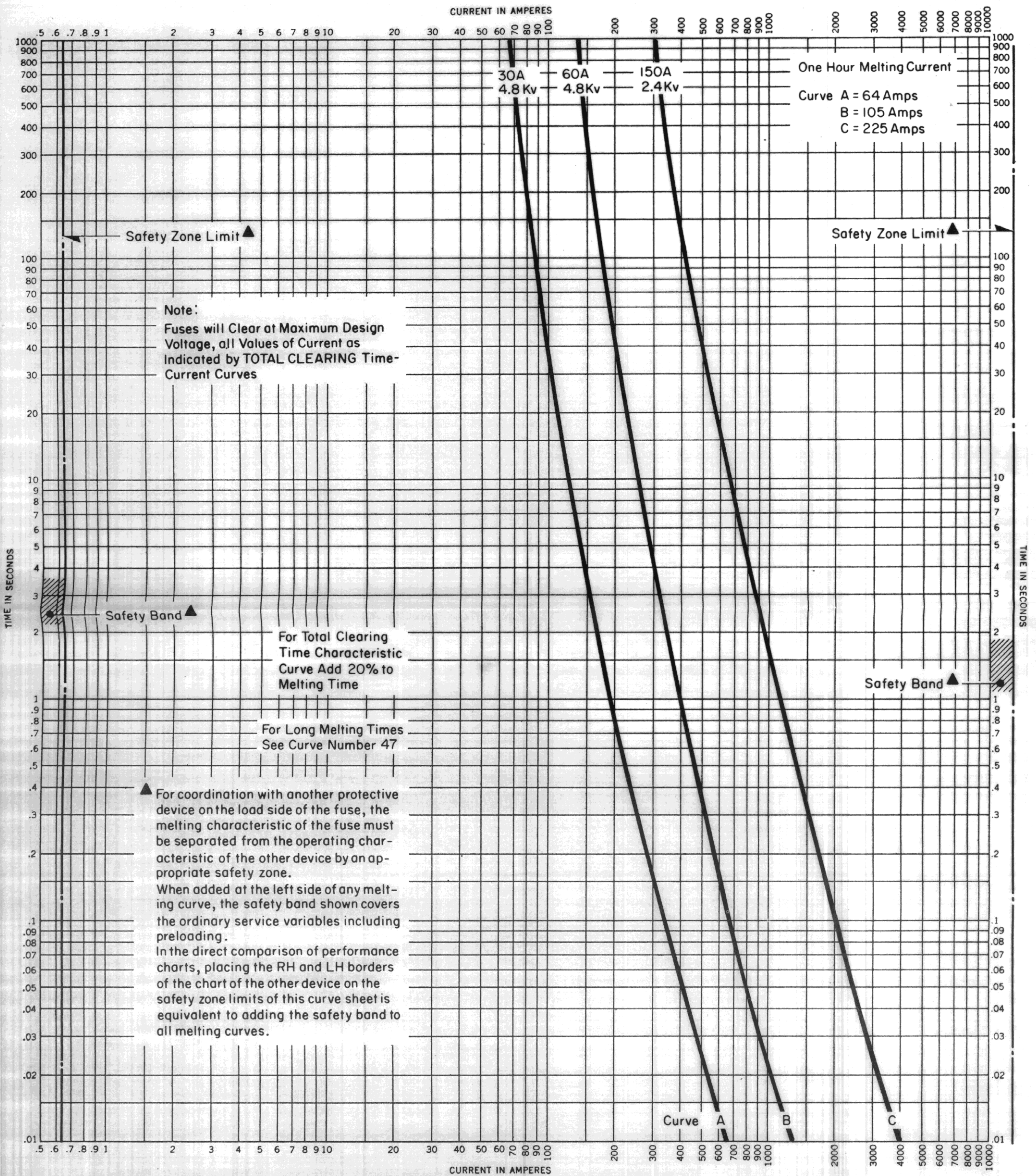
Curve No.

45

Supersedes Curve No. 45, dated November, 1966

Reference No. 598858

May, 1968



Type CLT-1 Current Limiting Power Fuses (EFD-1 Type)
 Melting time-current characteristics, 2.4, 4.8 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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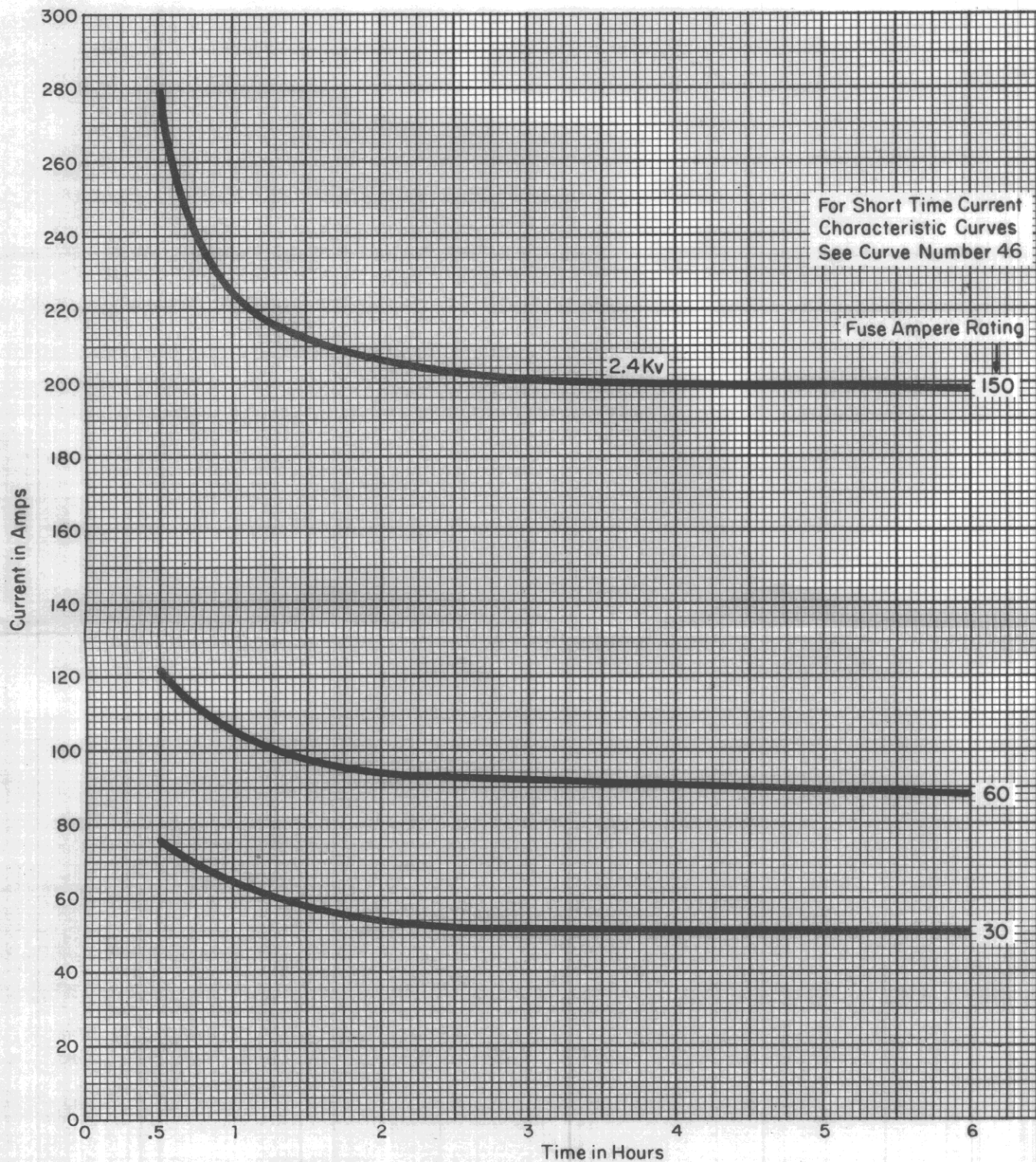
Curve No.

46

New Information

Reference No. 622094

May, 1968



Type CLT-1 Current Limiting Power Fuses (EFD-1)
 Long melting time-current characteristics, 2.4, 4.8 Kv

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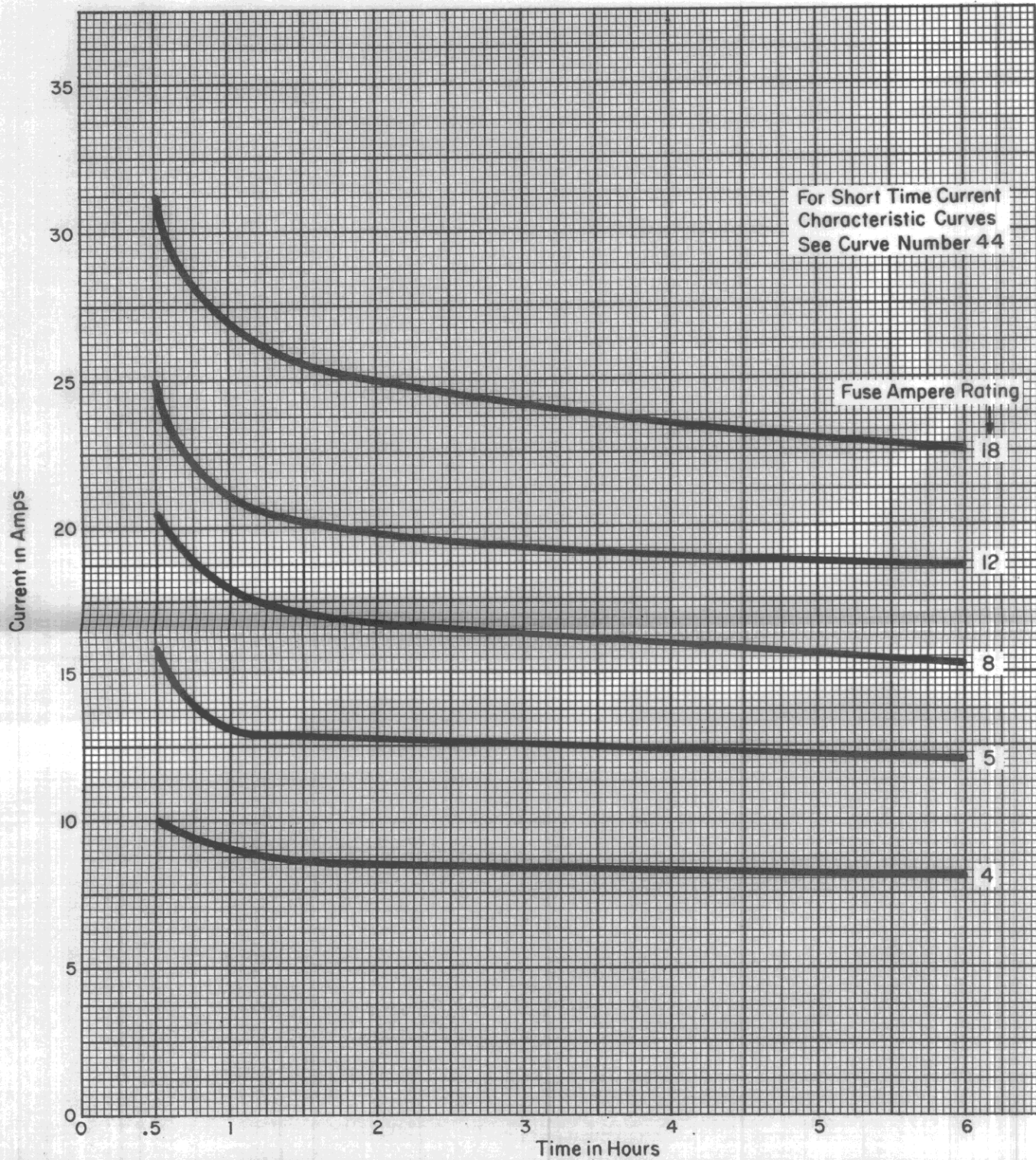
Curve No.

47

New Information

Reference No. 622126

May, 1968



Type CLT Current Limiting Power Fuses (EFD)
Long melting time-current characteristics, 15 Kv

Westinghouse Electric Corporation
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Printed in USA

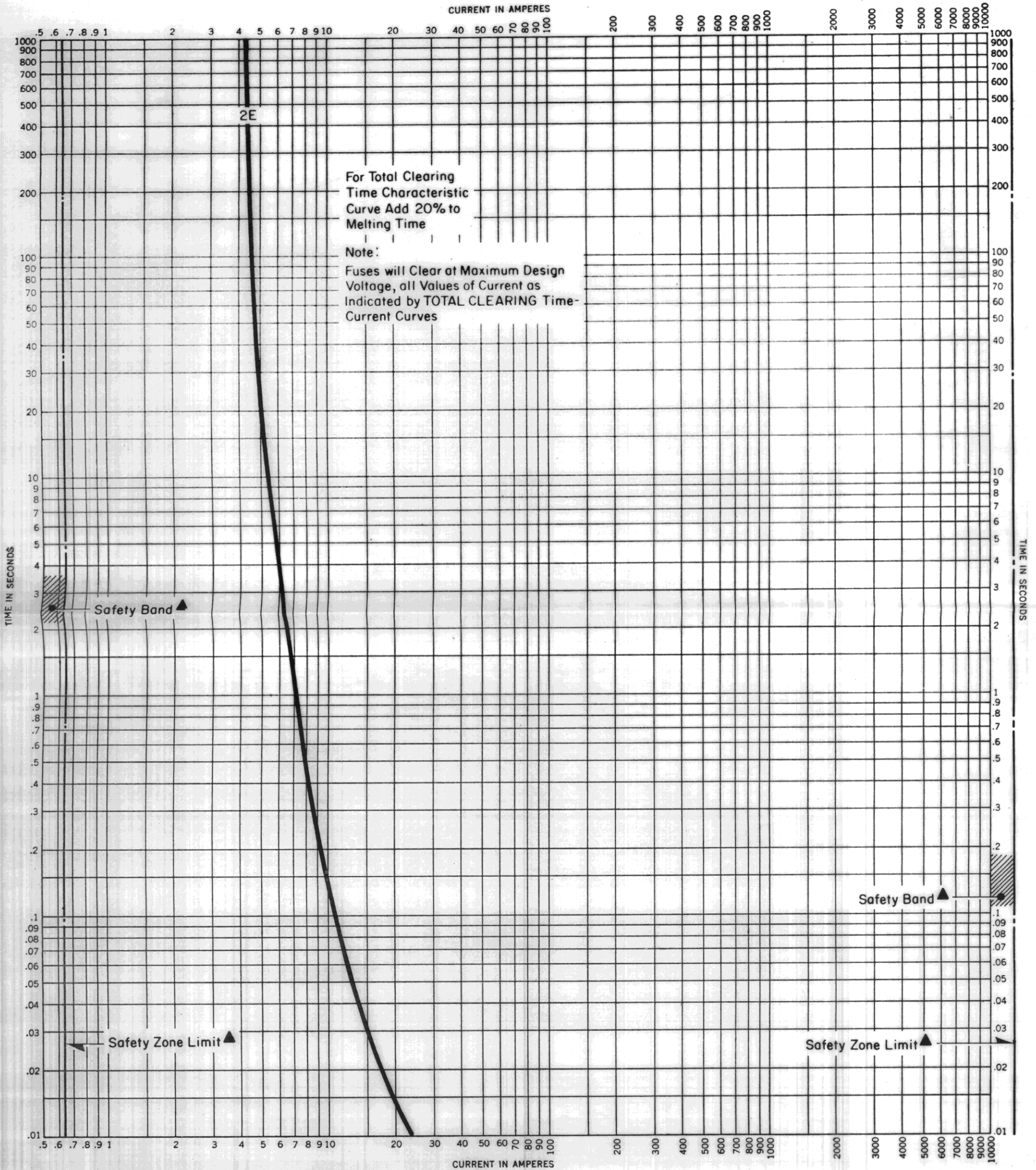
Curve No.

48

New Information

Reference No. 622125

May, 1968



Type CLE-PT Current Limiting Power Fuses (Non-Indicating) S#677C592G10

Melting and total clearing time-current characteristics, 8.0 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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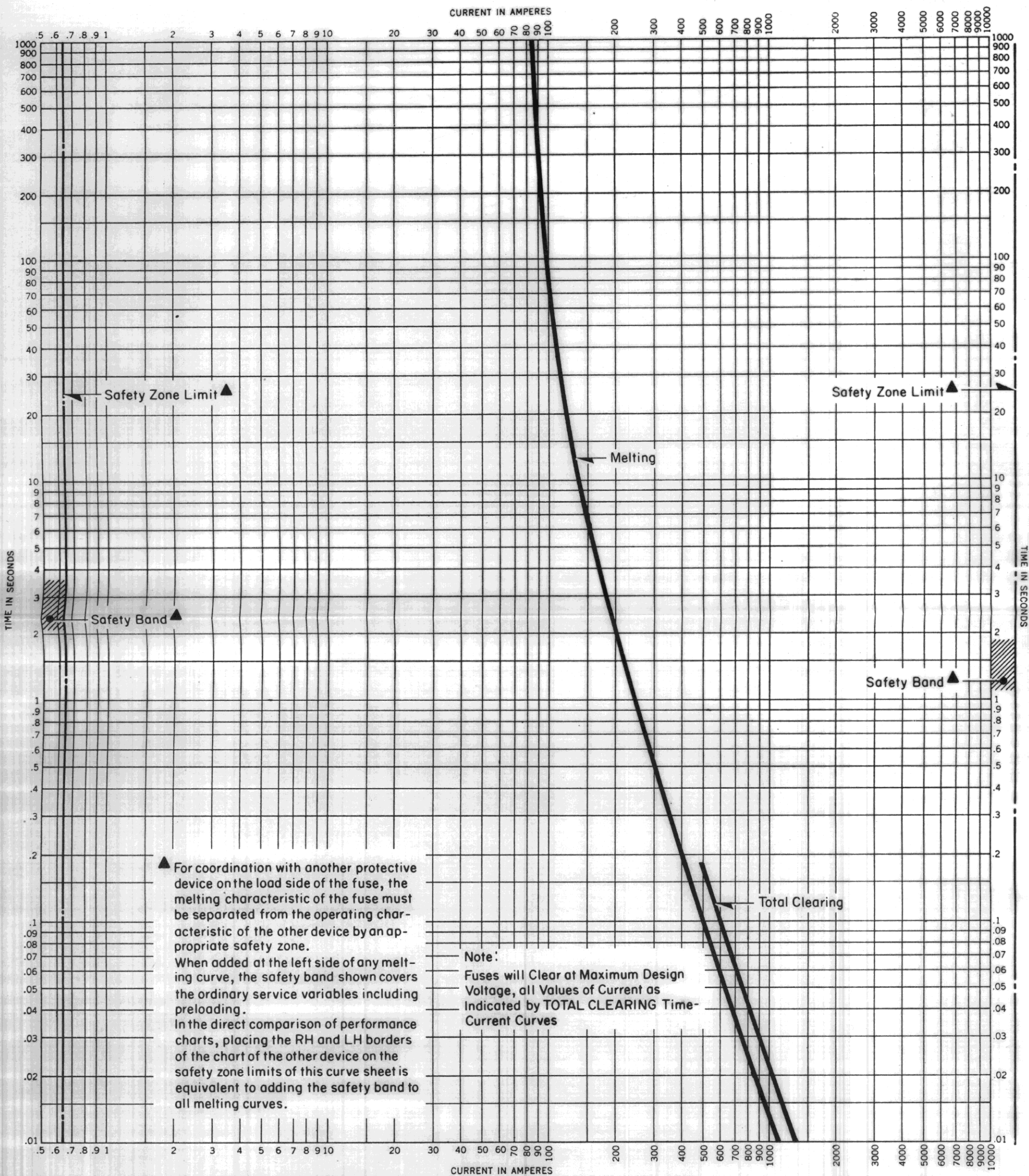
Curve No.

49

New Information

Reference No. 598871

May, 1968



Type CLTB Current Limiting S #678C245G01 (Non-Indicating) Fuse

Melting and total clearing time-current characteristics, 8.3 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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Printed in USA

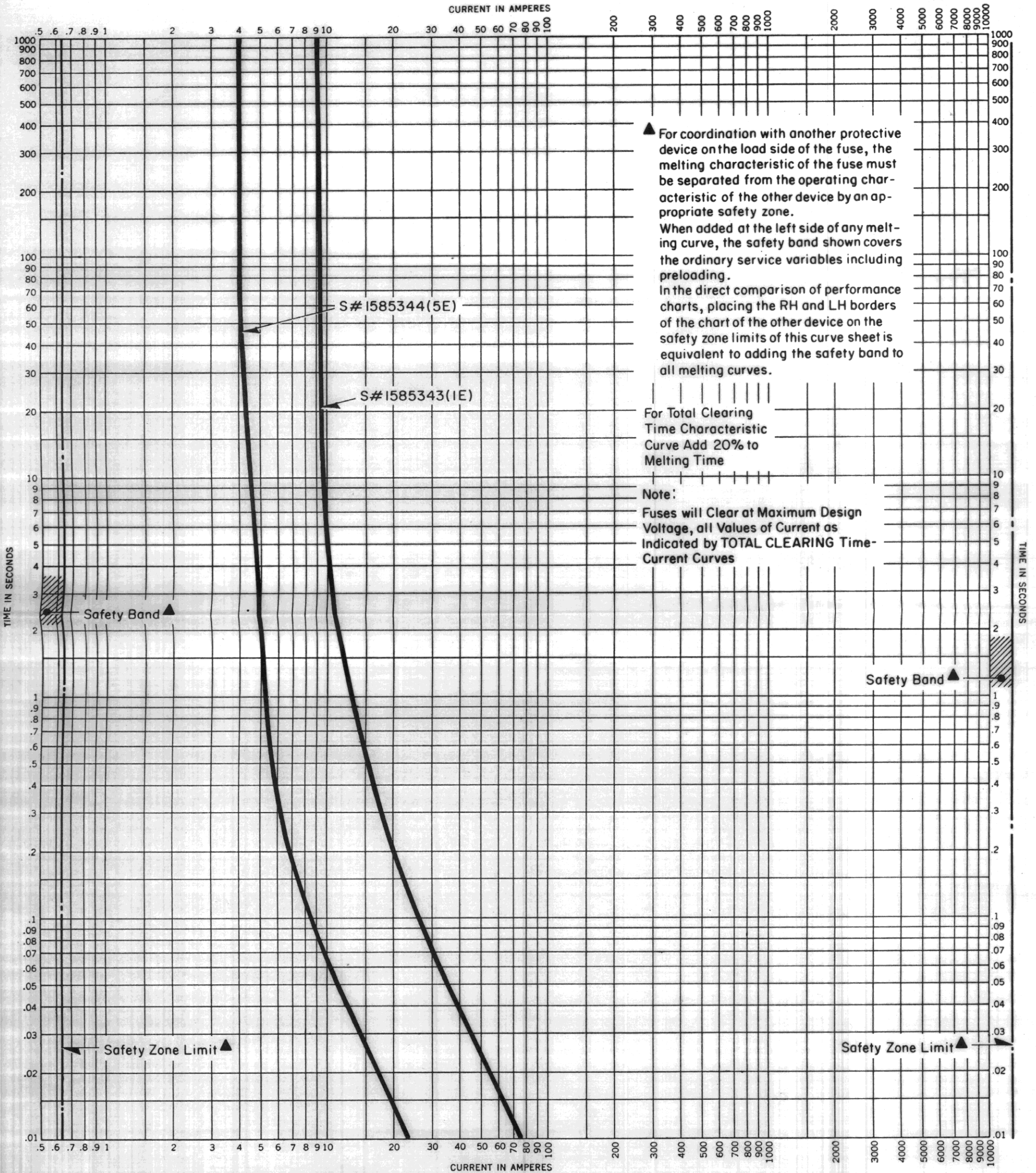
Curve No.

50

New Information

Reference No. 622127

May, 1968



Type BAL-1 Current Limiting (Non-Indicating) Fuse
Melting time-current characteristics, 600 VDC

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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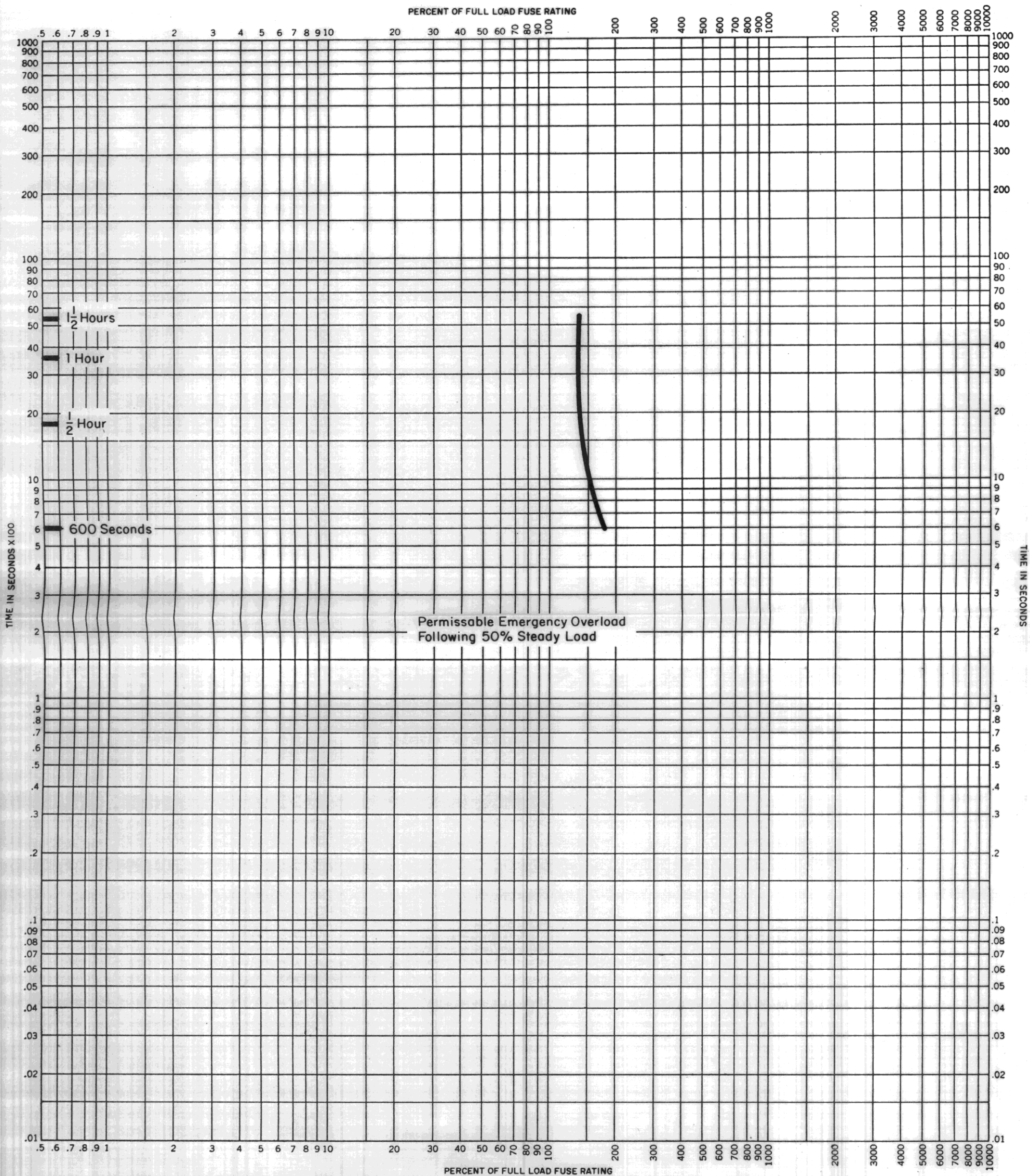
Curve No.

51

New Information

Reference No. 424792-A

May, 1968



Type CLE-1, CLE-2 Current Limiting Power Fuses
 Emergency overload time-current characteristics, 15 Kv

Westinghouse Electric Corporation
 Switchgear Division, Power Switching Equipment, East Pittsburgh, Pa.
 Printed in USA

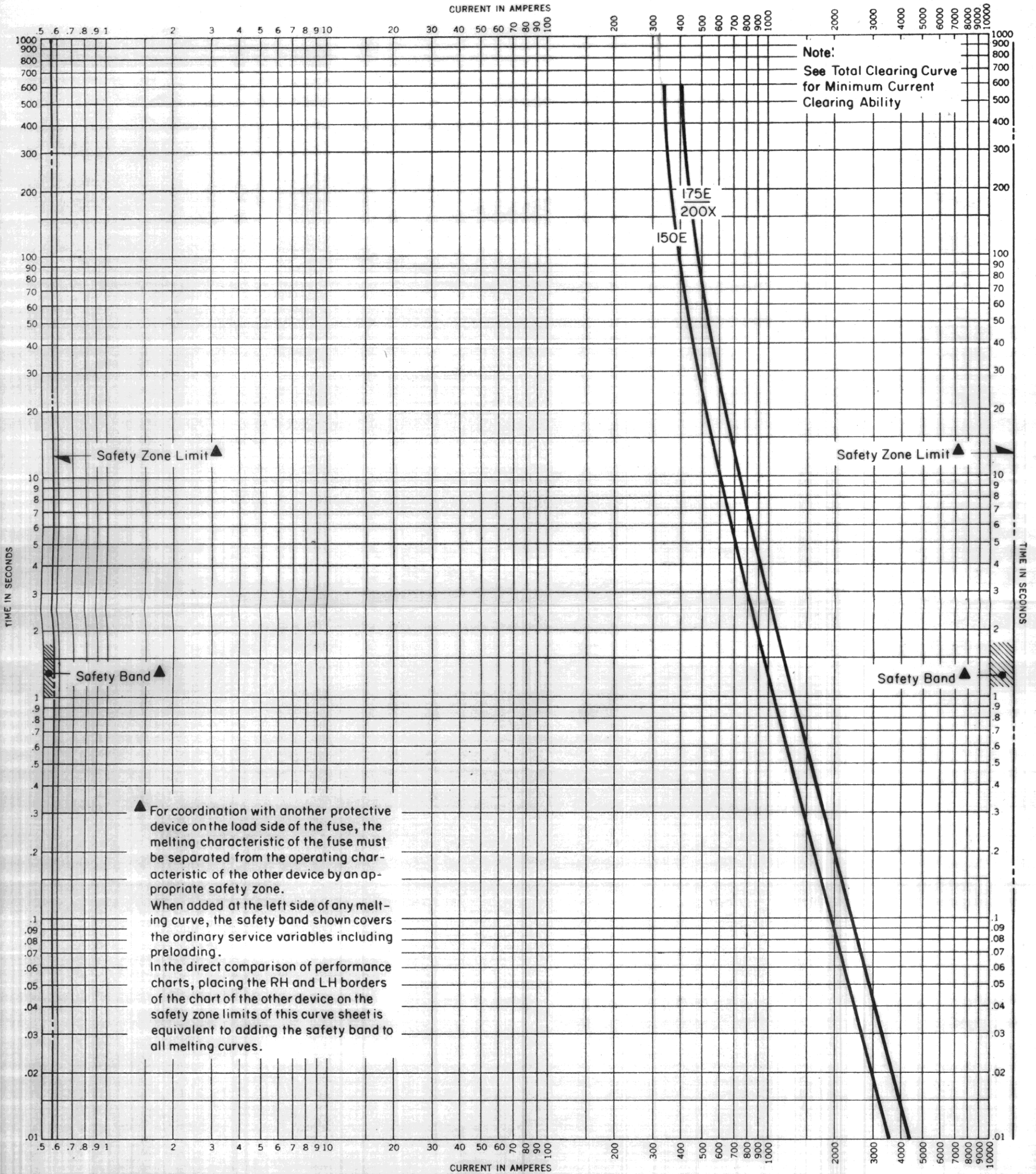
Curve No.

52

New Information

Reference No. 598958

May, 1968



Type CLE-3 Current Limiting Power Fuses

Melting time-current characteristics, 14.4 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be positive.

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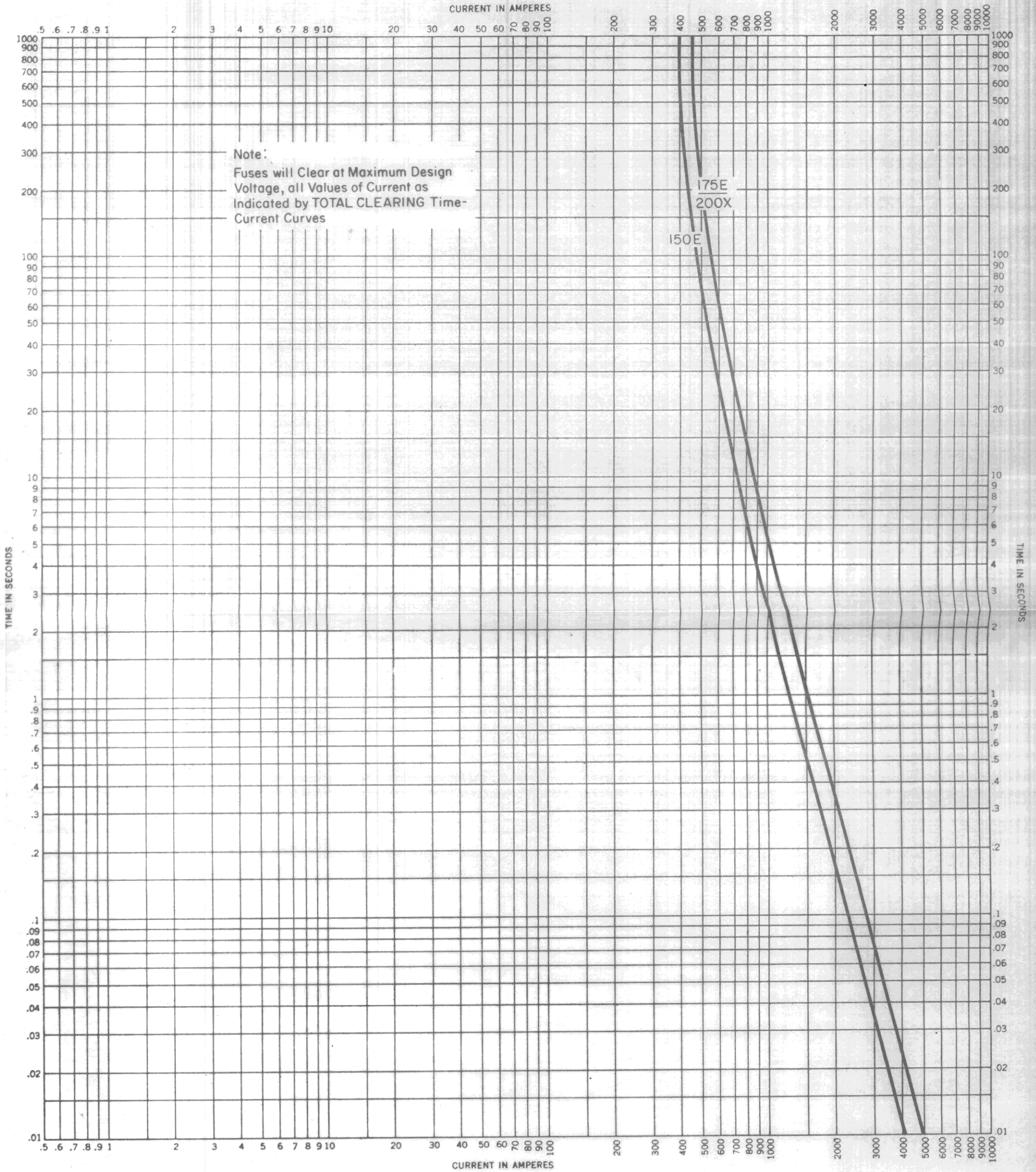
Curve No.

53

New Information

Reference No. 622124 and 622129

May, 1968



Type CLE-3 Current Limiting Power Fuses

Total clearing time-current characteristics, 14.4 Kv

Curves are based on tests starting with fuse units at an ambient temperature of 25°C and without initial load. Curves are plotted to minimum test points so variations should be negative.

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Curve No.

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New Information

Reference No. 622124 and 622129

May, 1968