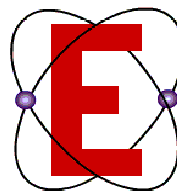


Bayonet Expulsion Fuse Link

The ECI Bayonet Fuse is available in Fault Sensing (catalog numbers 9F54MFC___), Dual Sensing fuse (9F54LFC___), and Dual Element (9F54DFC___). The Fault Sensing fuse is sensitive to current only and offers protection to the primary circuit from transformer faults. The Dual Sensing fuse is sensitive to both current and oil temperature, thus providing both overload and primary circuit protection. Dual Element combines the two. To avoid closing on a fault an Isolation Link or a current limiting fuse must be used in series with the Bayonet Fuse. The current limiting fuse is required when the available fault current exceeds the interrupting rating of the Bayonet Fuse.



ECI, ERMCO Components Inc.

1607 Industrial Road
Greeneville, TN 37745

Phone: 423-638-2302 Toll Free: 877-267-1855

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	Fuse Curve	Ampere Rating	Max Interrupting amps sym.			Min Melt TCC	Max Clear TCC
			8.3 kV	15.5 kV	23 kV		
Fault Sensing Fuse Links							
9F54MFC040	C04	6	3500	2500	1000	GES-8224	GES-8225
9F54MFC060	C06	10	3500	2500	1000	GES-8224	GES-8225
9F54MFC080	C08	15	3500	2500	1000	GES-8224	GES-8225
9F54MFC100	C10	25	3500	2500	1000	GES-8224	GES-8225
9F54MFC120	C12	40	3500	2500	1000	GES-8224	GES-8225
9F54MFC140	C14	65	3500	2500	1000	GES-8224	GES-8225
9F54MFC160	C16	100	3500	2500	1000	GES-8224	GES-8225
9F54MFC170	C17	140	3500	2500	1000	GES-8224	GES-8225
Dual Sensing Fuse Links							
9F54LFC030	C03	3	3500	2500	1000	GES-8226	GES-8227
9F54LFC050	C05	8	3500	2500	1000	GES-8226	GES-8227
9F54LFC080	C08	15	3500	2500	1000	GES-8226	GES-8227
9F54LFC100	C10	25	3500	2500	600	GES-8226	GES-8227
9F54LFC120	C12	50	3500	2500	600	GES-8226	GES-8227
Dual Element Fuse							
9F54DFC030	C03	5	3500	2500	1000	GES-8228	GES-8229
9F54DFC040	C04	6	3500	2500	1000	GES-8228	GES-8229
9F54DFC050	C05	8	3500	2500	1000	GES-8228	GES-8229
9F54DFC060	C06	12	3500	2500	1000	GES-8228	GES-8229
9F54DFC070	C07	15	3500	2500	1000	GES-8228	GES-8229
9F54DFC090	C09	25	3500	2500	n/a	GES-8228	GES-8229
9F54DFC110	C11	40	3500	2500	n/a	GES-8228	GES-8229
9F54DFC120	C12	50	3500	2500	n/a	GES-8228	GES-8229
9F54DFC140	C14	65	3500	2500	n/a	GES-8228	GES-8229

Table 1

Bayonet Fuse Link Catalog numbers and technical information

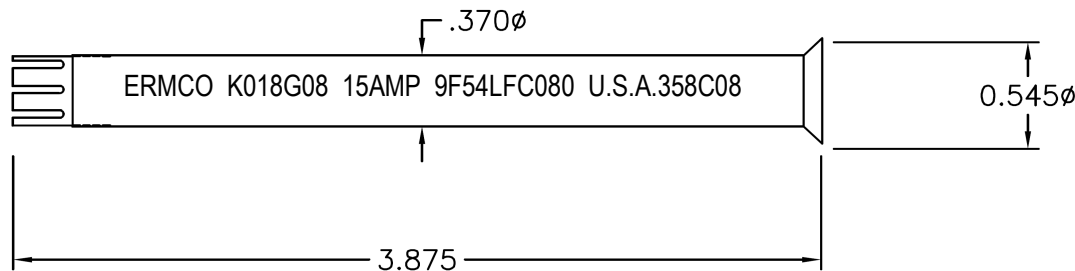


Figure 1

Bayonet Fuse Link Outline Drawing (units in inches)

ECI BAYONET FUSE LINK and ECI – COOPER FUSE LINK CROSS- REFERENCE and ISOLATION LINK CORRELATION

Bayonet Fuse Links:

Three types of fuse elements are available; a Fault Sensing fuse (catalog numbers 9F54MFC---), Dual Sensing fuse (catalog numbers 9F54LFC---) and Dual Element (catalog numbers 9F54DFC---). The Fault Sensing fuse is sensitive to current only and offers protection to the primary circuit from transformer faults. The Dual Sensing fuse is sensitive to both current and oil temperature, thus providing both secondary protection and transformer protection. The Dual Element (9F54DFC---) combines the two.

ECI Fuse Link Catalog Number	ECI Isolation Link Catalog Number	Cooper Fuse Catalog Number (1)	Curve Number (2) for Bayonet Fuses	Ampere Rating for Bayonet Fuses
Fault Sensing Fuse Links				
9F54MFC040	7580ZB0299	353C04	C04	6
9F54MFC060	7580ZB0399	353C06	C06	10
9F54MFC080	7580ZB0399	353C08	C08	15
9F54MFC100	7580ZB0499	353C10	C10	25
9F54MFC120	7580ZB0499	353C12	C12	40
9F54MFC140	7580ZB0599	353C14	C14	65
9F54MFC160	7580ZB0599	353C16	C16	100
9F54MFC170	7580ZB0599	353C17	C17	140
Dual Sensing Fuse Links				
9F54LFC030	7580ZB0299	358C03	C03	3
9F54LFC050	7580ZB0399	358C05	C05	8
9F54LFC080	7580ZB0499	358C08	C08	15
9F54LFC100	7580ZB0599	358C10	C10	25
9F54LFC120	7580ZB0699	358C12	C12	50
Dual Element Fuse Links				
9F54DFC030	7580ZB0299	108C03	C03	5
9F54DFC040	7580ZB0299	108C04	C04	6
9F54DFC050	7580ZB0399	108C05	C05	8
9F54DFC060	7580ZB0399	108C06	C06	12
9F54DFC070	7580ZB0399	108C07	C07	15
9F54DFC090	7580ZB0499	108C09	C09	25
9F54DFC110	7580ZB0499	108C11	C11	40
9F54DFC120	7580ZB0499	108C12	C12	50
9F54DFC140	7580ZB0599	108C14	C14	65

Notes:

1. ECI and Cooper bayonet fuse links are electrically and mechanically interchangeable.
2. ECI and Cooper bayonet fuse link time-current curves are essentially identical and have the same curve numbers.

Isolation Link

All transformers equipped with a BAYONET fuse should also be equipped with an isolation link, as a safety feature. The isolation link is connected in series with the fuse and its purpose is to minimize the possibility of an operator closing in on a fault that is beyond the rated interrupting capability of the fuse element. Proper coordination between the isolation link and the fuse element is required.

Consult the Isolation link correlation chart above for the proper coordination between fuse element and isolation link.

BAYONET FUSE - APPLICATION TABLE 1

BAYONET FAULT SENSING FUSE Single Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Ground										
	2.4	4.16	4.8	7.2	7.62	8.32	12.0	12.47	13.2	13.8	14.4
10	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
15	C08*	C06*	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
25	C10*	C08*	C06	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
37.5	C10	C08	C08	C06	C06	C06	C06*	C06*	C04*	C04*	C04*
50	C12	C10	C10*	C08*	C08*	C08*	C06*	C06*	C06*	C06*	C06*
75	C14*	C12*	C10	C10*	C08*	C08	C08*	C08*	C08*	C06	C06
100	C14	C12	C12	C10	C10	C10	C08	C08	C08	C08	C08*
167	C17*	C14*	C14*	C12	C12	C12	C10	C10	C10	C10	C10
250	-----	C16	C16*	C14*	C14*	C14*	C12	C12	C12	C12*	C12*
333	-----	C17*	C17*	C16*	C14	C14*	C14	C12	C12	C12	C12
500	-----	-----	-----	C17*	C17*	C16	-----	-----	-----	-----	-----

NOTES:

1. Application based on fuse melting at 3 or 4 times transformer rated current in 5 minutes.
2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
3. * Application provides more than 4 times transformer rated current for 5 minutes.
4. These charts apply to BAYONET current (fault) sensing links Ermco catalog number 9F54MFC--.
5. Single Phase: Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral internally grounded.
6. Isolation link must be used with selected BAYONET fuse link.

BAYONET FUSE - APPLICATION TABLE 2

BAYONET FAULT SENSING FUSE Three Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Phase										
	2.4	4.16	4.8	8.32	12.0	12.47	13.2	13.8 14.4	20.8 **	22.0 **	24.0 **
45	C10*	C08*	C06	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
75	C12*	C10*	C08	C06	C06*	C06*	C06*	C06*	C04*	C04*	C04
112.5	C12	C10	C10	C08	C06	C06	C06	C06	C06*	C04*	C04
150	C14*	C12	C12*	C10*	C08*	C08*	C08*	C08*	C06*	C06*	C06
225	C16*	C14*	C12	C10	C10*	C10*	C10*	C08	C08*	C08*	C06
300	C17*	C14	C14*	C12	C10	C10	C10	C10	C08	C08	C08
500	-----	C17*	C16	C14*	C12	C12	C12	C12	C10	C10	C10
750	-----	-----	C17	C16*	C14*	C14*	C14*	C14*	C12	C12	C10
1000	-----	-----	-----	C17*	C16*	C16*	C14	C14	C14	C12	C12
1500	-----	-----	-----	-----	C17*	C17*	C17*	C16	C14	C14	C14
2000							C17	C17	C16	C16	C16
2500									C17	C17	C16

NOTES:

1. Application based on fuse melting at 3 to 4 times transformer rated current in 5 minutes.
2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
3. * Application provides more than 4 times transformer rated current for five minutes.
4. These charts apply to BAYONET current (fault) sensing links Ermco catalog number 9F54MFC--.
5. SINGLE PHASE: Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral ground.
6. THREE PHASE: **Must be GNDY/GNDY system with less than 50% delta loading.
7. Isolation link fuse must be used with selected BAYONET fuse link.

BAYONET FUSE - APPLICATION TABLE 3

BAYONET LOAD SENSING FUSE Single Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Ground										
	2.4	4.16	4.8	7.2	7.62	8.32	12.0	12.47	13.21	13.8	14.4
5	C03	C03	C03	C03	C03	C03	C03	C03	C03	C03	C03
10	C05	C05	C03	C03	C03	C03	C03	C03	C03	C03	C03
15	C08	C05	C05	C03	C03	C03	C03	C03	C03	C03	C03
25	C10	C08	C08	C05	C05	C05	C03	C03	C03	C03	C03
37.5	C12	C10	C08	C08	C08	C08	C05	C05	C05	C05	C05
50	C14	C10	C10	C08	C08	C08	C05	C05	C05	C05	C05
75	-----	C12	C12	C10	C10	C10	C08	C08	C08	C08	C08
100	-----	C12	C12	C10	C10	C10	C08	C08	C08	C08	C08
167	-----	-----	-----	C12	C12	C12	C10	C10	C10	C10	C10
250	-----	-----	-----	-----	-----	-----	C12	C12	C12	C12	C12
333	-----	-----	-----	-----	-----	-----	C12	C12	C12	C12	C12

NOTES:

1. Application based on 200% of transformer loading for 2 hours and 160% loading for 7 hours.
2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
3. These charts apply to BAYONET dual sensing links Ermco catalog number 9F54LFC---.
4. Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral internally grounded.
5. Isolation link must be used with selected BAYONET fuse link..

BAYONET FUSE - APPLICATION TABLE 4

BAYONET LOAD SENSING FUSE Three Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Phase										
	2.4	4.16	4.8	8.32	12.0	12.47	13.2	13.8 14.4	20.8	22.9 **	24.9 **
45	C10	C08	C08	C05	C03	C03	C03	C03	C03	C03	C03
75	C12	C10	C10	C08	C05	C05	C05	C05	C03	C03	C03
112.5	-----	C12	C10	C08	C08	C08	C08	C08	C05	C05	C05
150	-----	C12	C12	C10	C08	C08	C08	C08	C05	C05	C05
225	-----	-----	-----	C12	C10	C10	C10	C10	C08	C08	C08
300	-----	-----	-----	C12	C10	C10	C10	C10	C08	C08	C08
500	-----	-----	-----	-----	C12	C12	C12	C12	C10	C10	C10
750	-----	-----	-----	-----	-----	-----	-----	-----	C12*	C12	C12
1000	-----	-----	-----	-----	-----	-----	-----	-----	C12*	C12	C12

NOTES:

1. Applications based on 200% of transformer loading for 2 hours and 160% loading for 7 hours.
2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
3. These charts apply to BAYONET dual sensing links Ermco catalog number 9F54LFC---.
4. Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral internally grounded.
5. * Use will result in some loss of overload capacity.
6. Isolation link must be used with selected BAYONET fuse link.

** Must be GNDY/GNDY system with less than 50% delta loading

BAYONET FUSE - APPLICATION TABLE 5

BAYONET DUAL ELEMENT FUSE Single Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Ground										
	2.4	4.16	4.8	7.2	7.62	8.32	12.0	12.47	13.2	13.8	14.4
5	C03	C03	C03	C03	C03	C03	C03	C03	C03	C03	C03
10	C05	C04	C04	C03	C03	C03	C03	C03	C03	C03	C03
15	C07	C05	C05	C03	C03	C03	C03	C03	C03	C03	C03
25	C09	C06	C06	C04	C04	C04	C03	C03	C03	C03	C03
37.5	C11	C09	C08	C06	C06	C06	C05	C05	C04	C04	C04
50	C12	C09	C09	C07	C07	C07	C06	C06	C05	C05	C05
75	C14	C12	C11	C09	C09	C09	C07	C08	C08	C08	C08
100	-----	C12	C12	C09	C09	C09	C09	C09	C07	C07	C07
167	-----	-----	-----	C12	C12	C12	C11	C11	C09	C09	C09
250	-----	-----	-----	C14	C14	C14	C12	C12	C11	C11	C11
333	-----	-----	-----	-----	-----	-----	C12	C12	C12	C12	C12

NOTES:

1. Application based on 200% of transformer loading for 2 hours and 160% loading for 7 hours.
2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
3. These charts apply to BAYONET dual sensing links Ermco catalog number 9F54DFC---.
4. Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral internally grounded.
5. Isolation link must be used with selected BAYONET fuse link..

BAYONET FUSE - APPLICATION TABLE 6

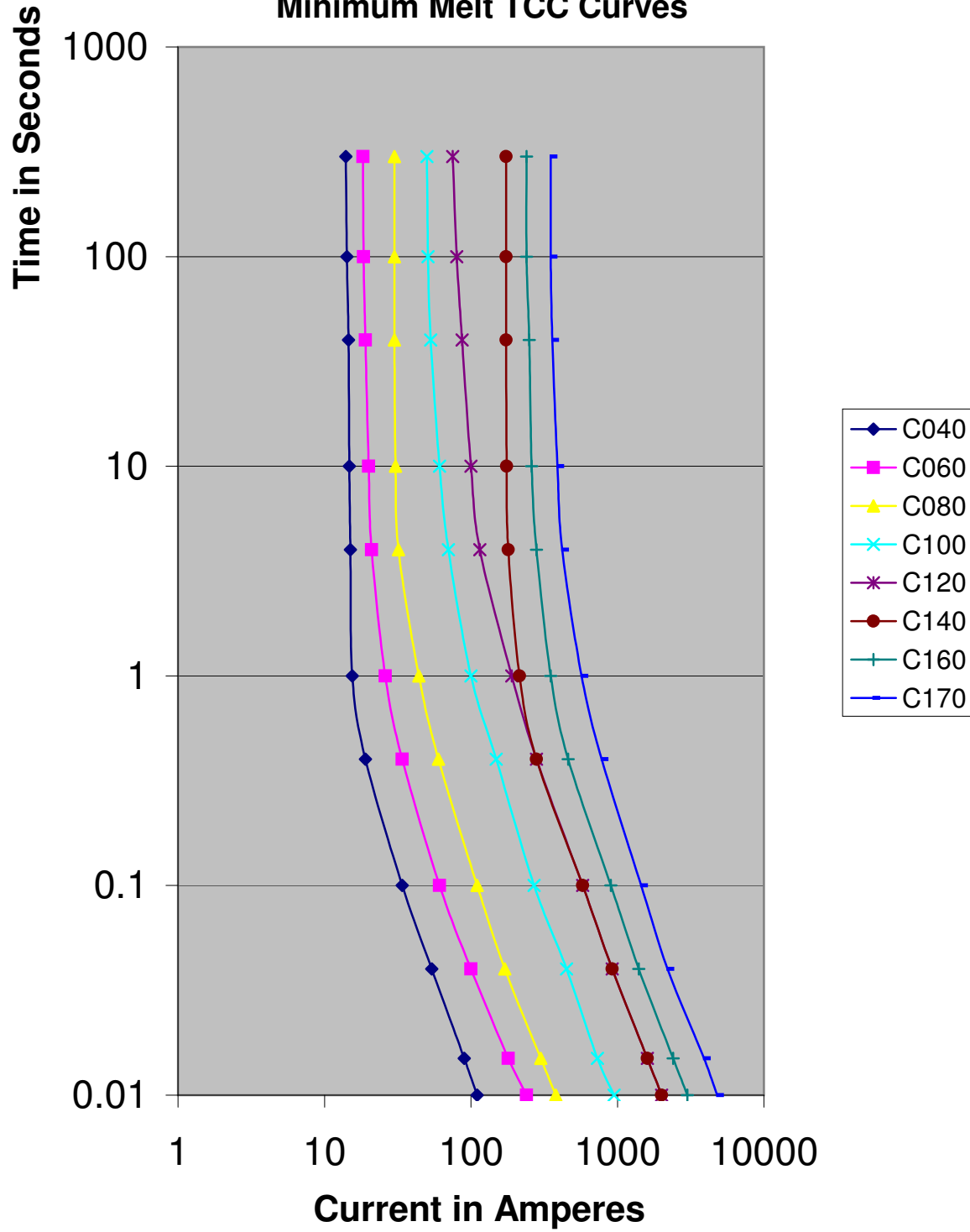
BAYONET DUAL ELEMENT FUSE Three Phase Conventional Transformers
(Not for Self-Protected Transformers)

kVA	kV Phase to Phase									
	2.4	4.16	4.8	8.32	12.0 12.47	13.2	13.8 14.4	* 20.8	* 22.9	* 24.9
45	C09	C07	C07	C04	C03	C03	C03	C03	C03	C03
75	C12	C09	C09	C06	C04	C04	C04	C03	C03	C03
112.5	C14	C11	C09	C07	C06	C06	C06	C05	C04	C04
150	-----	C12	C12	C09	C07	C07	C07	C06	C05	C05
225	-----	C14	C14	C11	C09	C09	C09	C07	C06	C06
300	-----	-----	-----	C12	C09	C09	C09	C09	C07	C07
500	-----	-----	-----	C14	C12	C12	C12	C11	C09	C09
750	-----	-----	-----	-----	C14	C14	C14	C12	C11	C11
1000	-----	-----	-----	-----	-----	-----	-----	C14	C12	C12

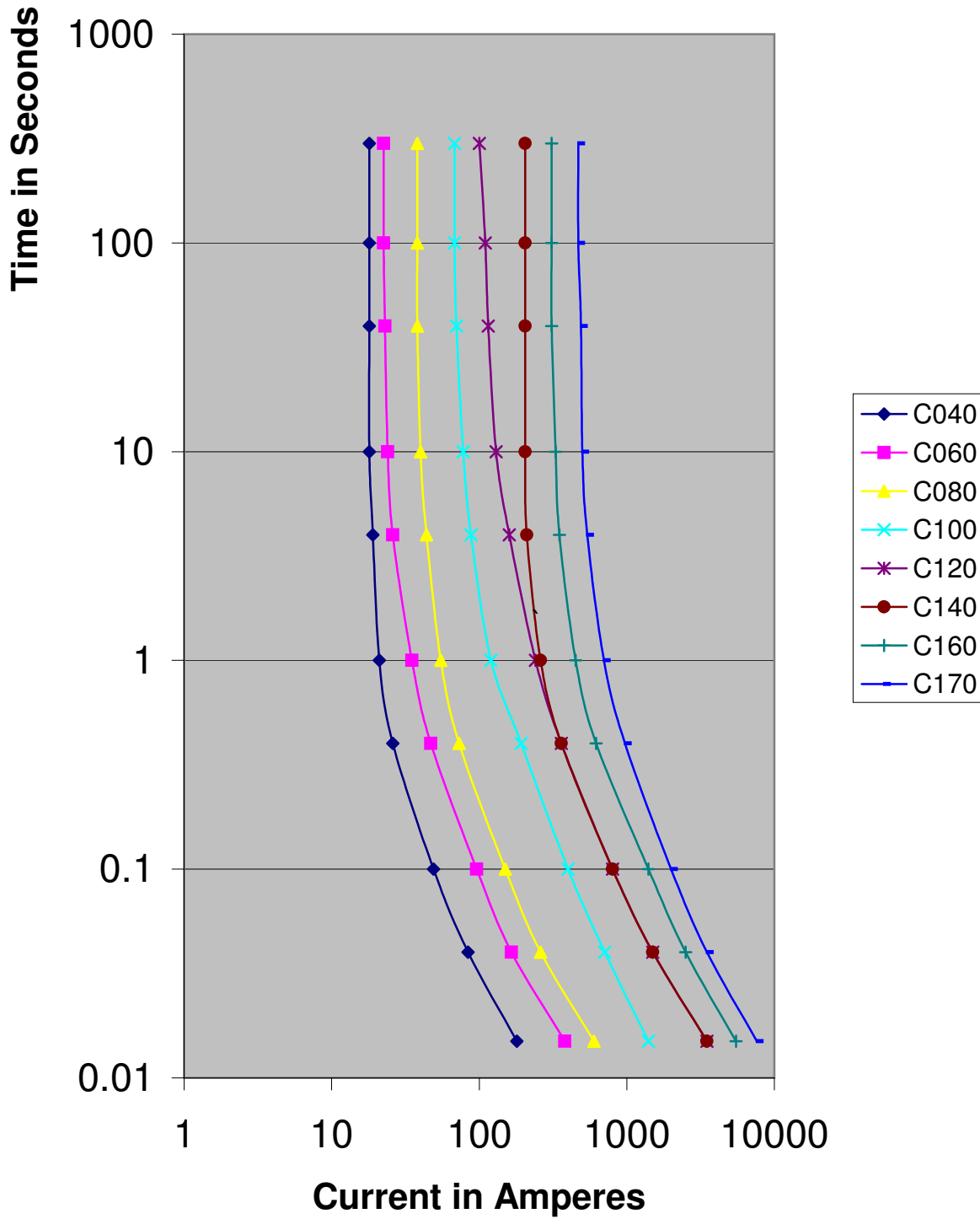
NOTES:

1. Applications based on 200% of transformer loading for 2 hours and 160% loading for 7 hours.
 2. Application meets inrush requirements of 12 times transformer rated current for 0.1 second.
 3. These charts apply to BAYONET dual sensing links Ermco catalog number 9F54DFC---.
 4. Not to be used at voltages greater than 17,100 for delta configuration, or 14,400/24,900Y with neutral internally grounded.
 5. Isolation link must be used with selected BAYONET fuse link.
- * Must be GNDY/GNDY system with less than 50% delta loading

ERMCO Components Inc. Fault Sensing Fuse
Model 9F54MFC
Minimum Melt TCC Curves



**ERMCO Components Inc. Fault Sensing Fuse
Model 9F54MFC
Maximum Clear TCC Curves**





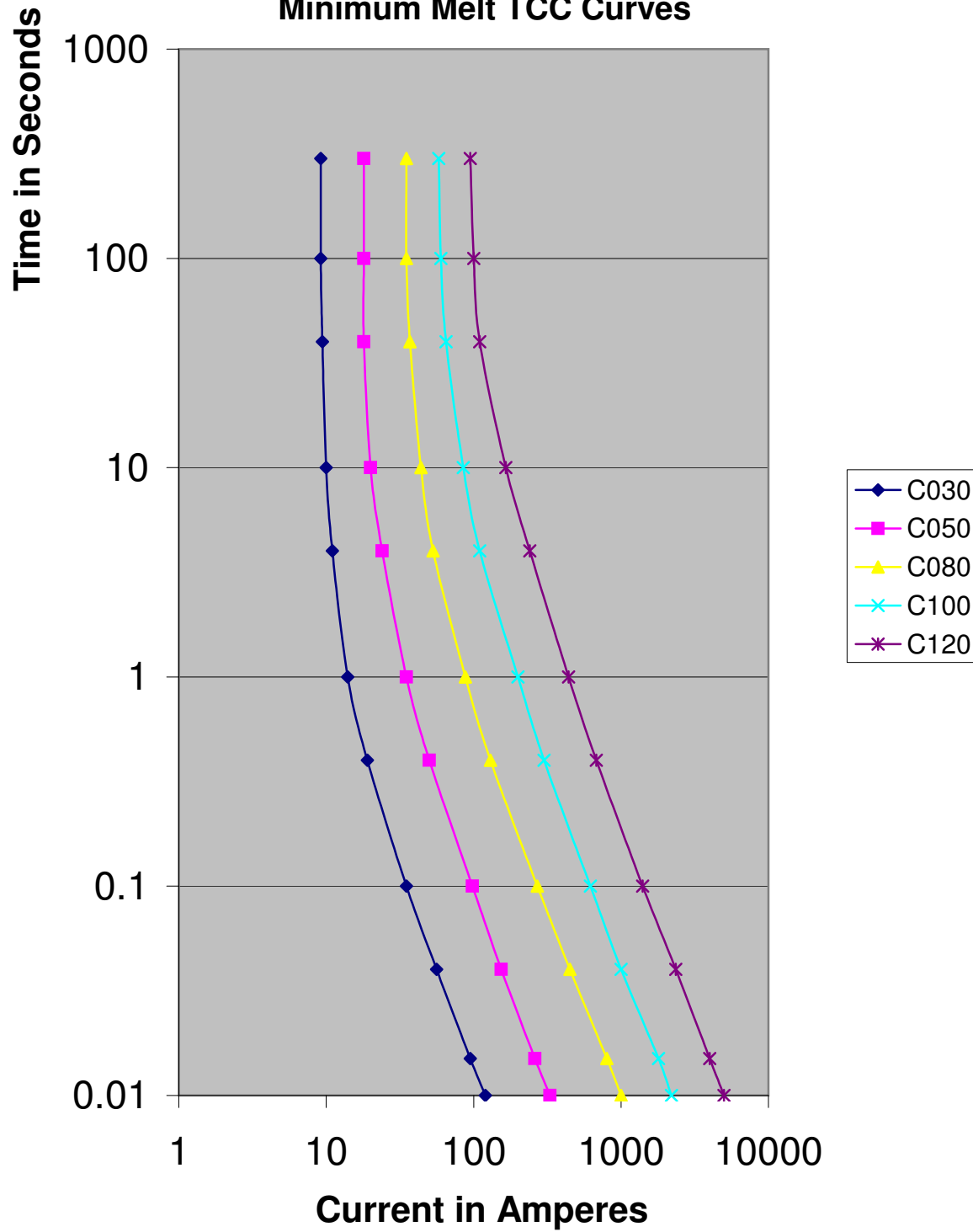
Fault sensing Fuse Model 9F54MFC TCC Plot Points

Time (seconds)	C040		C060		C080	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
0.01	110		240		380	
0.015	90	180	180	380	300	600
0.04	54	84	100	165	170	260
0.1	34	49	61	96	110	150
0.4	19	26	34	47	60	73
1	15.5	21	26	35	44	55
4	15	19	21	26	32	44
10	14.8	18	20	24	30.5	40
40	14.6	18	19	23	30	38
100	14.2	18	18.5	22.5	30	38
300	14	18	18.3	22.5	30	38

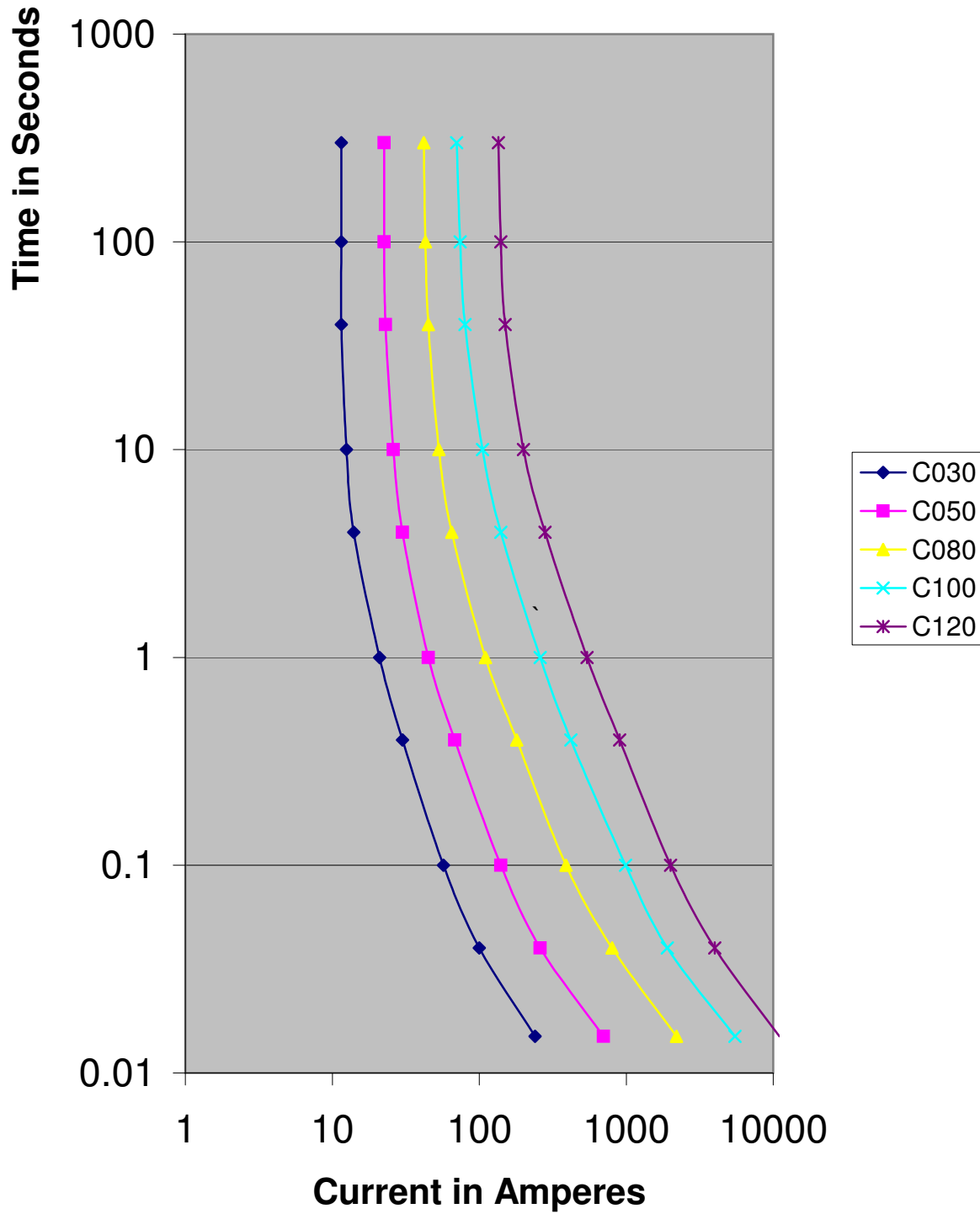
Time (seconds)	C100		C120		C140	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
0.01	950		2000		2000	
0.015	730	1400	1600	3500	1600	3500
0.04	450	710	920	1500	920	1500
0.1	270	400	580	800	580	800
0.4	149	192	280	360	280	360
1	100	120	190	240	215	260
4	70	88	115	160	180	210
10	61	78	100	130	175	205
40	53	70	87	115	174	205
100	51	68	80	110	174	205
300	50	68	75	100	174	205

Time (seconds)	C160		C170	
	Min Melt	Max Clear	Min Melt	Max Clear
0.01	3000		4800	
0.015	2400	5500	3900	7600
0.04	1400	2500	2200	3500
0.1	900	1400	1450	2000
0.4	460	620	780	970
1	350	450	570	700
4	280	350	420	540
10	260	330	390	500
40	250	310	360	490
100	240	310	350	470
300	240	310	350	470

**ERMCO Components Inc. Dual Sensing Fuse
Model 9F54LFC
Minimum Melt TCC Curves**



**ERMCO Components Inc. Dual Sensing Fuse
Model 9F54LFC
Maximum Clear TCC Curves**

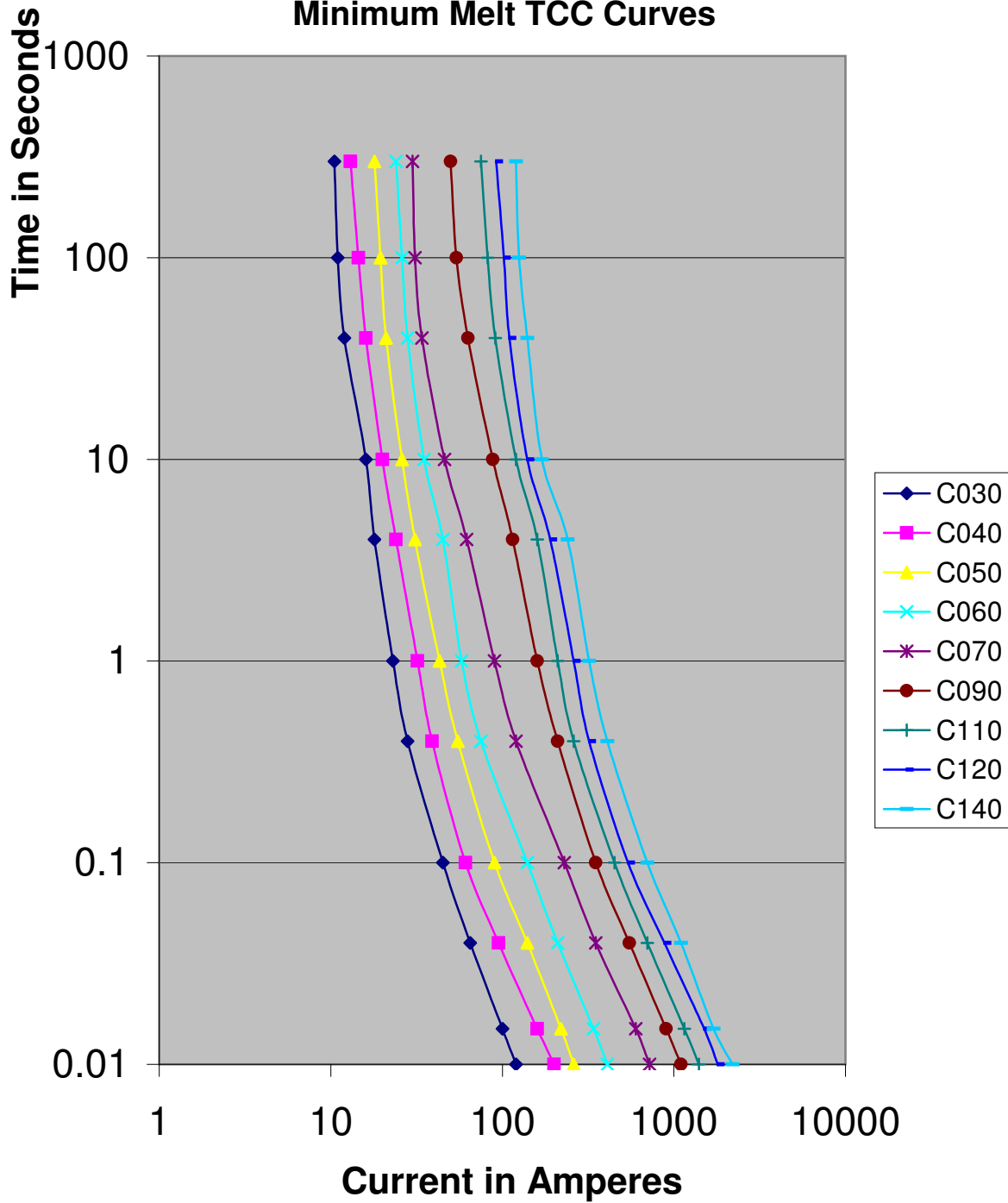


Dual Sensing Fuse Model 9F54LFC TCC Plot Points

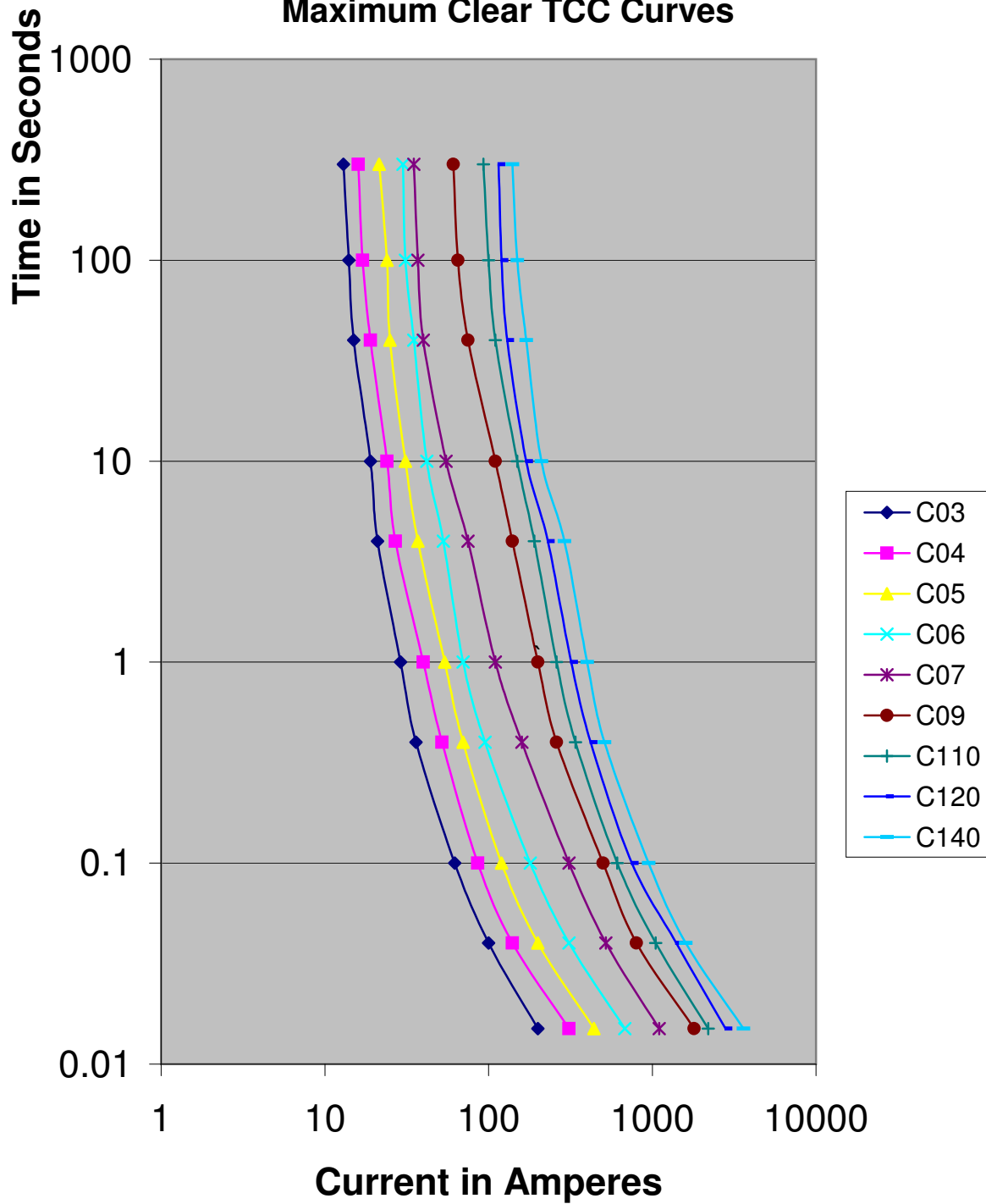
Time (seconds)	C030		C050		C080	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
0.01	120		330		1000	
0.015	95	240	260	700	800	2200
0.04	56	100	154	260	450	800
0.1	35	57	98	140	270	390
0.4	19	30	50	68	130	180
1	14	21	35	45	88	110
4	11	14	24	30	53	65
10	10	12.5	20	26	44	53
40	9.4	11.5	18	23	37	45
100	9.2	11.5	18	22.5	35	43
300	9.2	11.5	18	22.5	35	42

Time (seconds)	C100		C120	
	Min Melt	Max Clear	Min Melt	Max Clear
0.01	2200		5000	
0.015	1800	5500	4000	11000
0.04	1000	1900	2350	4000
0.1	620	990	1400	2000
0.4	300	420	680	900
1	200	260	440	540
4	110	140	240	280
10	85	105	165	200
40	65	80	110	150
100	60	74	100	140
300	58	70	95	135

ERMCO Components Inc. Dual Element Fuse
Model 9F54DFC
Minimum Melt TCC Curves



**ERMCO Components Inc. Dual Element Fuse
Model 9F54DFC
Maximum Clear TCC Curves**





Dual Element Fuse Model 9F54DFC TCC Plot Points

Time (seconds)	C030		C040		C050	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
	120		200		260	
0.01	100	200	160	310	220	440
0.015	65	100	95	140	140	200
0.04	45	62	61	86	90	120
0.1	28	36	39	52	55	70
0.4	23	29	32	40	43	54
1	18	21	24	27	31	37
4	16	19	20	24	26	31
10	12	15	16	19	21	25
40	11	14	14.5	17	19.5	24
100	10.5	13	13	16	18	21.5
300						

Time (seconds)	C060		C070		C090	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
	410		720		1100	
0.01	340	680	600	1100	900	1800
0.015	210	310	350	520	550	800
0.04	140	180	230	310	350	500
0.1	75	95	120	160	210	260
0.4	58	70	90	110	160	200
1	45	53	62	75	115	140
4	35	42	46	55	88	110
10	28	35	34	40	63	75
40	26	31	31	37	54	65
100	24	30	30	35	50	61
300						

Time (seconds)	C110		C120		C140	
	Min Melt	Max Clear	Min Melt	Max Clear	Min Melt	Max Clear
	1400		1800		2200	
0.01	1150	2200	1500	2800	1700	3600
0.015	700	1050	880	1400	1100	1600
0.04	450	610	540	750	700	950
0.1	260	340	320	420	410	510
0.4	210	260	260	320	320	400
1	160	190	190	230	240	290
4	120	150	140	170	170	210
10	91	110	110	130	140	170
40	82	100	102	120	125	150
100	75	93	92	115	120	140
300						