

Base TCC Curves

ABB 3
Basler 15
Cooper 31
IEC 66
IEEE 70
SEL 74

Intelligent Fuse Savings (IFS) TCC Curves

Fuse Links

Standard Speed 83
 K Speed 88
 QR Speed 92
 T Speed 97
 KSR Speed 101
 Coordinating Speed 106
 N Kearney Type 200 109

Distribution Power Fuses

Standard Speed 115
 K Speed 122
 Slow Speed 126
 Very Slow Speed 133
 Standard Speed SM 137
 Slow Speed SM 144

Basis—Average-tripping time-current characteristic (TCC) curves for the S&C IntelliRupter PulseCloser Fault Interrupter are shown in this publication. They were developed using the following equation:

$$t(I_{rms}) = \left[\frac{A}{\left[\frac{I_{rms}}{I_{min-pickup}} \right]^p - C} + B \right] \cdot TD + TS + K$$

Where:

- t* is the average tripping time, in seconds;
- A*, *B*, *C*, and *p* coefficients are provided later for each time-current characteristic curve;
- I_{rms}* is the nominal power frequency (fundamental) current in amperes, measured by the IntelliRupter fault interrupter;
- I_{min-pickup}* is the minimum power frequency (fundamental) pickup current, in amperes, at which the TCC curve begins timing;
- TD* is the time multiplier (time dial);
- TS* is the time adder; and,
- K* is a constant provided later for each time-current characteristic curve as applicable.

IntelliRupter® fault interrupter TCC curves are applicable to both 50- and 60-Hz systems. They are also applicable over the IntelliRupter fault interrupter’s entire operating temperature range of -40°F (-40°C) to +104°F (40°C). No adjustments need to be made to these curves for ambient temperatures within this temperature range.

Tolerances—Minimum Response and Maximum Clear TCC curves for the IntelliRupter PulseCloser Fault Interrupter are plotted in this document inclusive of all tolerances. Tolerance, expressed in terms of current, is +/- 2%. Tolerance, expressed in terms of time, is +/- 2% plus an additional +/- 0.008 seconds fixed time tolerance. Time for sensing a fault is 0.01667 second for faults <= 20% above pickup and 0.00833 seconds for faults > 20% above pickup. Arcing time is 0.028 seconds for 60-Hz systems and 0.035 seconds for 50-Hz systems. They were developed using the tolerance formulas shown on page 2.

Coordination—When coordinating IntelliRupter PulseCloser Fault Interrupters with other protective devices, it will be necessary to develop both minimum-tripping and total-clearing TCC curves. The minimum-tripping curve is used when coordinating IntelliRupter fault interrupters with load-side protective devices such as a transformer primary fuse. It’s constructed by subtracting negative tolerances in both time and current cumulatively from the average-tripping TCC curves shown in this publication.

The total-clearing curve is used when coordinating an IntelliRupter fault interrupter with source-side protective devices such as the substation feeder circuit breaker or recloser. It’s constructed by adding interrupting time to the maximum tripping curve. The maximum-tripping curve is constructed first by adding positive tolerances in both time and current, cumulatively, to the average-tripping curves shown in this publication. Sample minimum-tripping and total-clearing TCC curves for all IntelliRupter fault interrupter curves are included in this document. These curves were created with TD=1 and TS=0.



Power-Up Time—Typically the IntelliRupter PulseCloser Fault Interrupter is powered from system voltage or from a backup battery. After an extended outage that has resulted in a battery disconnect, an IntelliRupter fault interrupter will require approximately 3 minutes before it will be able to open or close. For applications where back up protection is not available there is a setting that automatically opens the IntelliRupter fault interrupter upon loss of control power.

Application—The maximum continuous current-carrying capability of an IntelliRupter PulseCloser Fault Interrupter is 630/800 amperes. The sensors and control are capable of measuring current in the range of 1 ampere to 16,000 amperes. The minimum pickup level is 6 amperes for all elements except Sensitive Earth, which is 3 amperes. No minimum load current is required.

Control Settings—Time-current characteristic curves for an IntelliRupter PulseCloser Fault Interrupter are user selected using S&C IntelliLink® or IntelliLink® Remote Setup Software.

Tolerance Formulas

Minimum Trip Curve

$$t(I_{rms}) = \left[\left[\frac{A}{\left[\frac{[I_{rms} + I_{\%tolerance}]}{I_{min-pickup}} \right]^p - C} \right] + B \right] \cdot TD + TS + K \cdot (1 - T_{\%tolerance}) - T_{fixed_tolerance}$$

Total Clear Curve

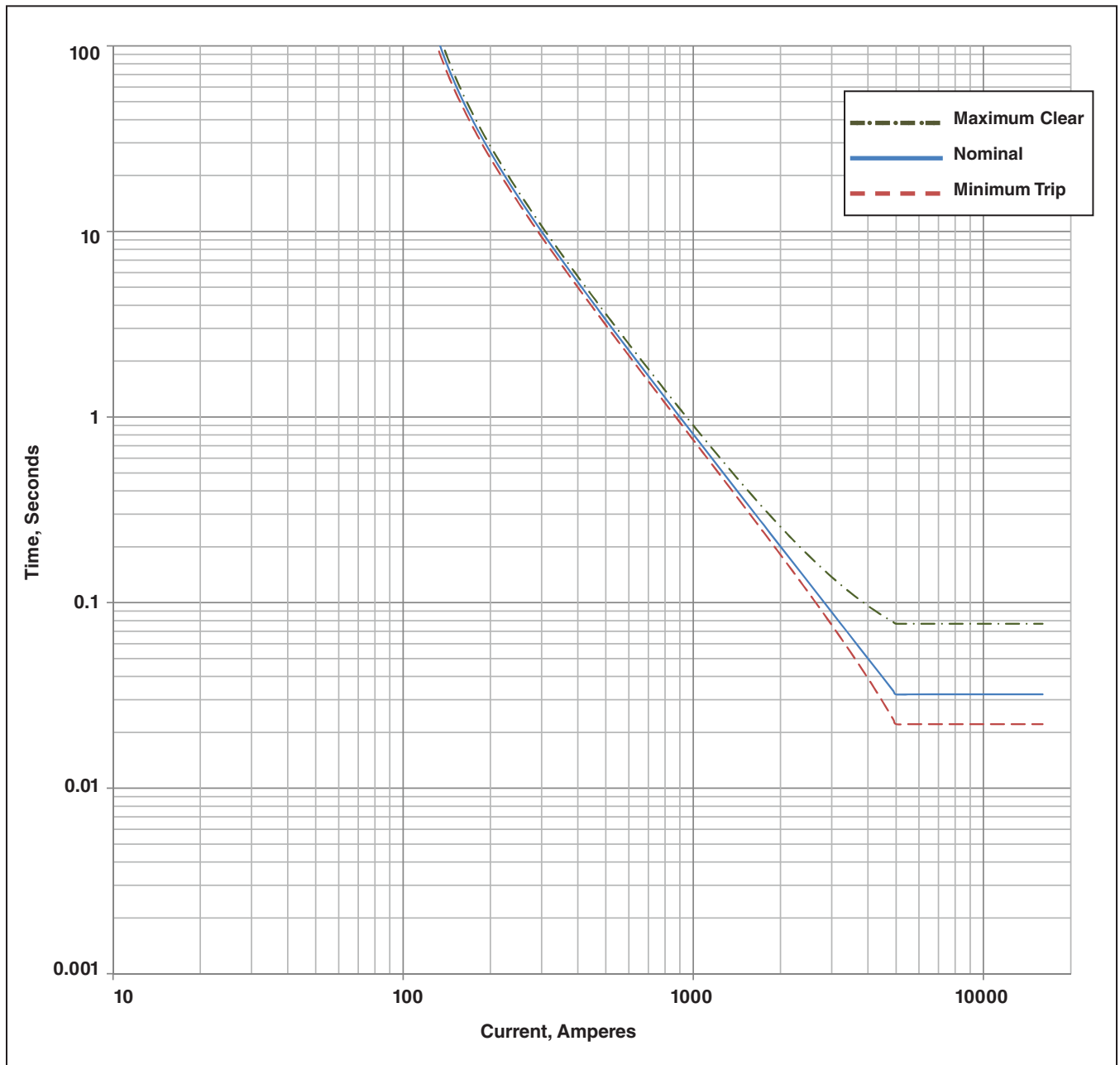
$$t_{max}(I_{rms}) = \left[\left[\frac{A}{\left[\frac{[I_{rms} - I_{\%tolerance}]}{I_{min-pickup}} \right]^p - C} \right] + B \right] \cdot TD + TS + K \cdot (1 + T_{\%tolerance}) + T_{fixed_tolerance} + T_{interrupting_time}$$

Emulation of Cooper TCC Curves

To better emulate the shape of some Cooper TCC curves that do not easily conform to the relay equation, a non-zero Minimum Inverse Response Time (MIRT) is used. This value is listed in the tables in this document, where appropriate. Note that user adjustments to the Time Multiplier setting will not automatically scale the MIRT.

For example, the S&C Emulation of a Cooper 132 curve uses a MIRT of 0.016s to better match the shape of the original curve for a Time Multiplier of 1.0. If changing the Time Multiplier to 2.0, users may wish to manually change the MIRT to 0.032s if maintaining the original curve shape is important.

ABB DPU 2000R—IEC Extremely Inverse TCC Curve

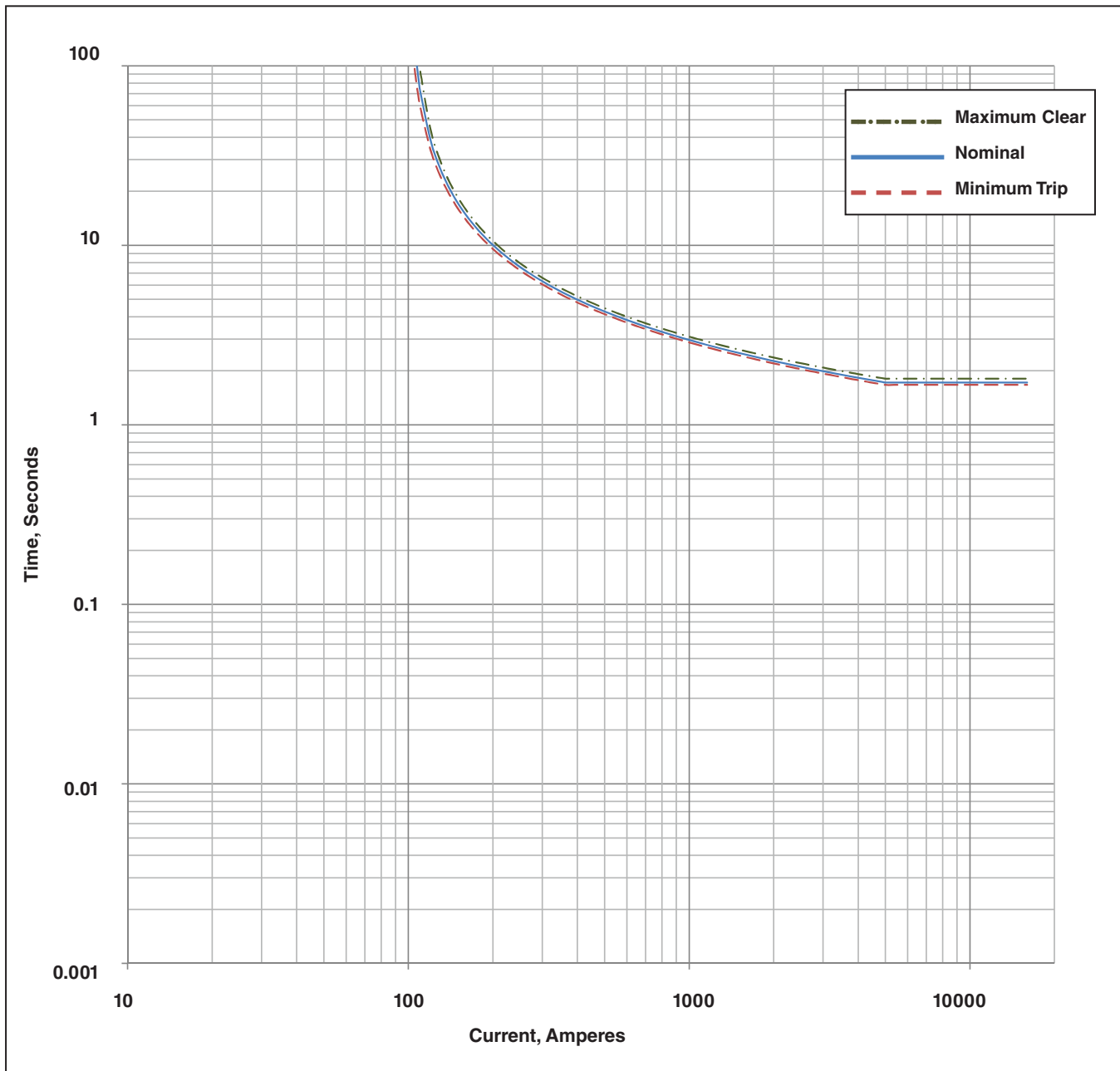


TCC Curve Parameter

Curve	Curve Parameter from Extremely Inverse (IEC).xdat				
	A	B	p	C	K
Extremely Inverse—IEC	80	0	2	1	0

Base TCC Curves

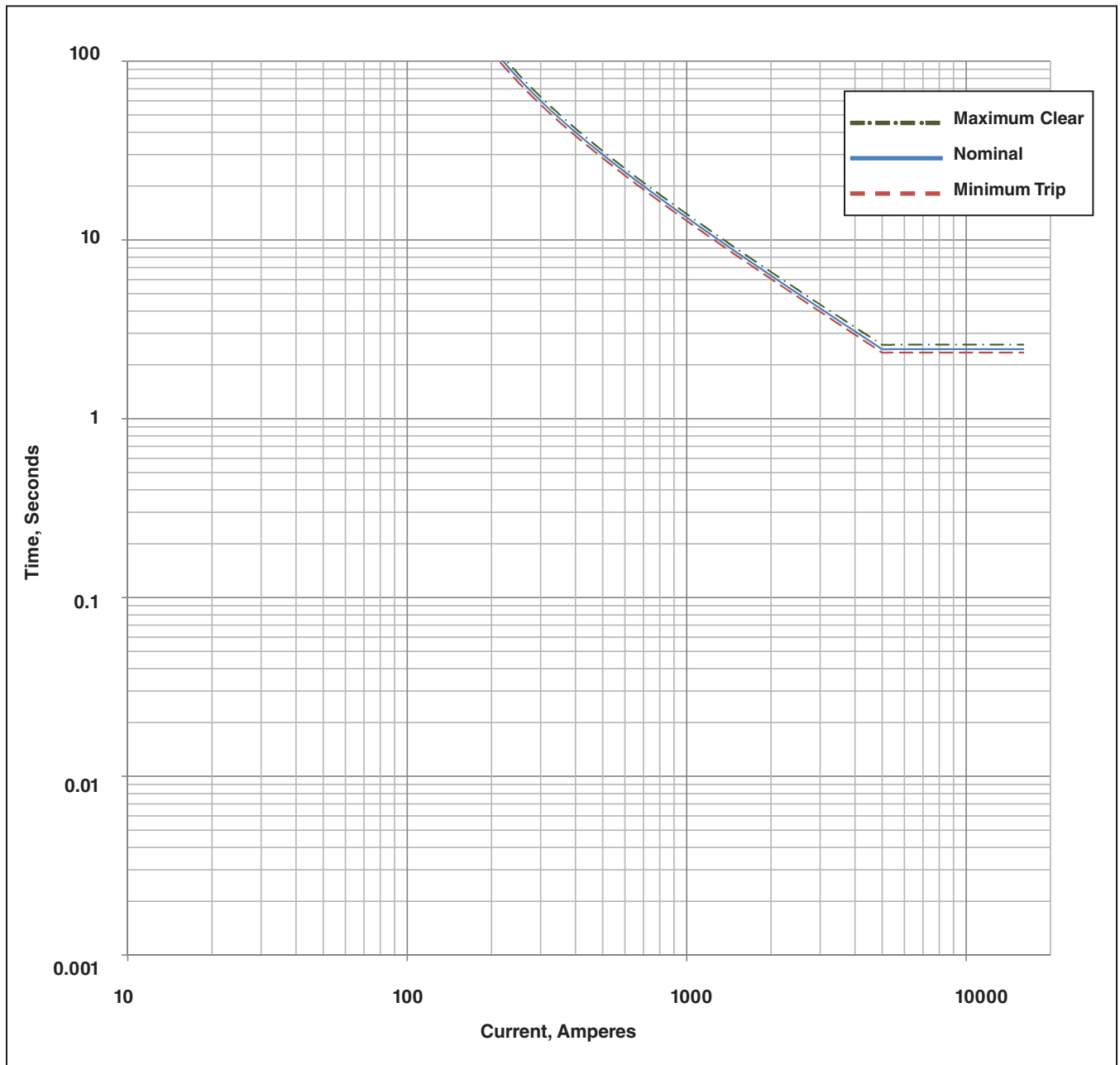
ABB DPU 2000R—IEC Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Inverse (IEC).xdat				
	A	B	p	C	K
Inverse—IEC	0.14	0	0.02	1	0

ABB DPU 2000R—IEC Long-Time Inverse TCC Curve

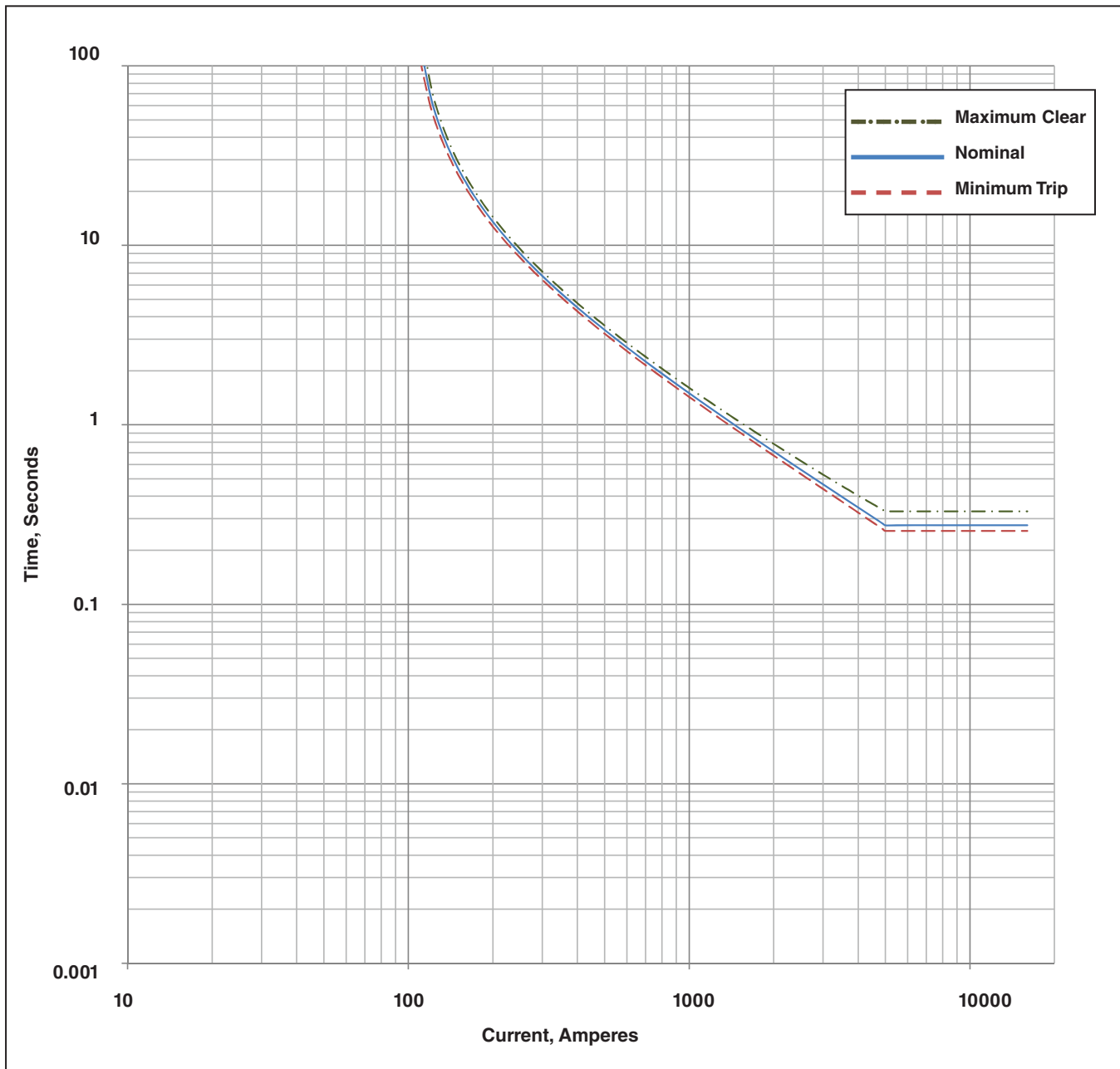


TCC Curve Parameter

Curve	Curve Parameter from Long-Time Inverse (IEC).xdat				
	A	B	p	C	K
IEC Long-Time Inverse	120	0	1	1	0

Base TCC Curves

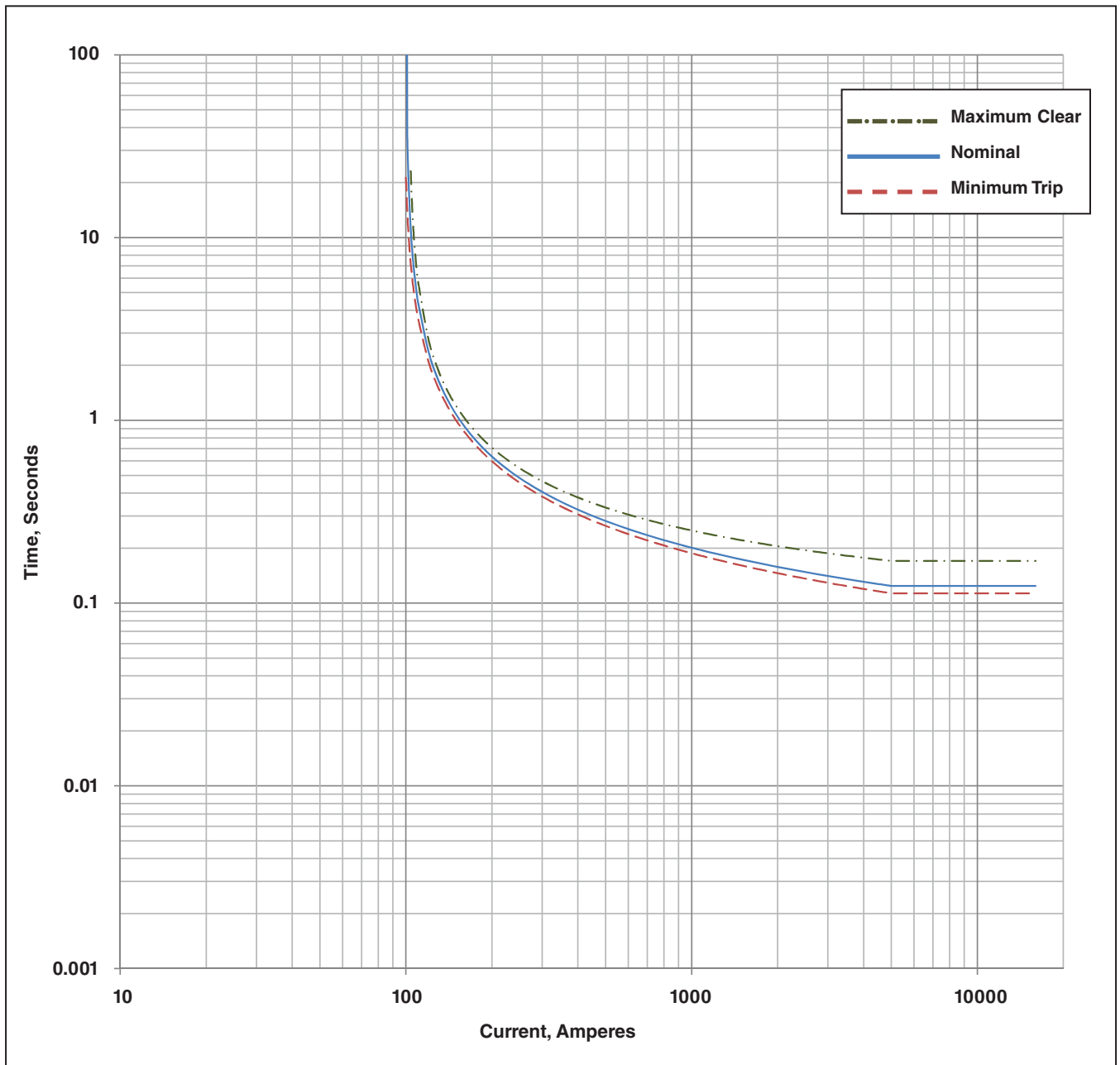
ABB DPU 2000R—IEC Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Very Inverse (IEC).xdat				
	A	B	p	C	K
IEC Very Inverse	13.5	0	1	1	0

ABB DPU 2000R—ANSI Inverse TCC Curve

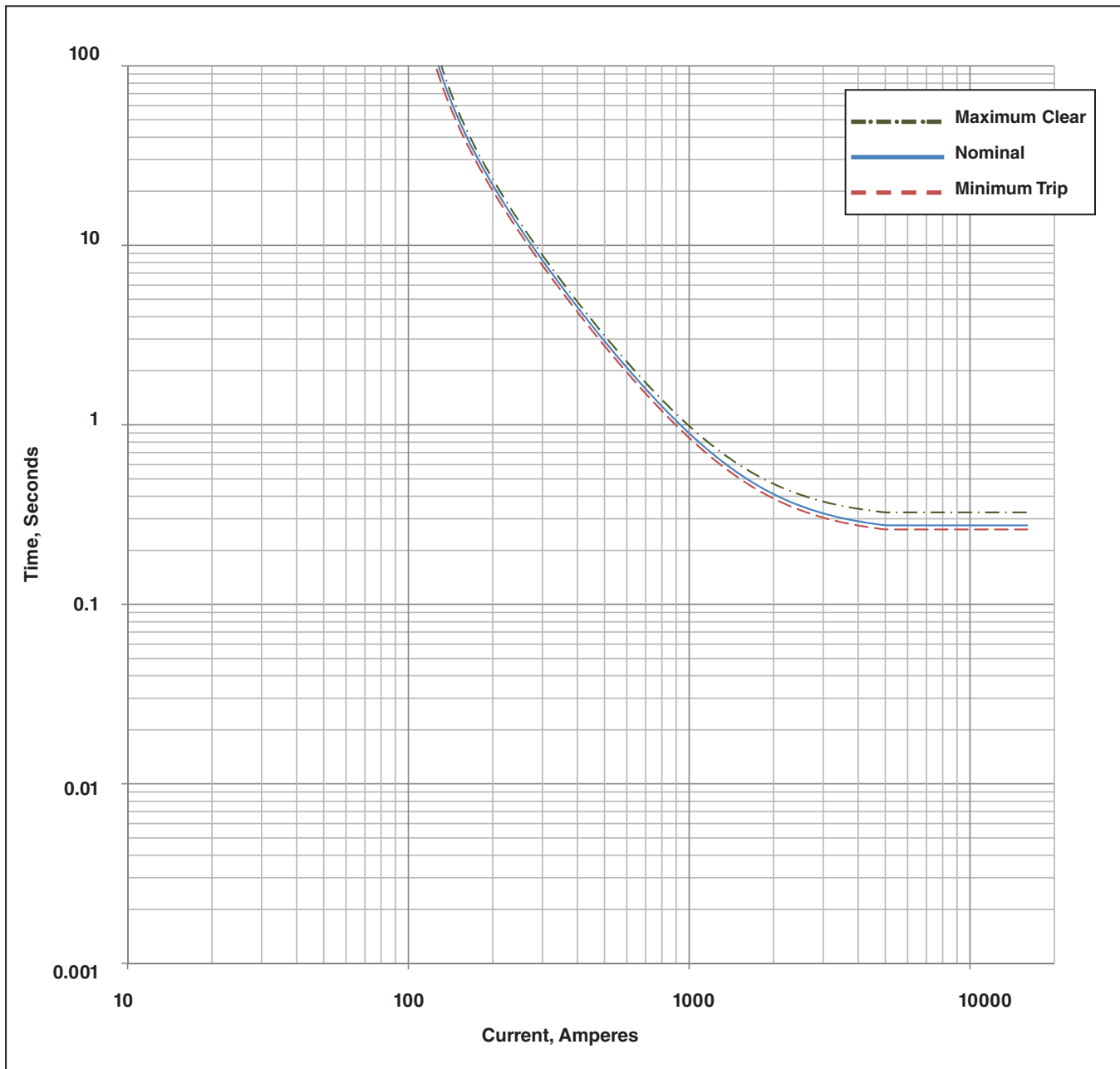


TCC Curve Parameter

Curve	Curve Parameter from Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Inverse	0.0086	0.0185	0.02	1	0

Base TCC Curves

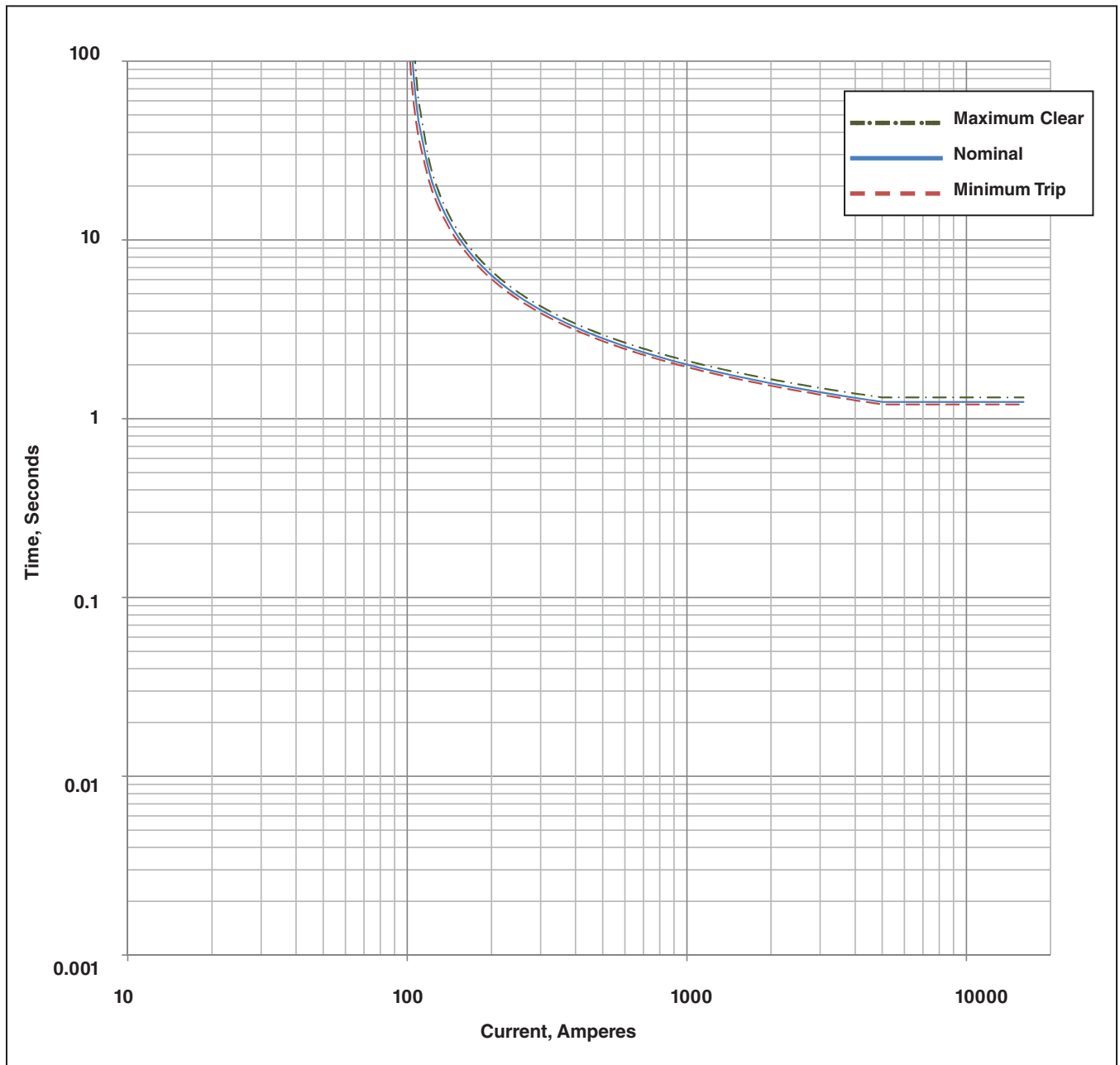
ABB DPU 2000R—ANSI Long-Time Extremely Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Long-Time Extremely Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Long-Time Extremely Inverse	64.07	0.25	2	1	0

ABB DPU 2000R—ANSI Long-Time Inverse TCC Curve

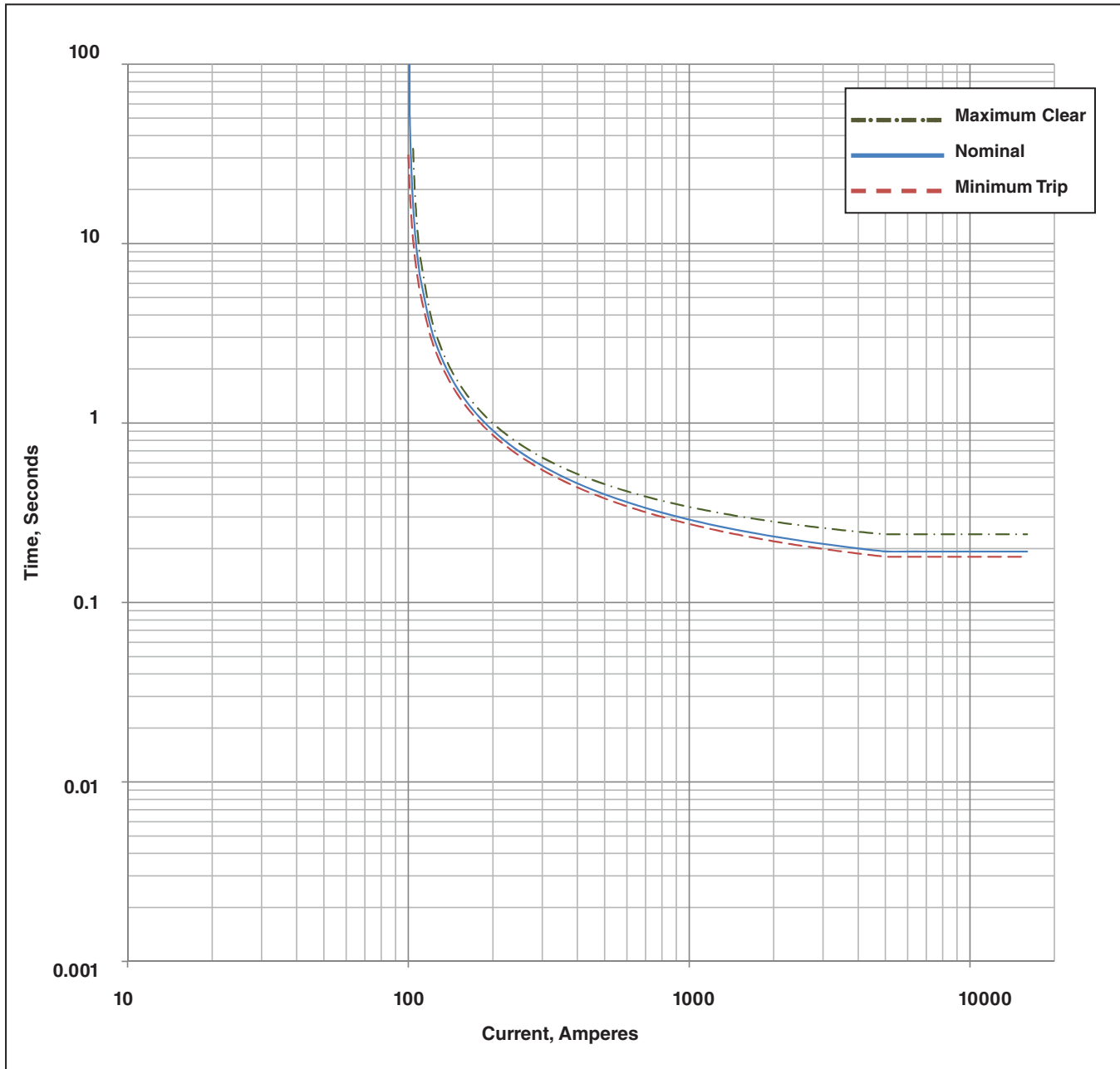


TCC Curve Parameter

Curve	Curve Parameter from Long-Time Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Long-Time Inverse	0.086	0.185	0.02	1	0

Base TCC Curves

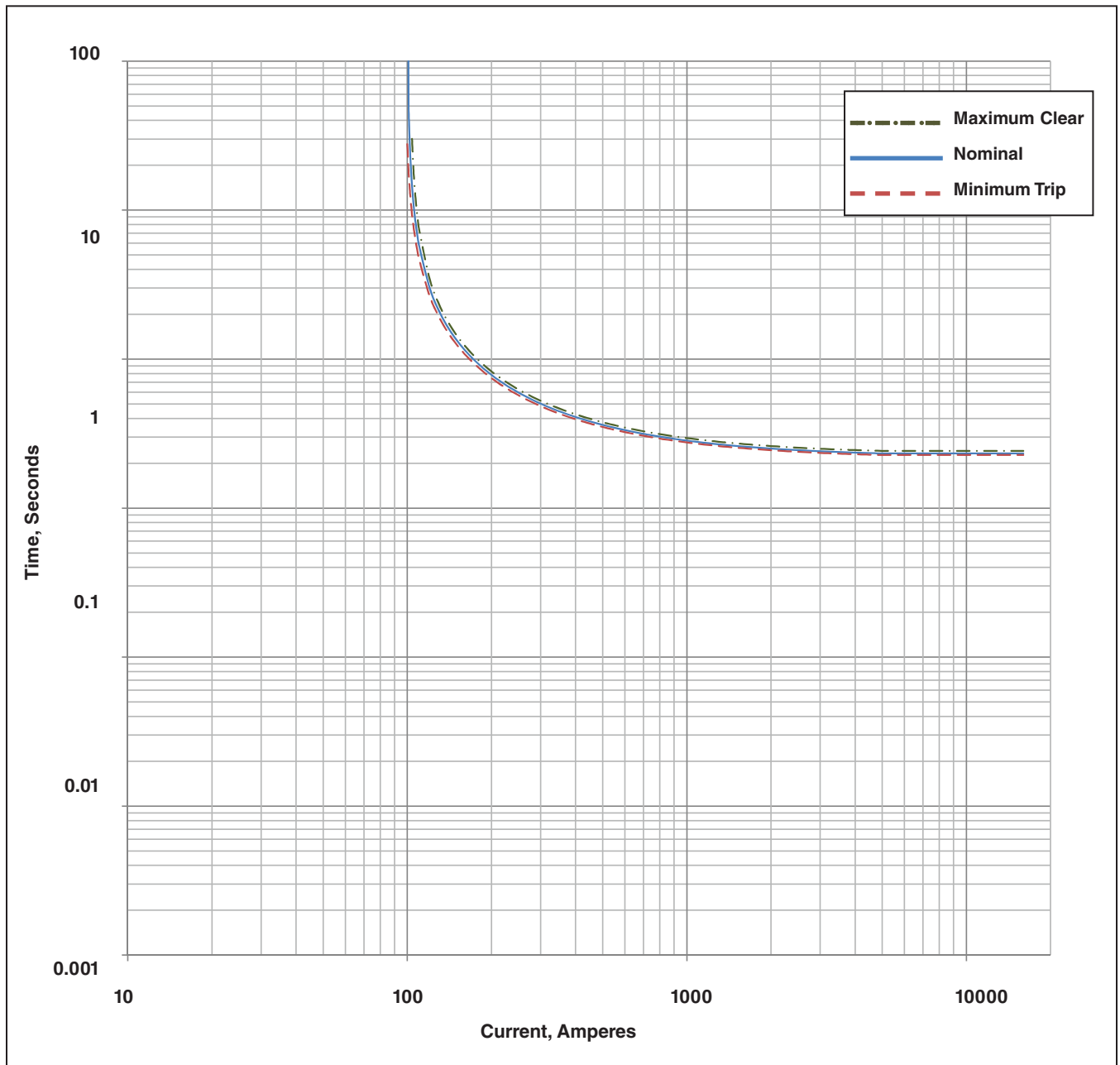
ABB DPU 2000R—ANSI Long-Time Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Long-Time Very Inverse (ANSI).xdm				
	A	B	p	C	K
ANSI Long-Time Very Inverse	28.55	0.712	2	1	0

ABB DPU 2000R—Recloser Curve-8 TCC Curve

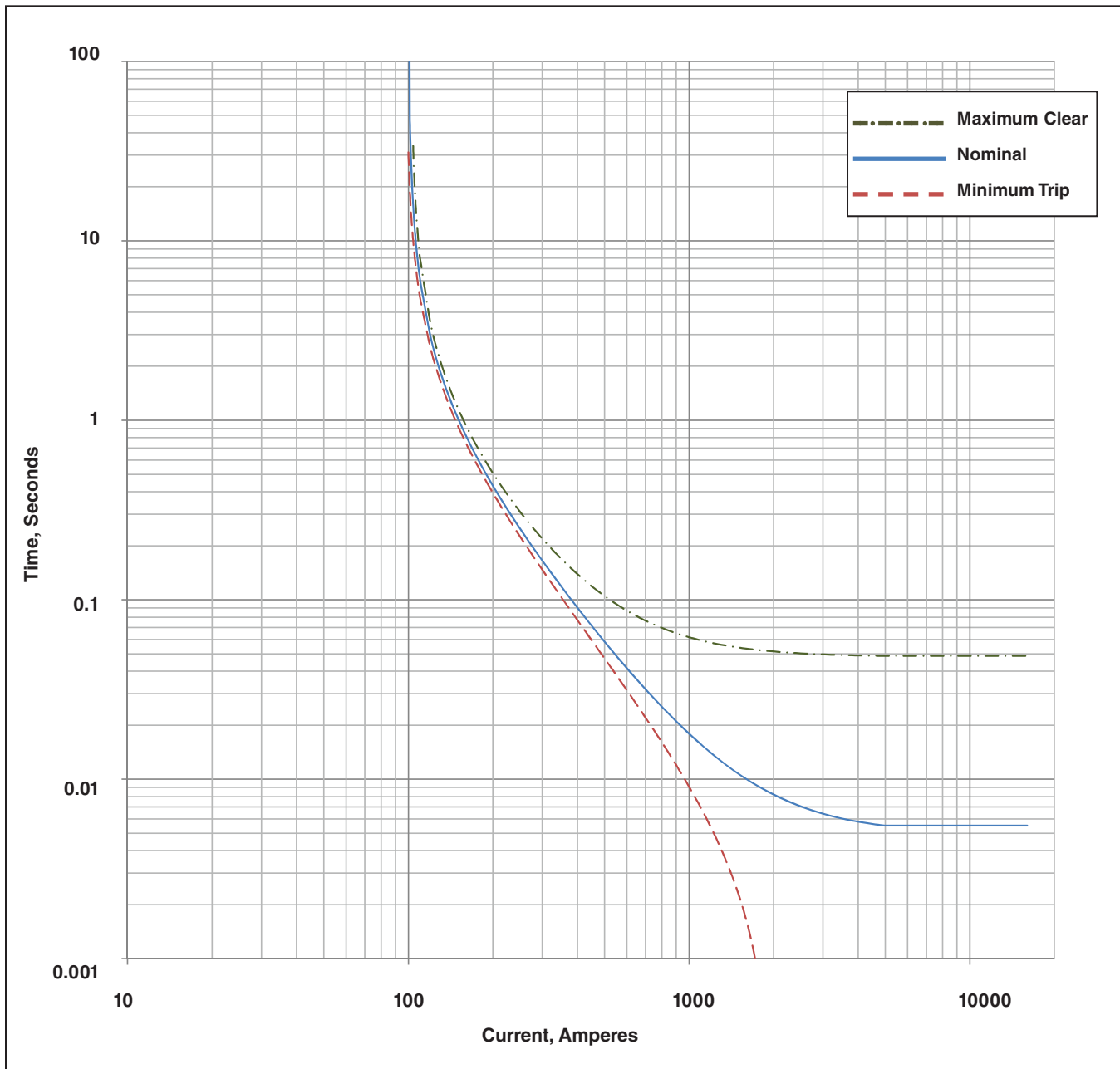


TCC Curve Parameter

Curve	Curve Parameter from Recloser Curve-8.xdat				
	A	B	p	C	K
Recloser Curve-8	4.211	0.013	1.8	0.35	0

Base TCC Curves

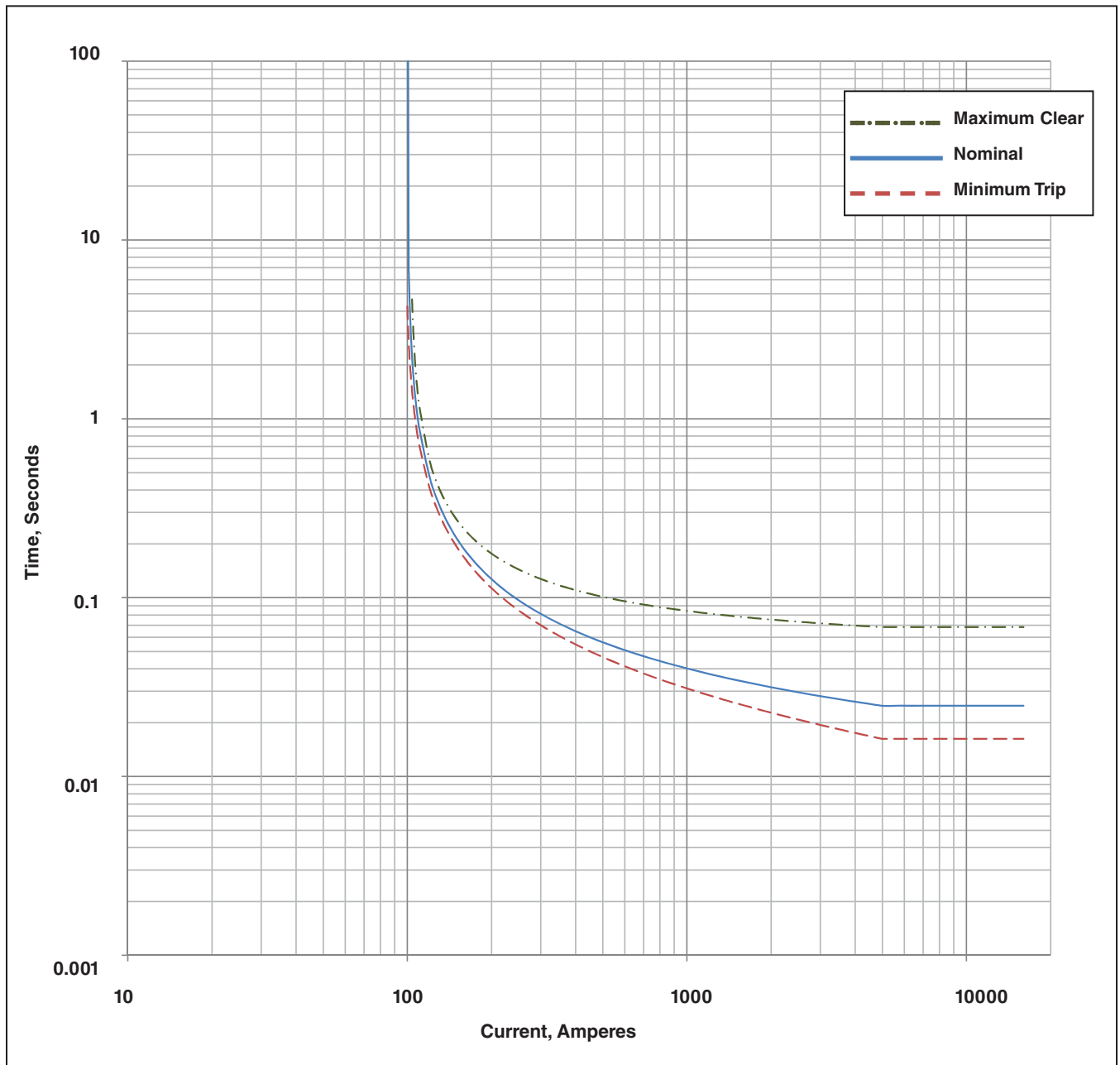
ABB DPU 2000R—ANSI Short-Time Extremely Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Short-Time Extremely Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Short-Time Extremely Inverse	1.281	0.005	2	1	0

ABB DPU 2000R—ANSI Short-Time Inverse TCC Curve

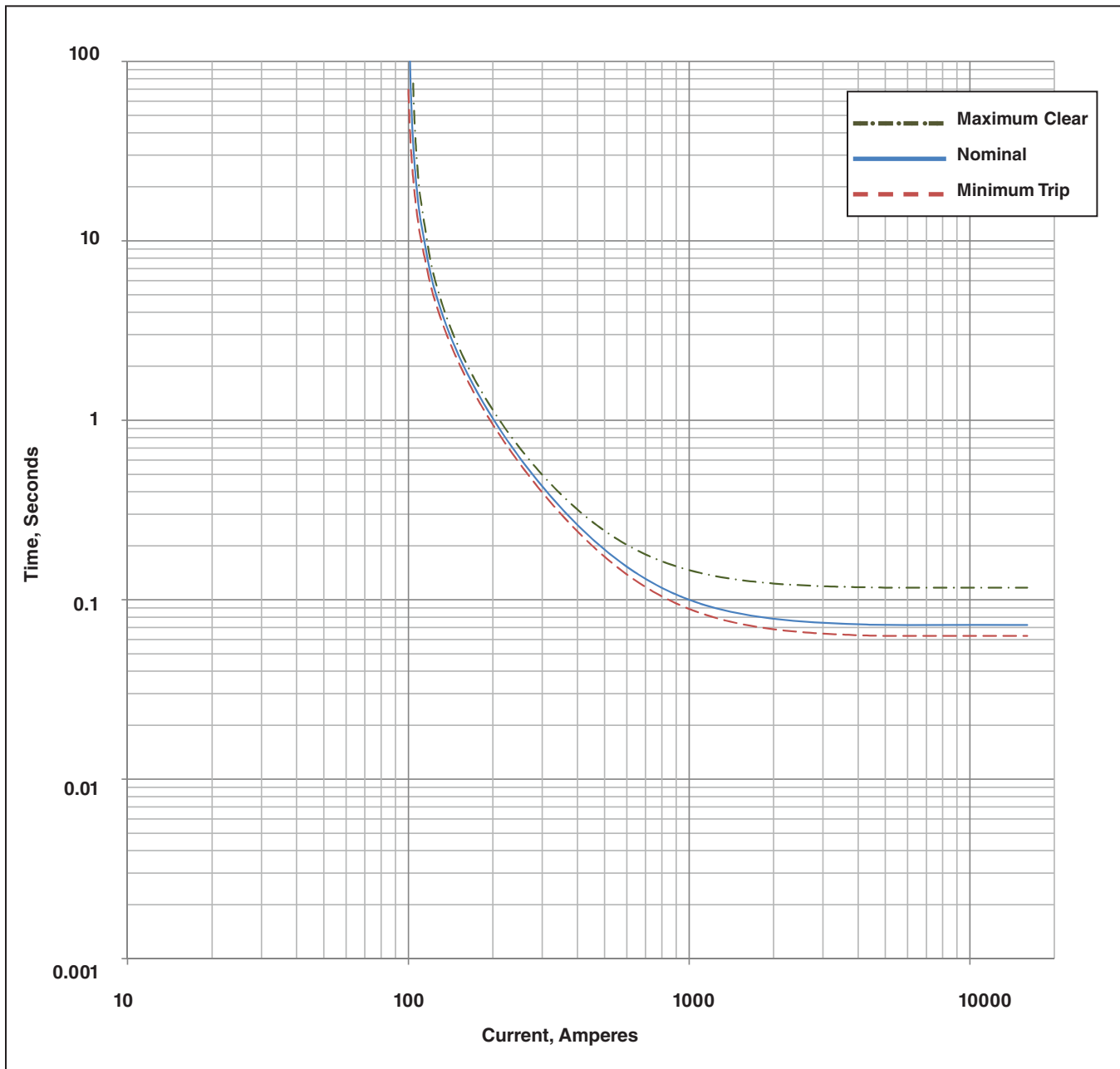


TCC Curve Parameter

Curve	Curve Parameter from Short-Time Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Short-Time Inverse	0.00172	0.0037	0.02	1	0

Base TCC Curves

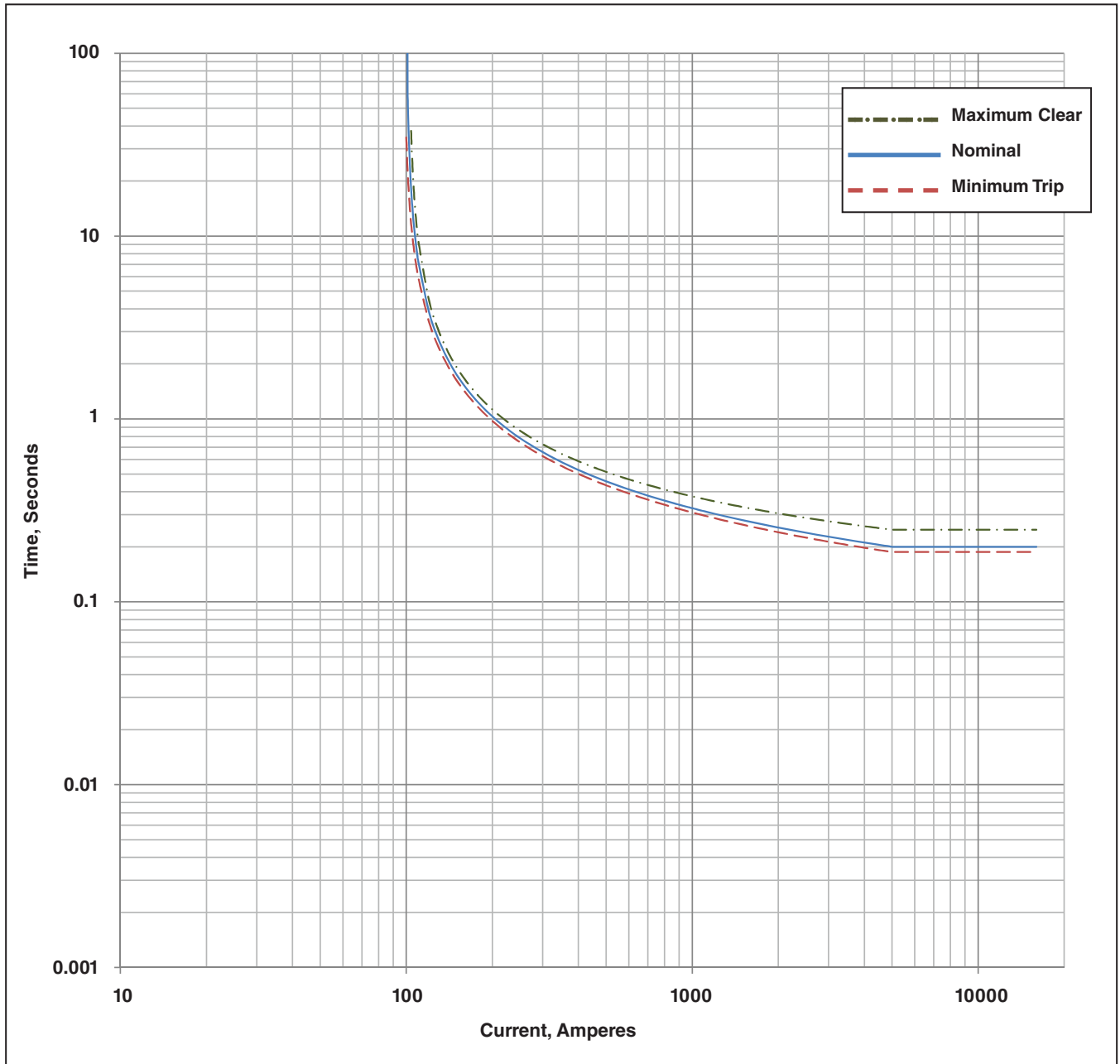
ABB DPU 2000R—ANSI Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from Very Inverse (ANSI).xdat				
	A	B	p	C	K
ANSI Very Inverse	2.855	0.0712	2	1	0

Basler A—Standard Inverse TCC Curve

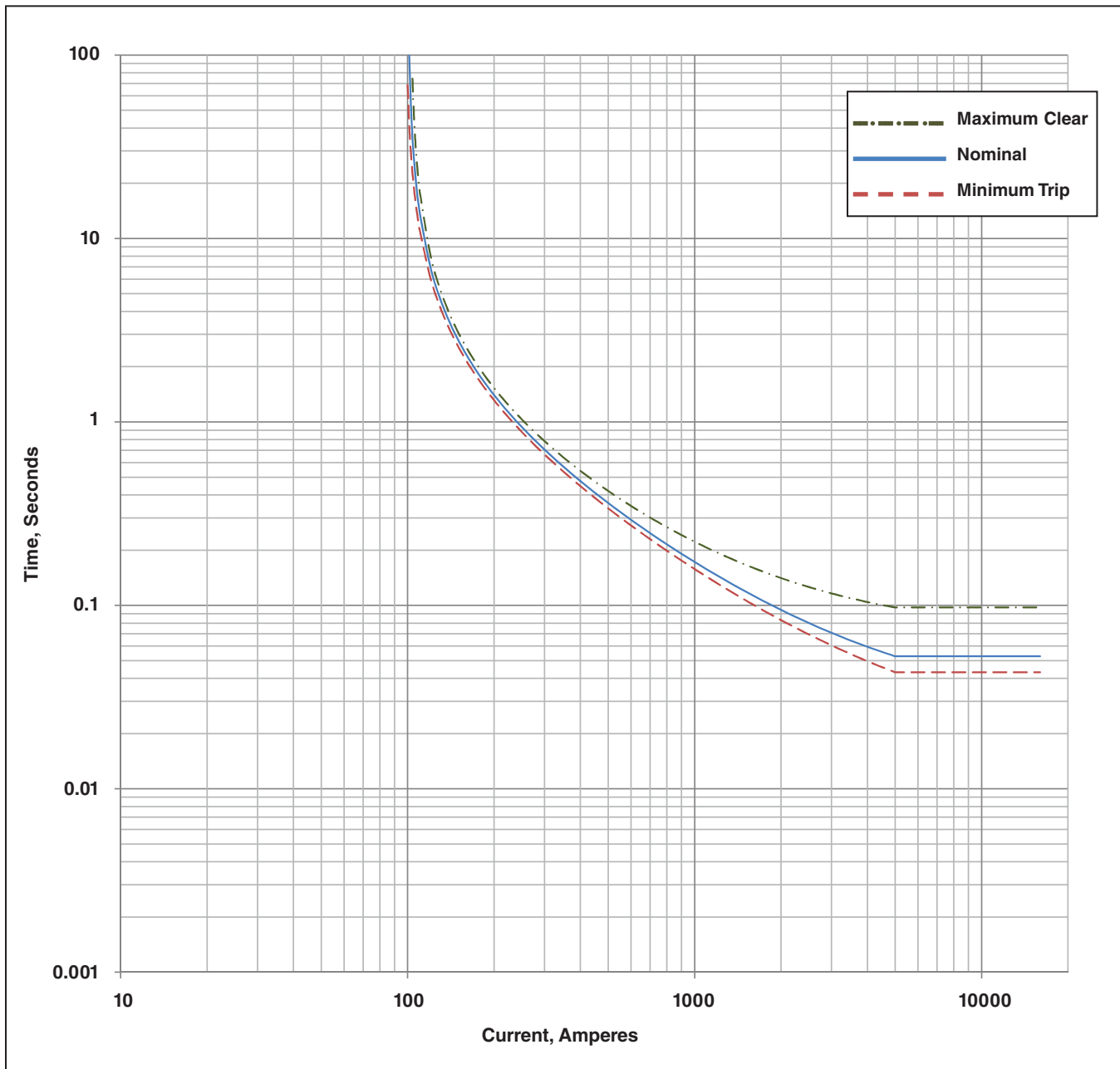


TCC Curve Parameter

Curve	Curve Parameter from A Standard Inverse.xdat				
	A	B	p	C	K
A Standard Inverse	0.01414	0	0.02	1	0.028

Base TCC Curves

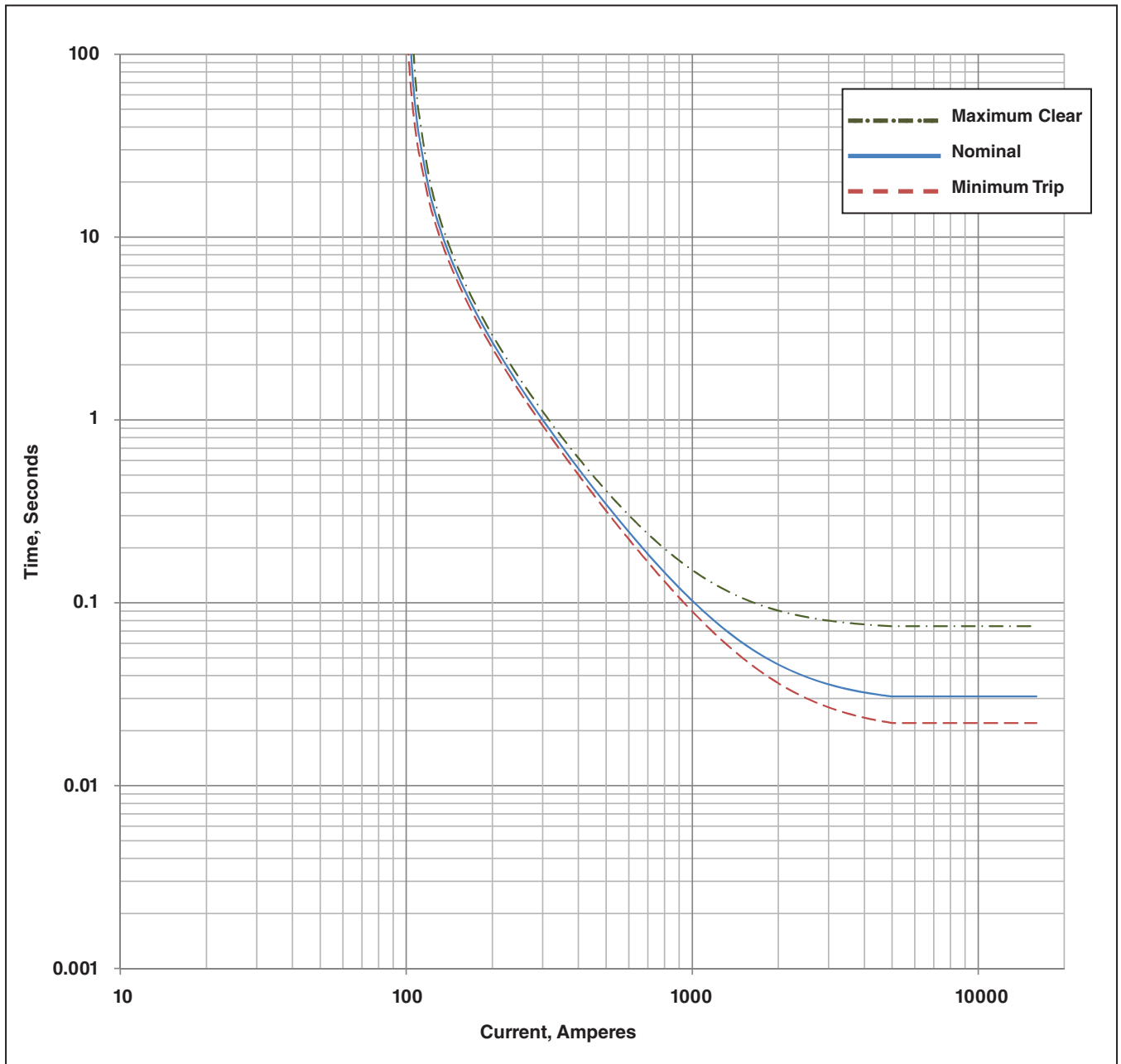
Basler B—Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from B Very Inverse.xdat				
	A	B	p	C	K
B Very Inverse	1.4636	0	1.0469	1	0.028

Basler C—Extremely Inverse TCC Curve

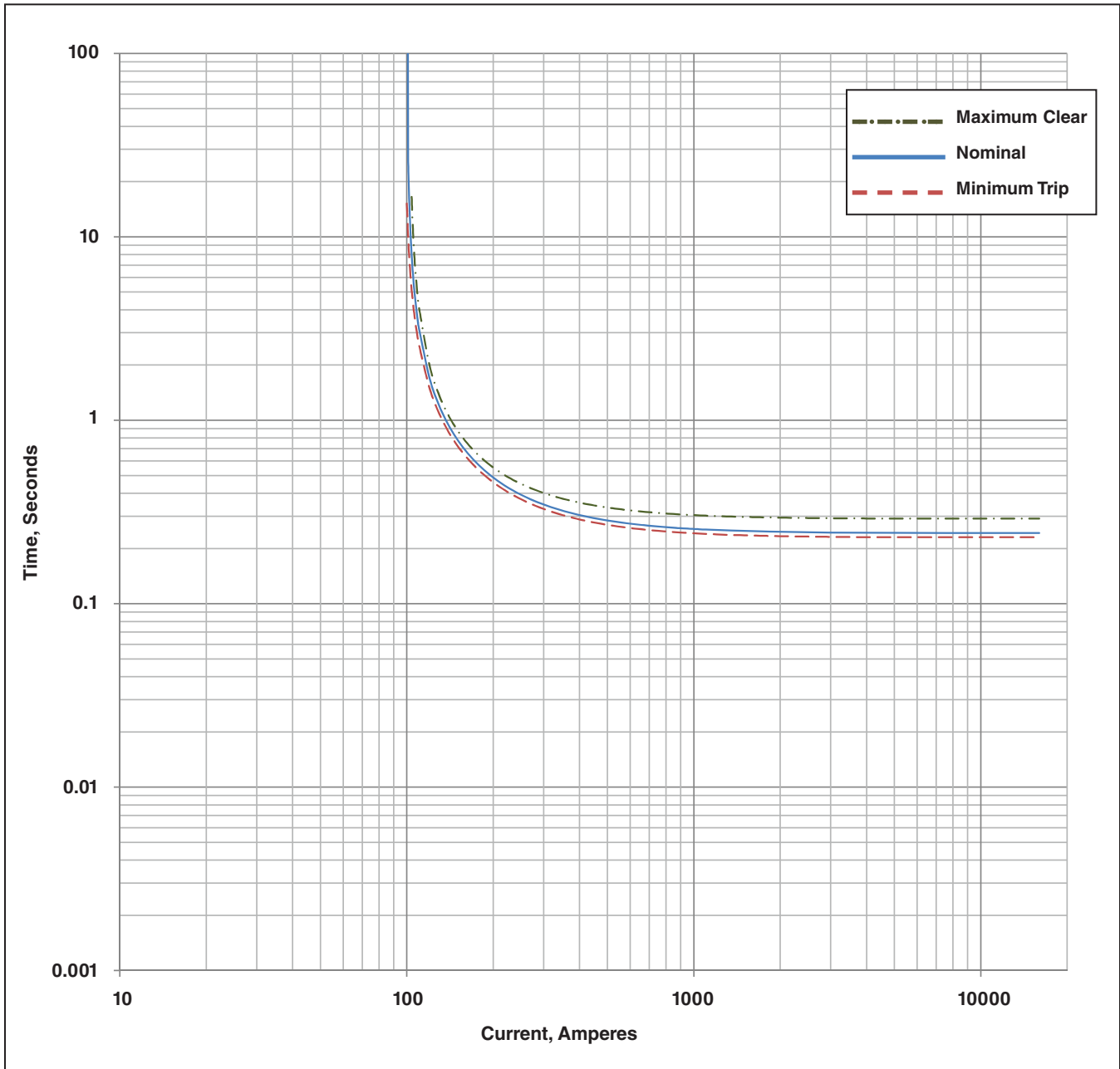


TCC Curve Parameter

Curve	Curve Parameter from C Extremely Inverse.xdat				
	A	B	p	C	K
C Extremely Inverse	8.25	0	2.0469	1	0.028

Base TCC Curves

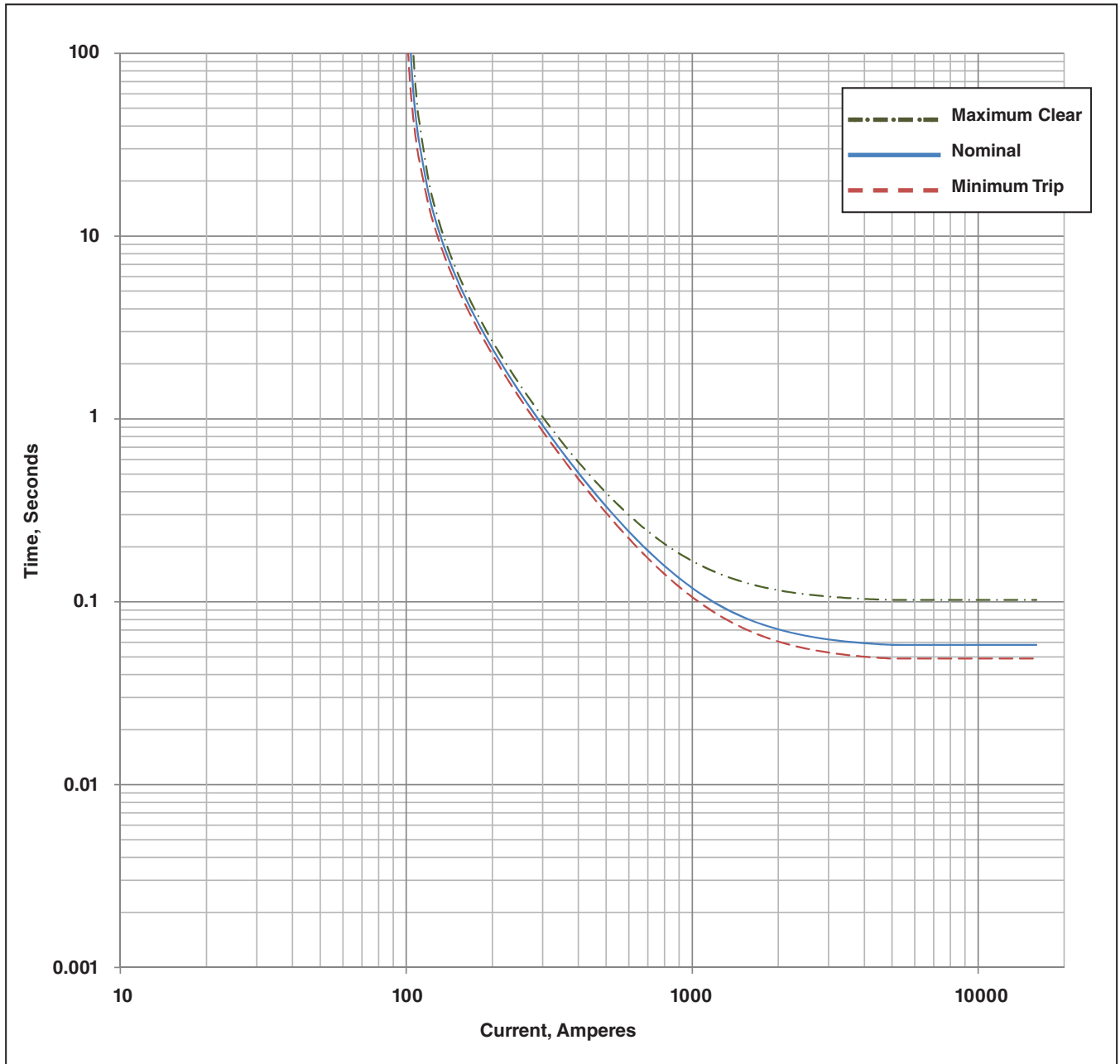
Basler D—Definite Time TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from D Definite Time.xdat				
	A	B	p	C	K
D Definite Time	0.4797	0.21359	1.5625	1	0.028

Basler E1—Inverse TCC Curve

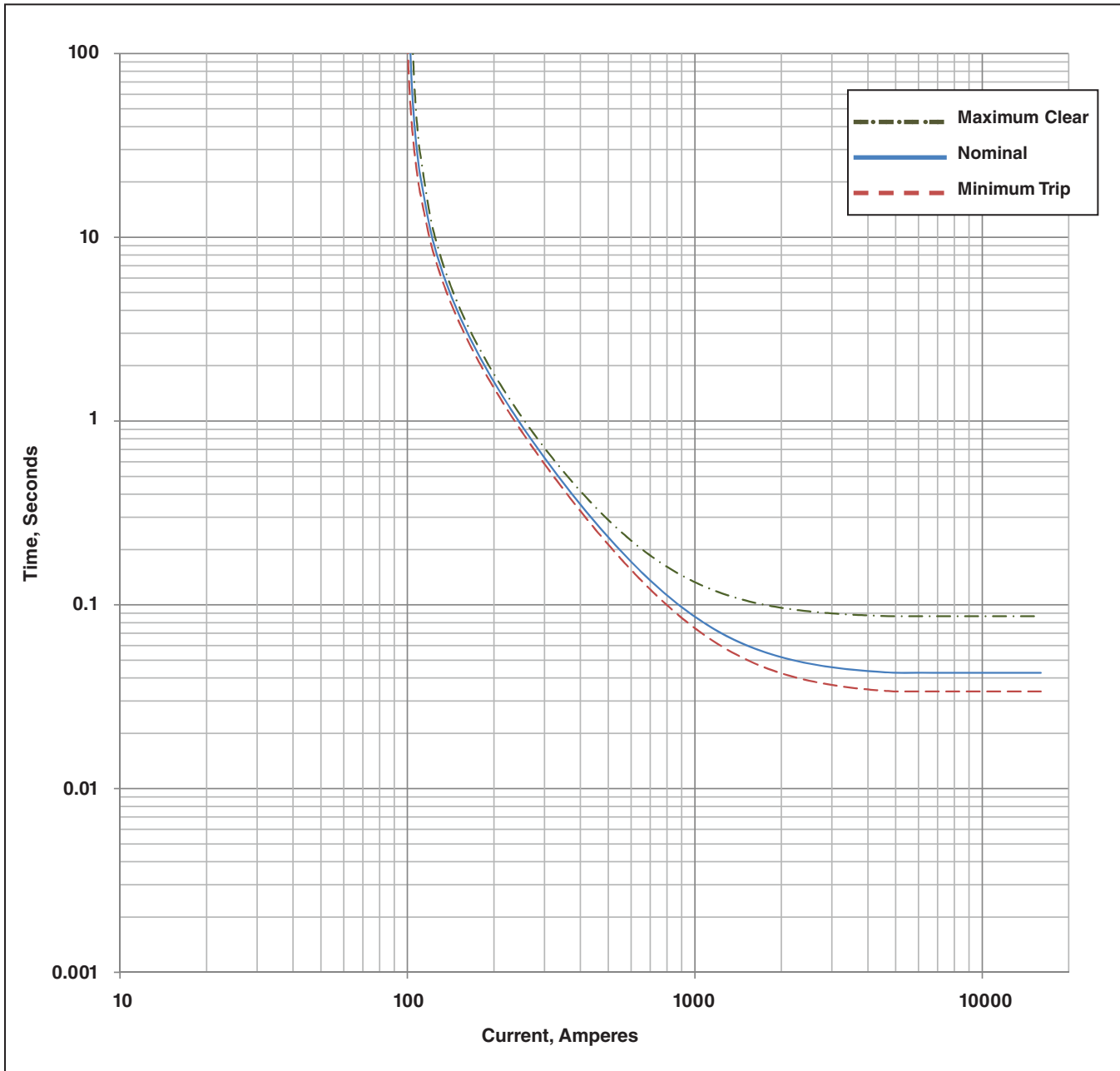


TCC Curve Parameter

Curve	Curve Parameter from E1 Inverse.xdat				
	A	B	p	C	K
E1 Inverse	7.7624	0.02758	2.0938	1	0.028

Base TCC Curves

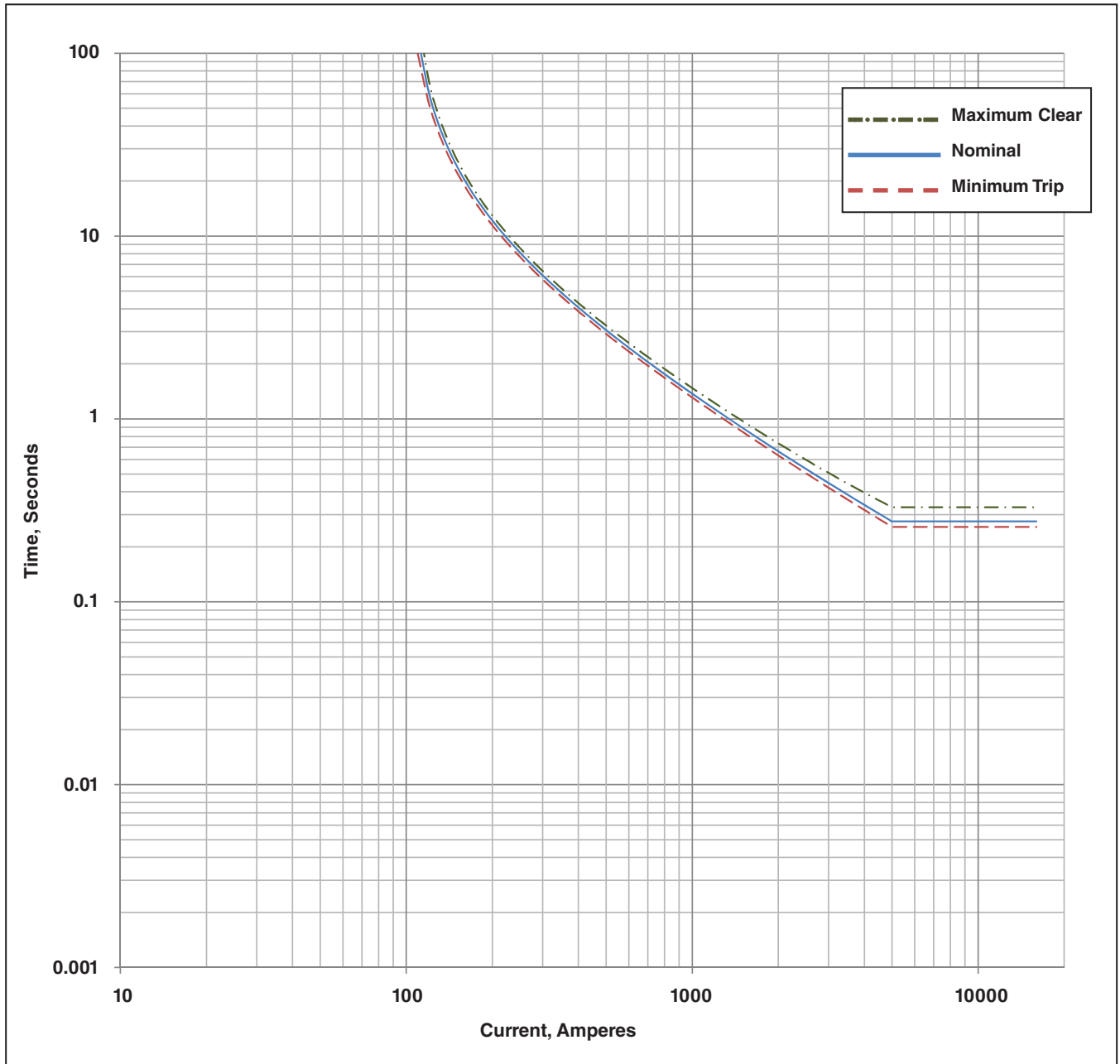
Basler E2—Extremely Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from E2 Extremely Inverse.xdat				
	A	B	p	C	K
E2 Extremely Inverse	4.6883	0.0129	2.0469	1	0.028

Basler G—Long-Time Inverse TCC Curve

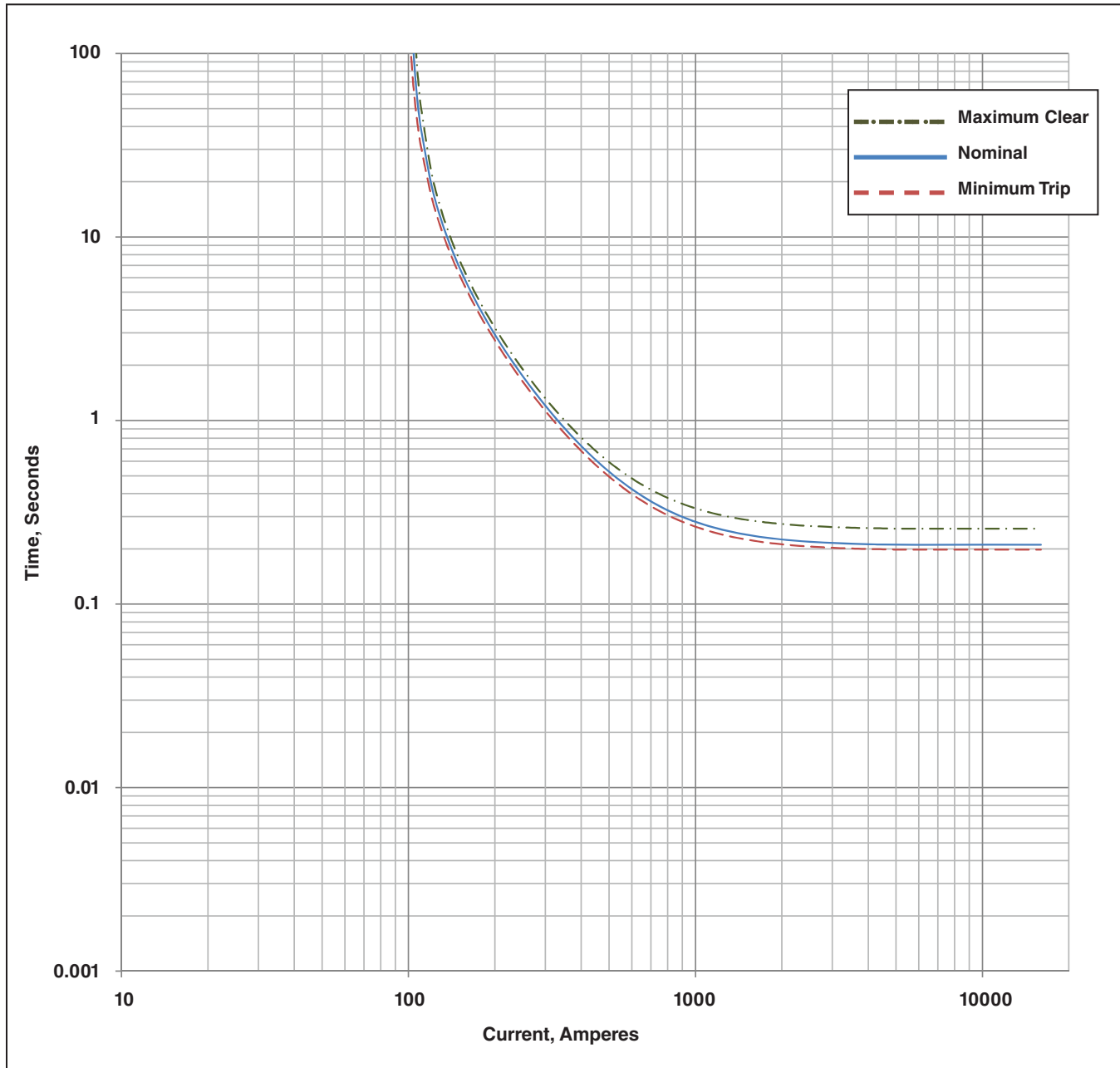


TCC Curve Parameter

Curve	Curve Parameter from G Long-Time Inverse.xdat				
	A	B	p	C	K
G Long-Time Inverse	12.1212	0	1	1	0.028

Base TCC Curves

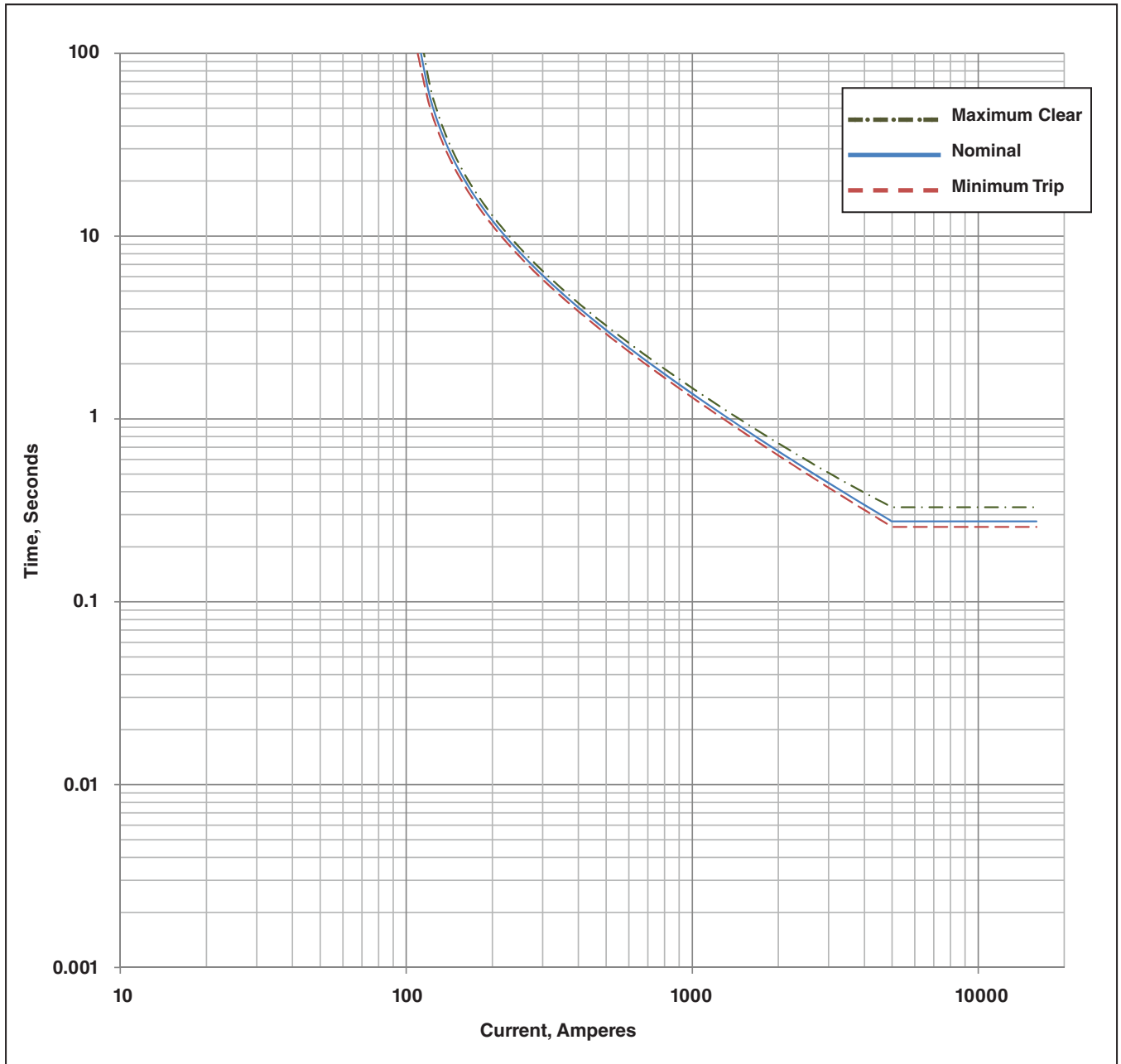
Basler I1—Inverse Time TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from I1 Inverse Time.xdat				
	A	B	p	C	K
I1 Inverse Time	8.9341	0.17966	2.0938	1	0.028

Basler I2—Inverse Time TCC Curve

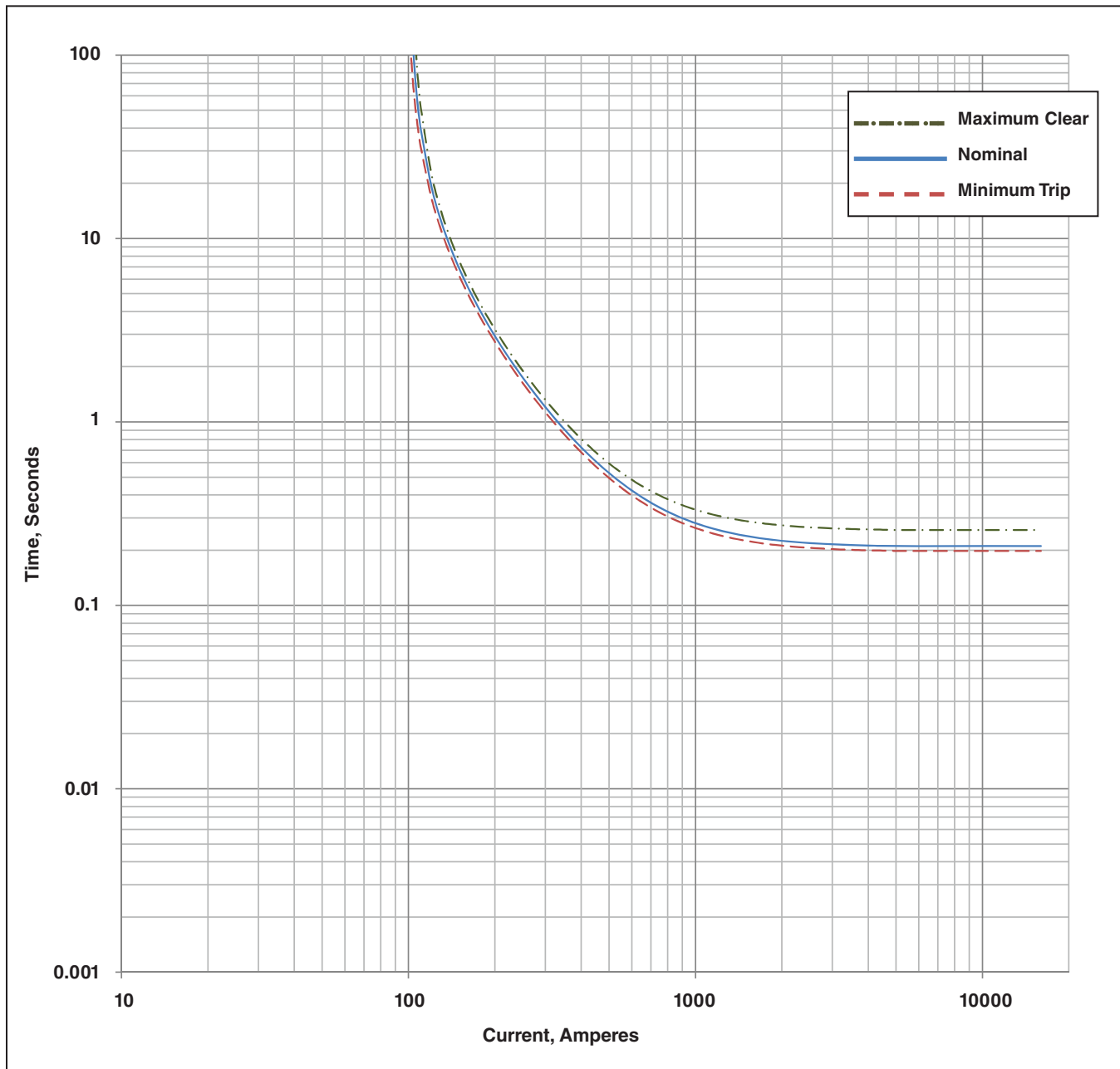


TCC Curve Parameter

Curve	Curve Parameter from I2 Inverse Time.xdat				
	A	B	p	C	K
I2 Inverse Time	0.2747	0.10426	0.4375	1	0.028

Base TCC Curves

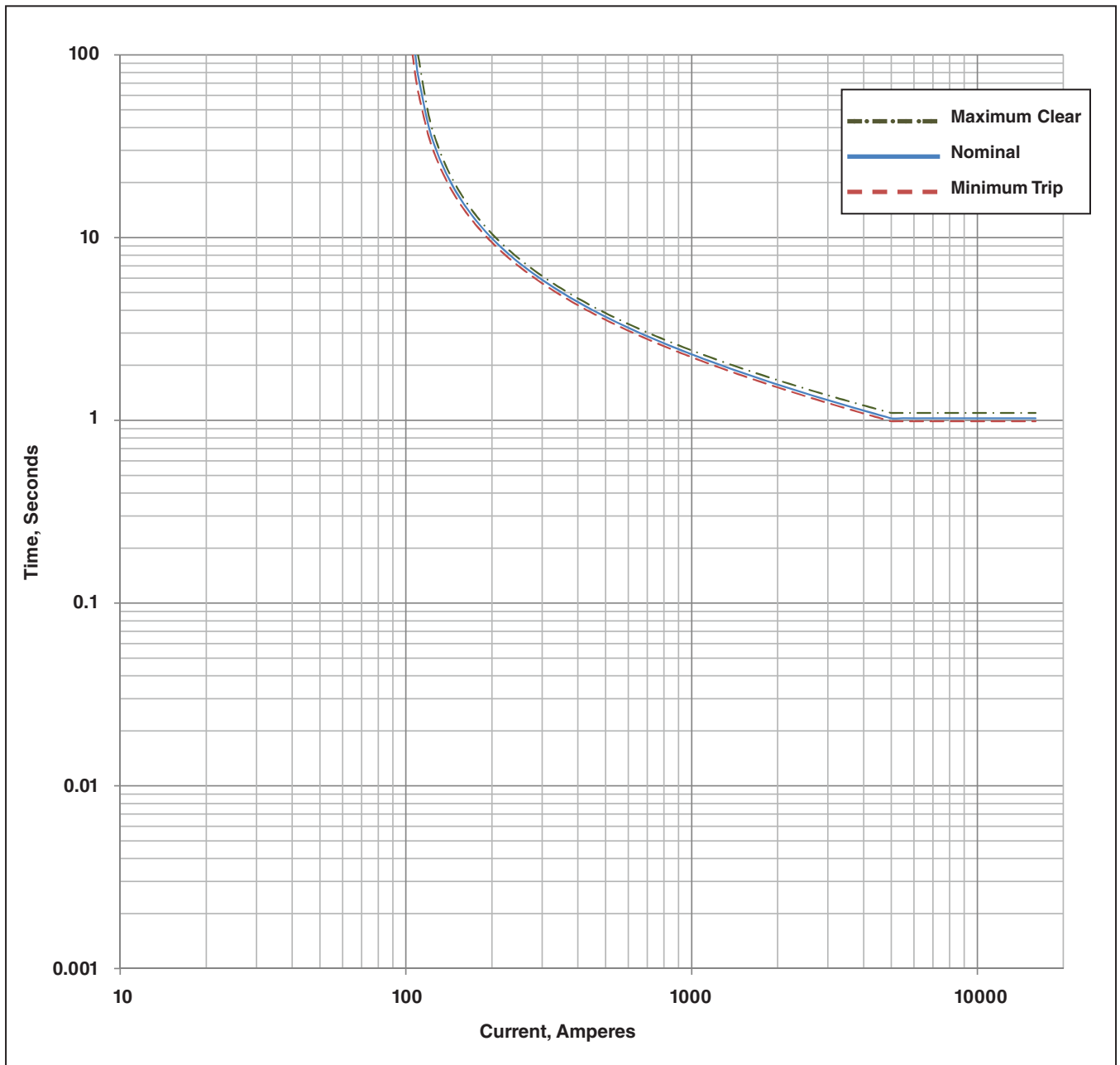
Basler L1—Long Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from L1 Long Inverse.xdat				
	A	B	p	C	K
L1 Long Inverse	5.6143	2.18532	1	1	0.028

Basler L2—Long Inverse TCC Curve

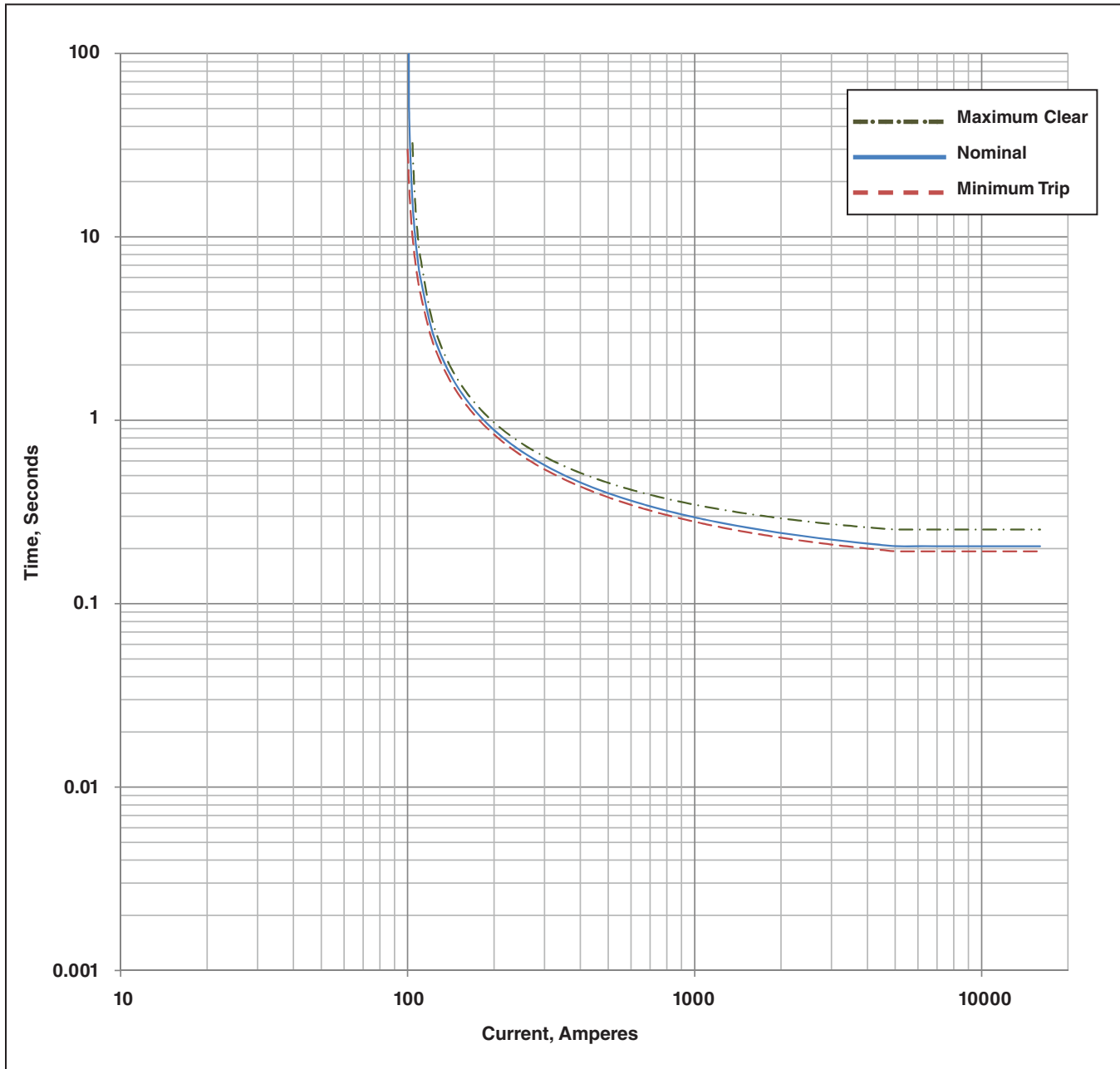


TCC Curve Parameter

Curve	Curve Parameter from L2 Long Inverse.xdat				
	A	B	p	C	K
L2 Long Inverse	2.3955	0	0.3125	1	0.028

Base TCC Curves

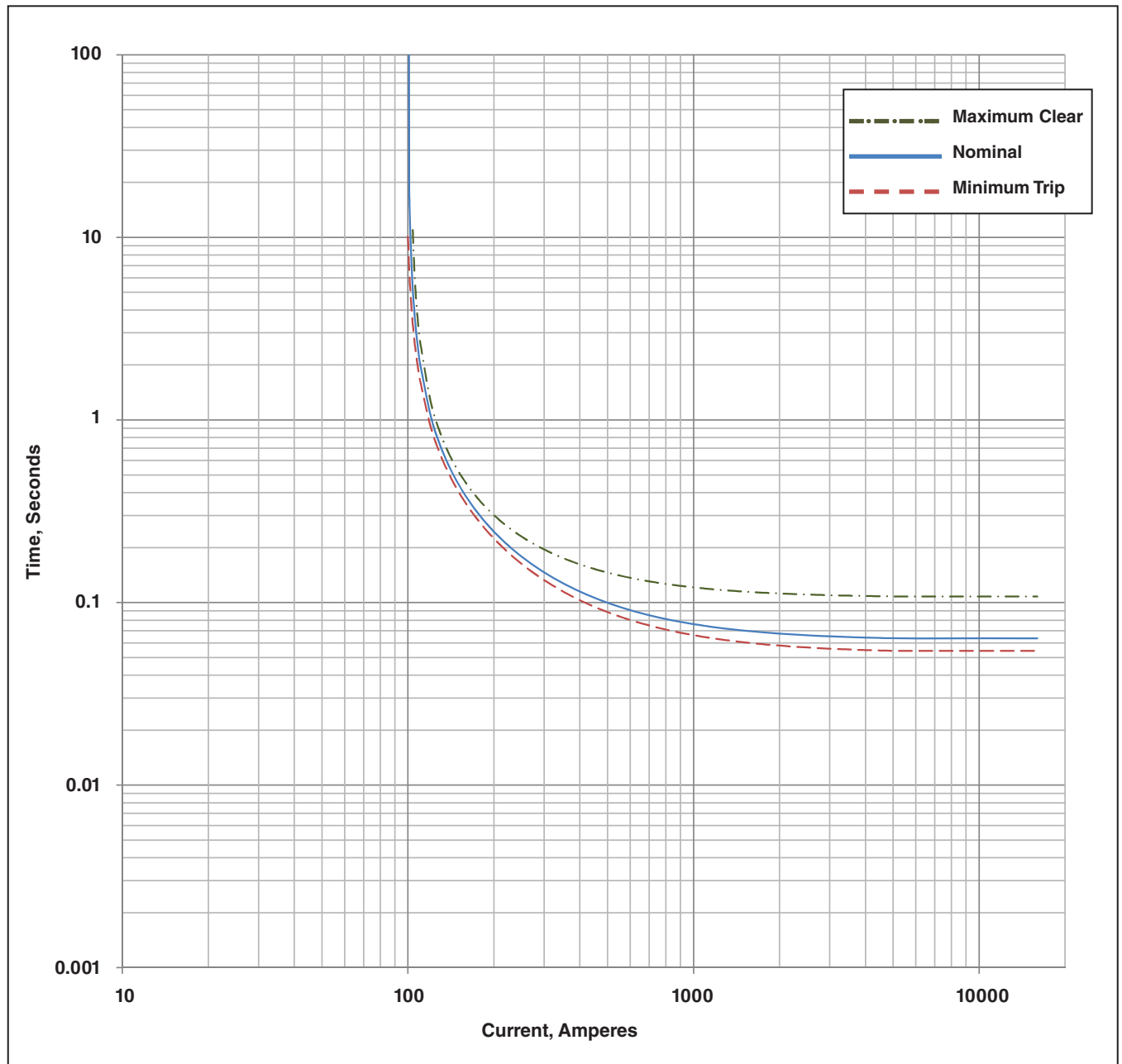
Basler M—Moderately Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from M Moderately Inverse.xdat				
	A	B	p	C	K
M Moderately Inverse	0.3022	0.1284	0.5	1	0.028

Basler S1—Short Inverse TCC Curve

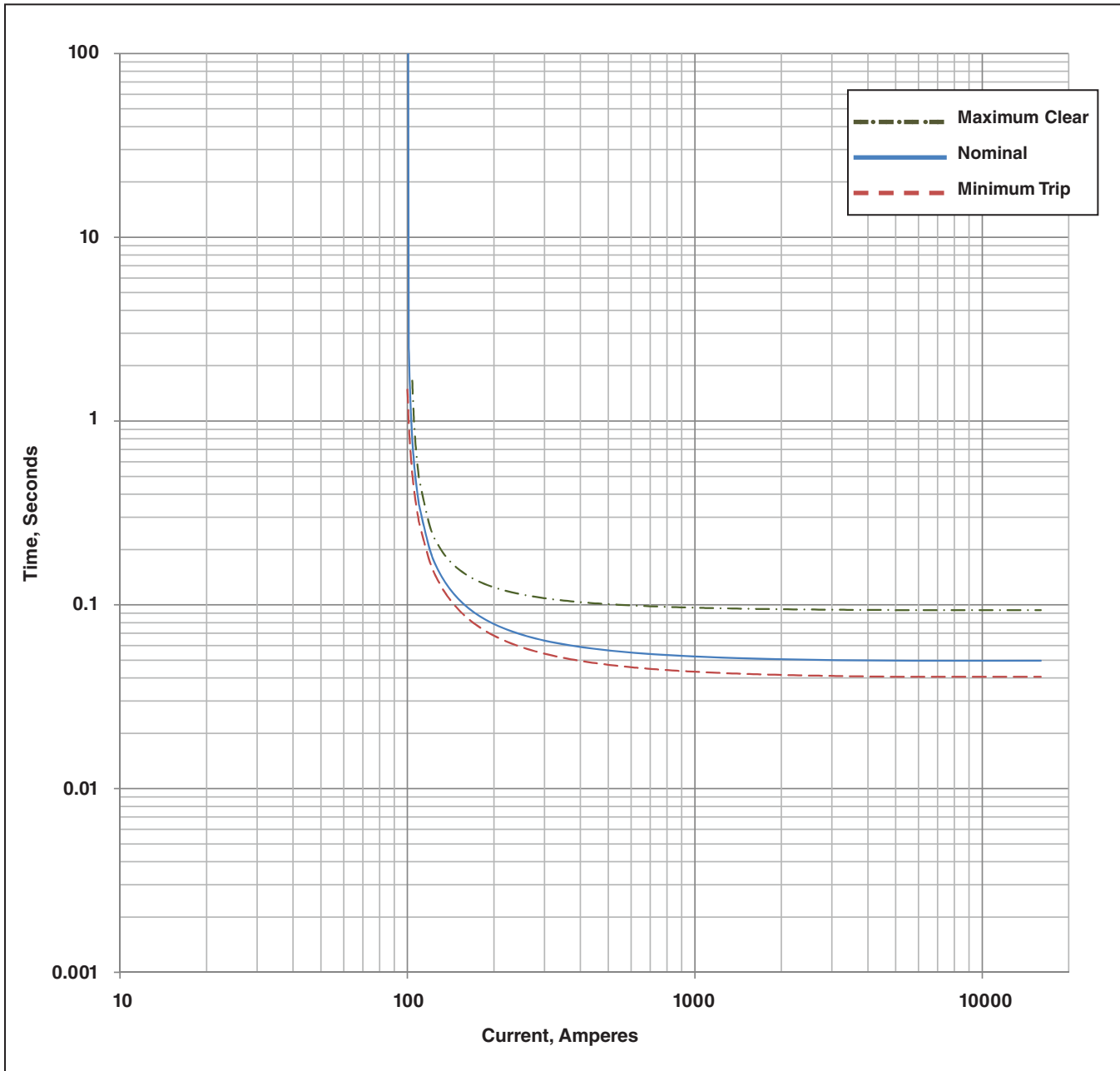


TCC Curve Parameter

Curve	Curve Parameter from S1 Short Inverse.xdat				
	A	B	p	C	K
S1 Short Inverse	0.2663	0.03393	1.2969	1	0.028

Base TCC Curves

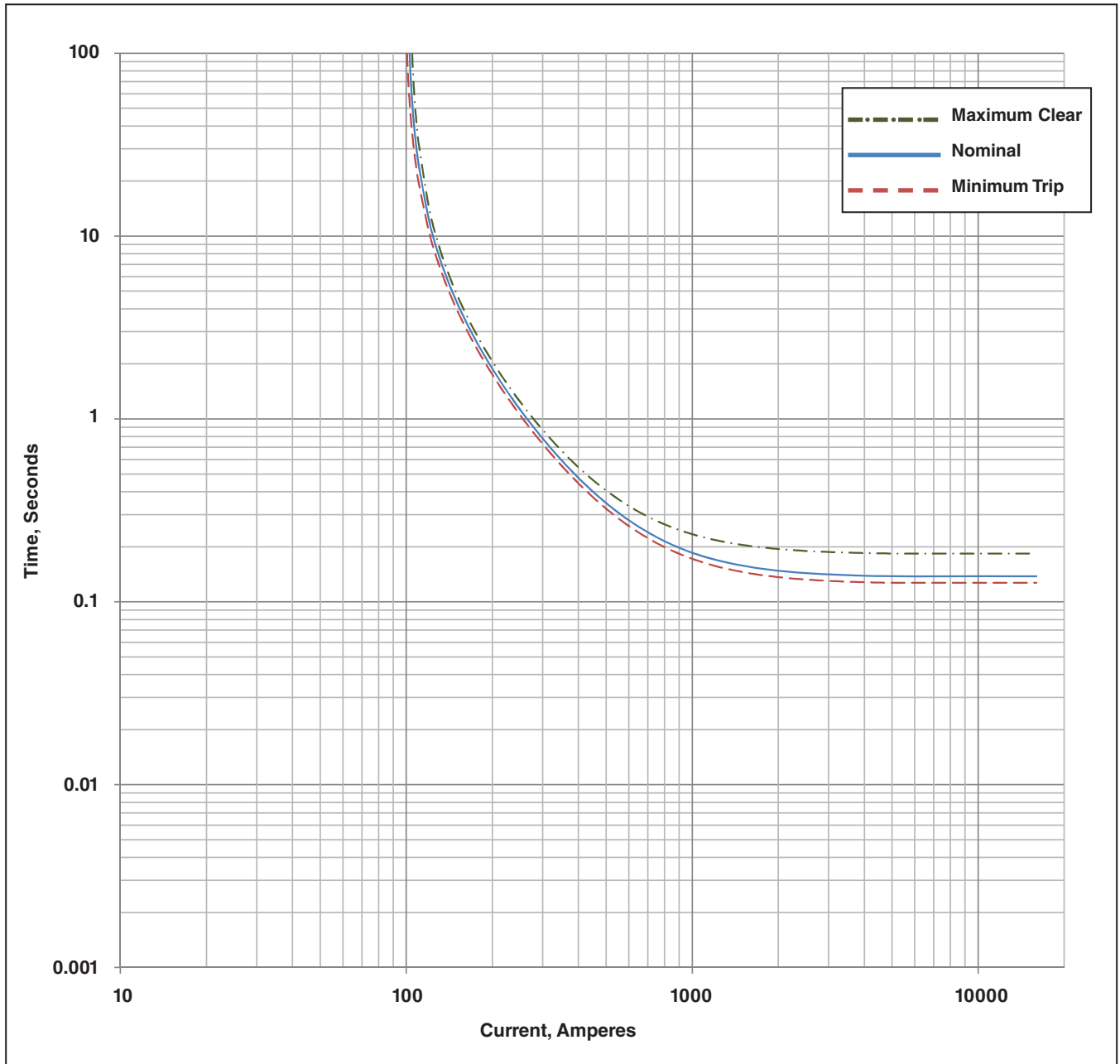
Basler S2—Short Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S2 Short Inverse.xdat				
	A	B	p	C	K
S2 Short Inverse	0.0286	0.0208	0.9844	1	0.028

Basler V1—Very Inverse TCC Curve

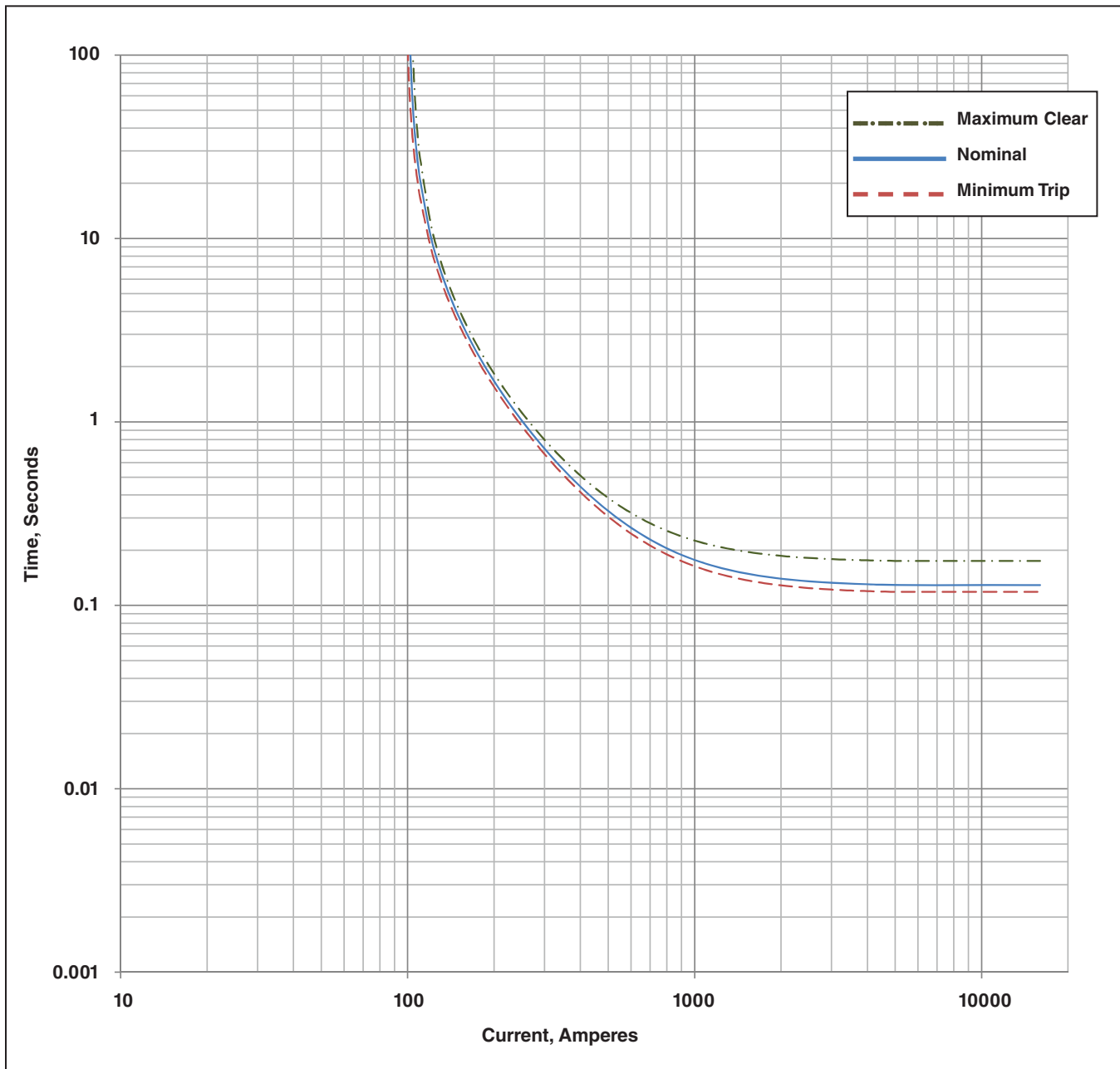


TCC Curve Parameter

Curve	Curve Parameter from V1 Very Inverse.xdat				
	A	B	p	C	K
V1 Very Inverse	5.4678	0.10814	2.0469	1	0.028

Base TCC Curves

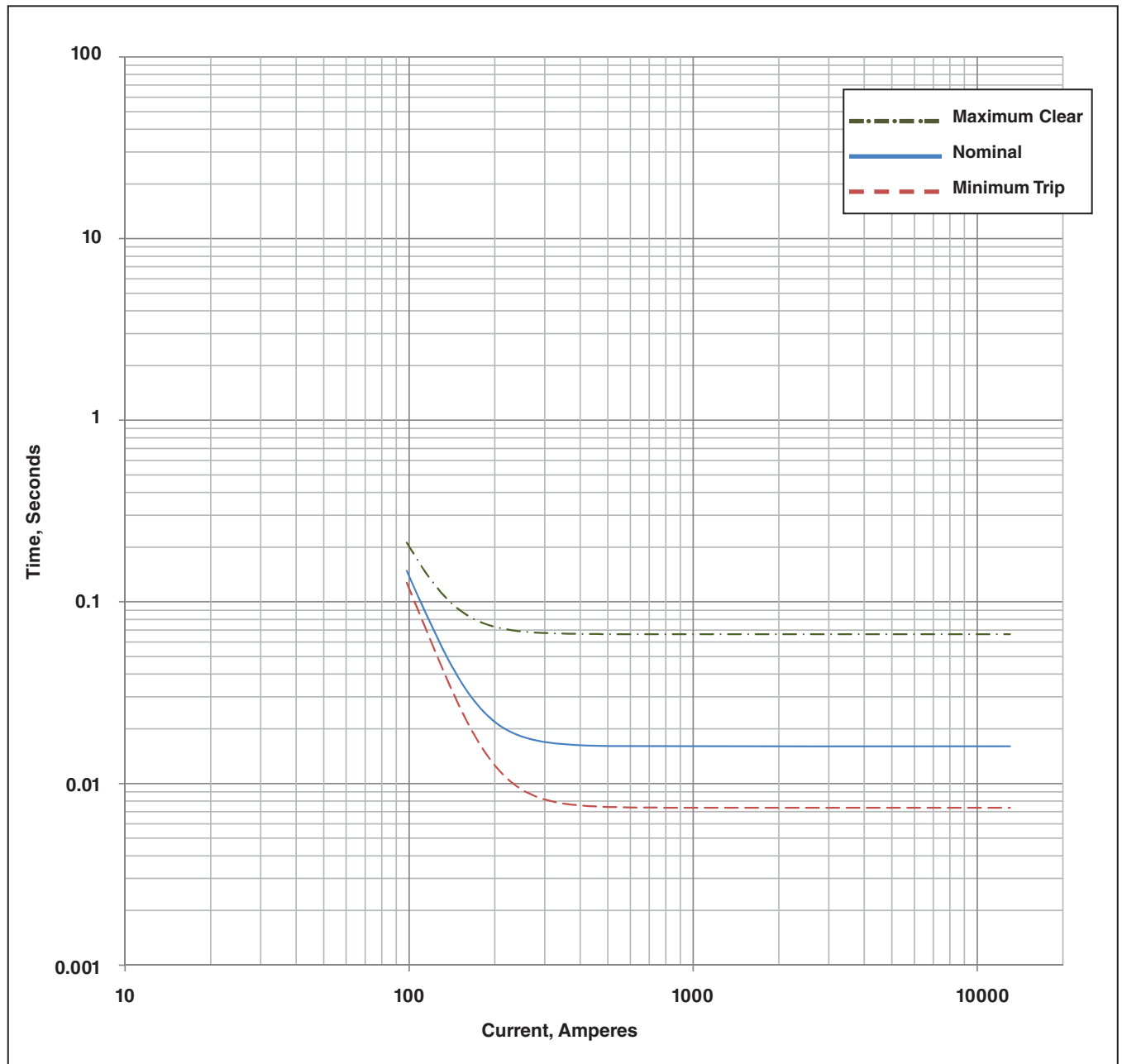
Basler V2—Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from V2 Very Inverse.xdat				
	A	B	p	C	K
V2 Very Inverse	4.4309	0.0991	1.9531	1	0.028

S&C Emulation of Cooper 101 TCC Curve

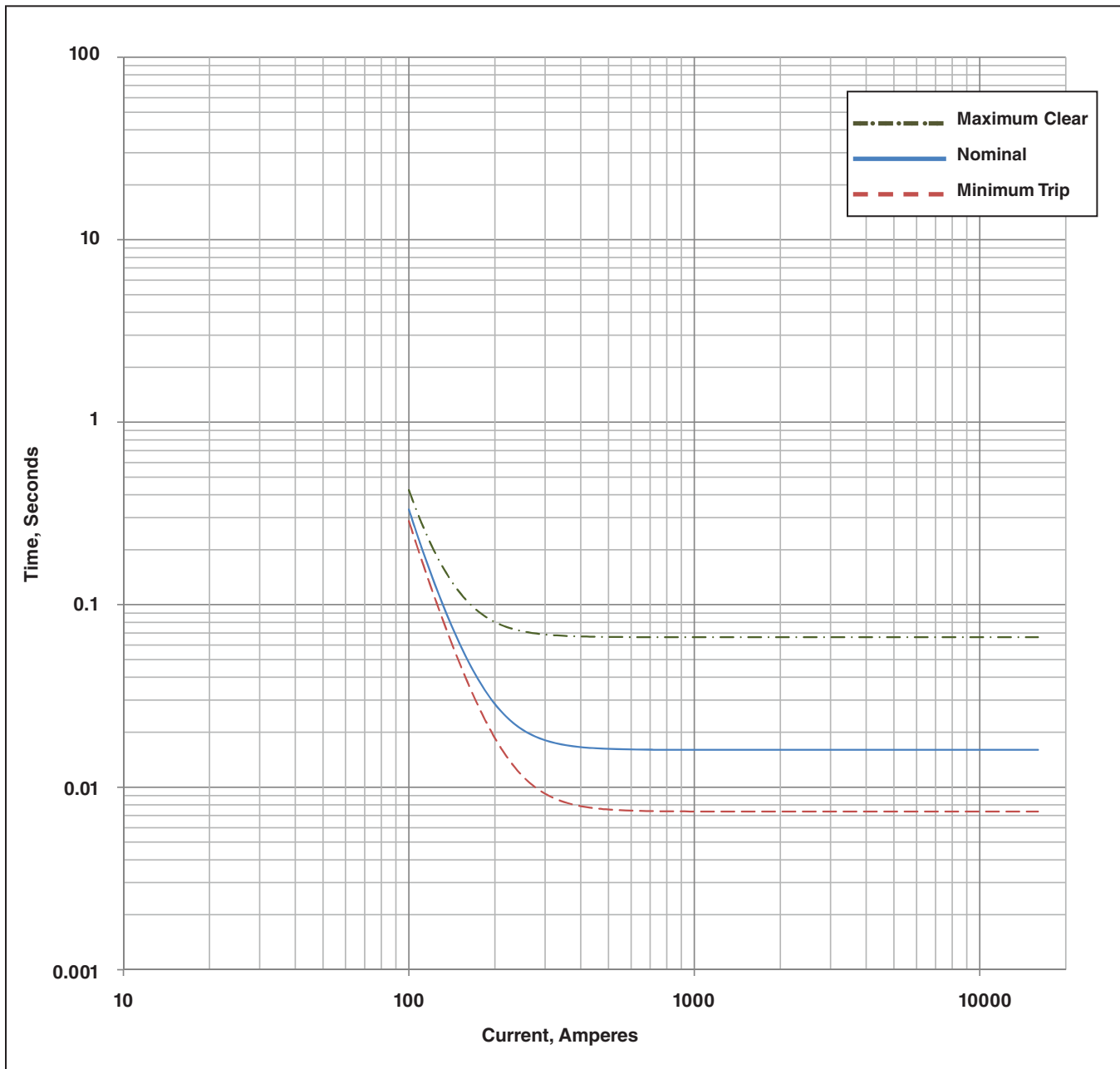


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 101.xdat					
	MIRT	A	B	p	C	K
101	0	0.144	0.016	4.609	-0.179	0

Base TCC Curves

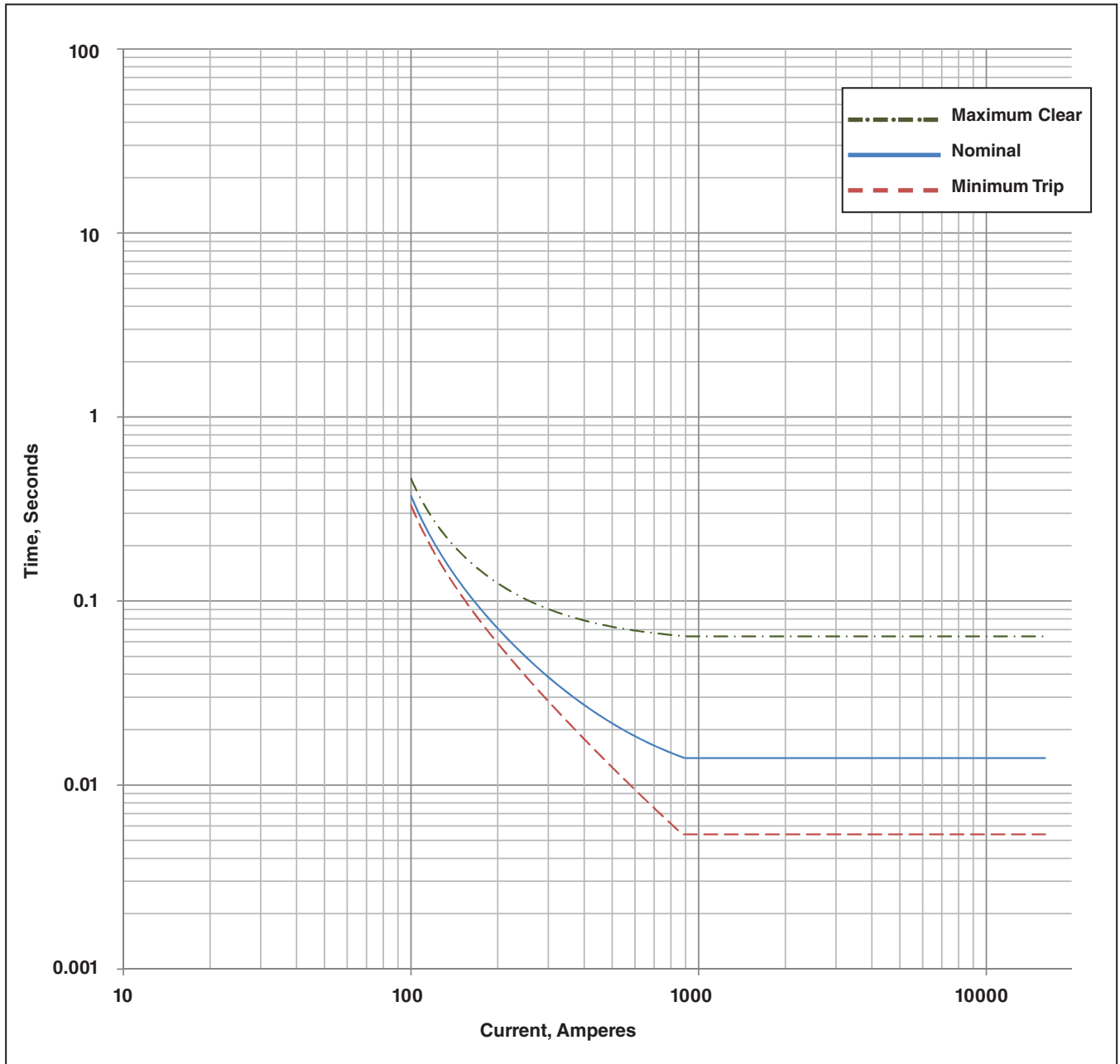
S&C Emulation of Cooper 102 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 102.xdat					
	MIRT	A	B	p	C	K
102	0	0.271	0.016	4.441	0.144	0

S&C Emulation of Cooper 103 TCC Curve

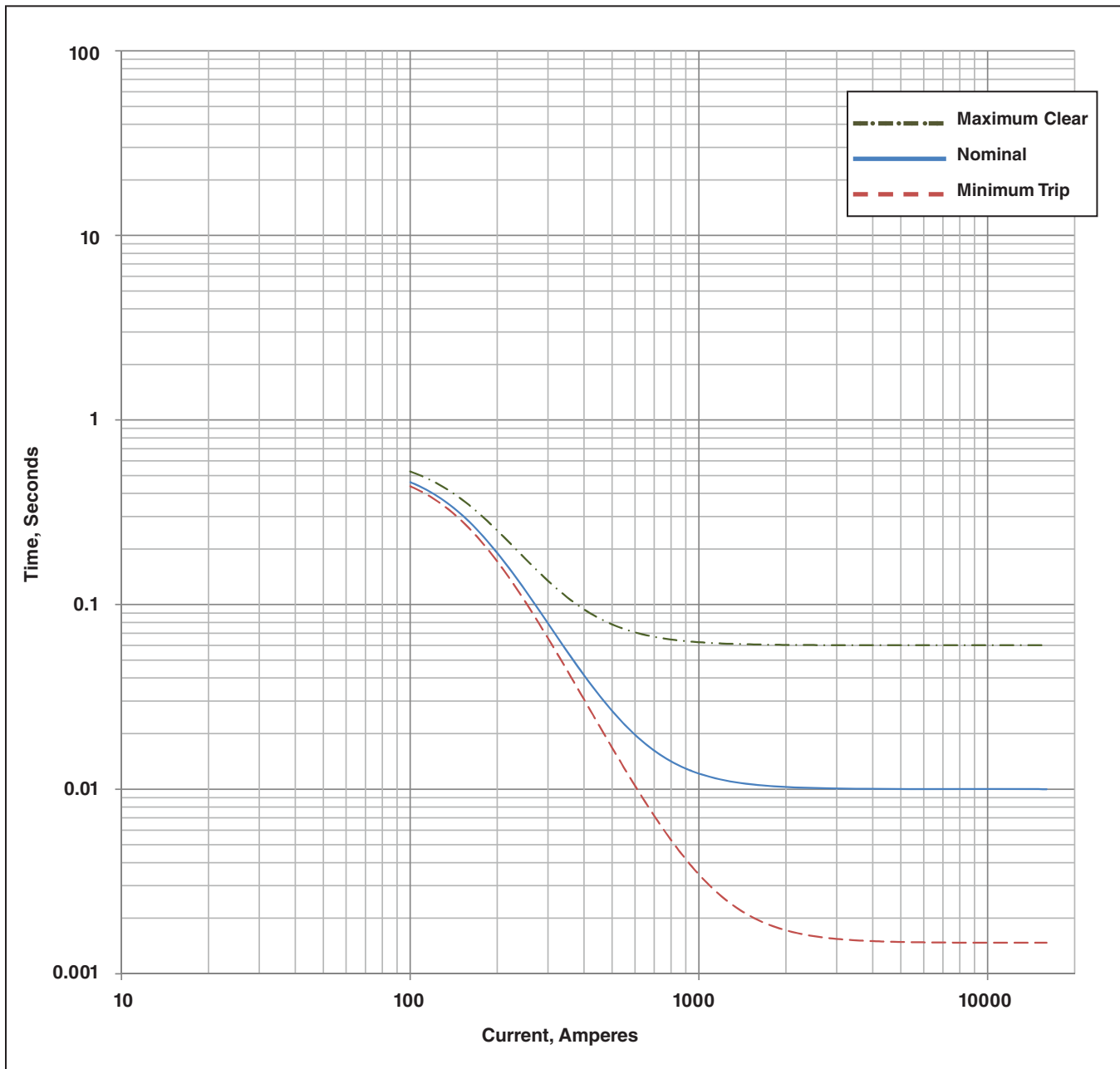


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 103.xdat					
	MIRT	A	B	p	C	K
103	0.014	0.142	0.009	1.536	0.61	0

Base TCC Curves

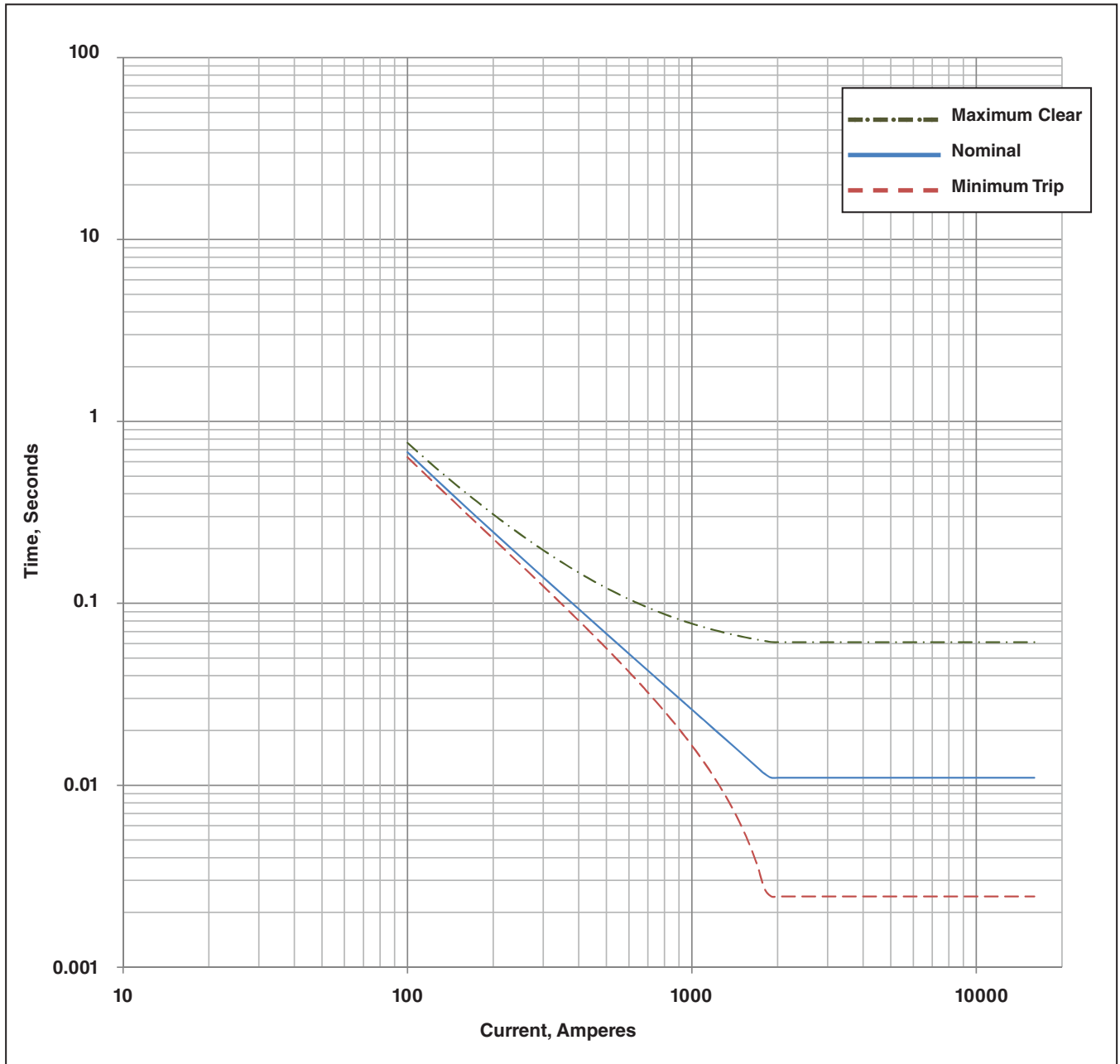
S&C Emulation of Cooper 104 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 104.xdat					
	MIRT	A	B	p	C	K
104	0	2.098	0.01	3.299	-3.658	0

S&C Emulation of Cooper 105 TCC Curve

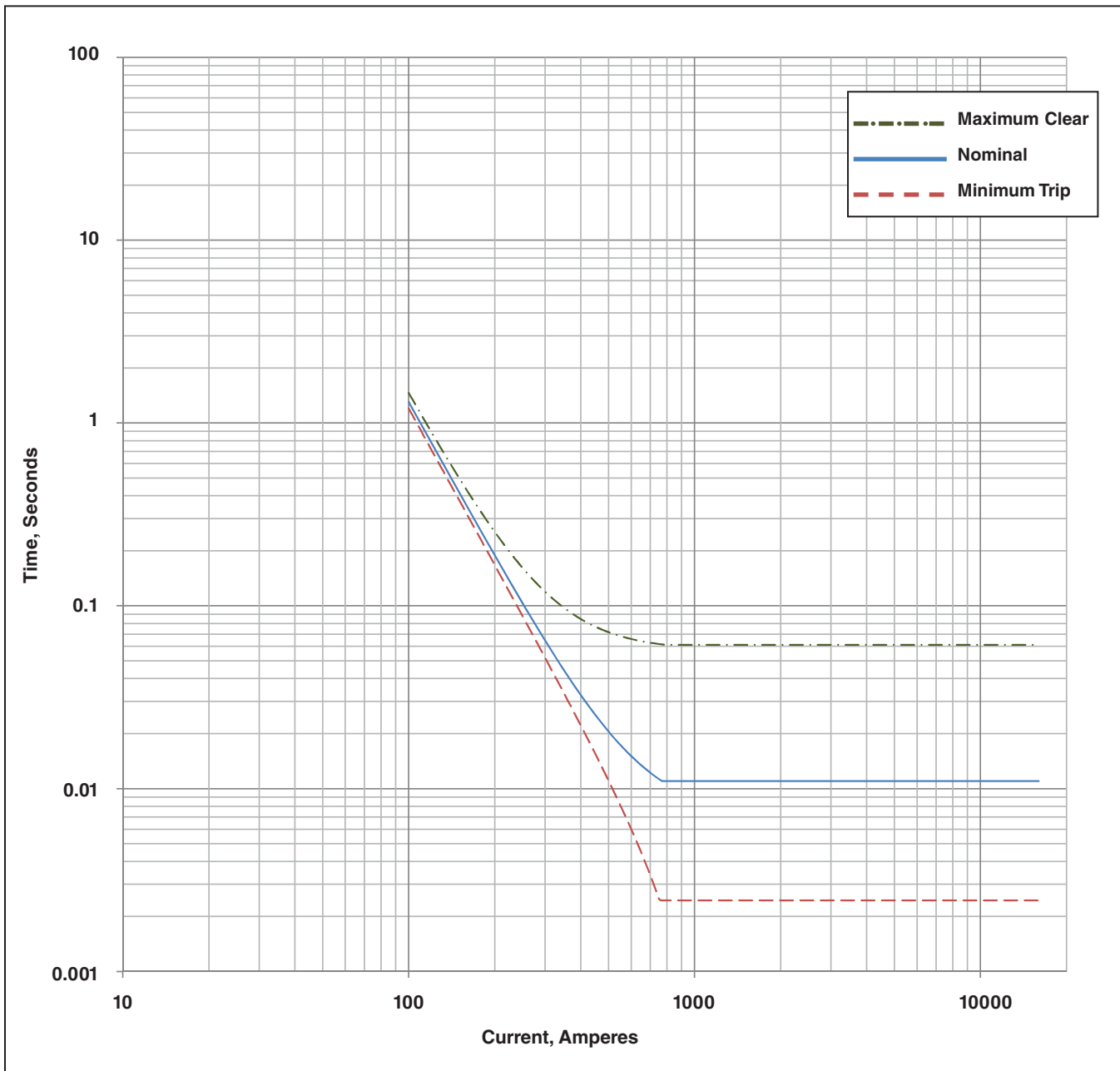


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 105.xdat					
	MIRT	A	B	p	C	K
105	0.011	0.62	0	1.378	0.084	0

Base TCC Curves

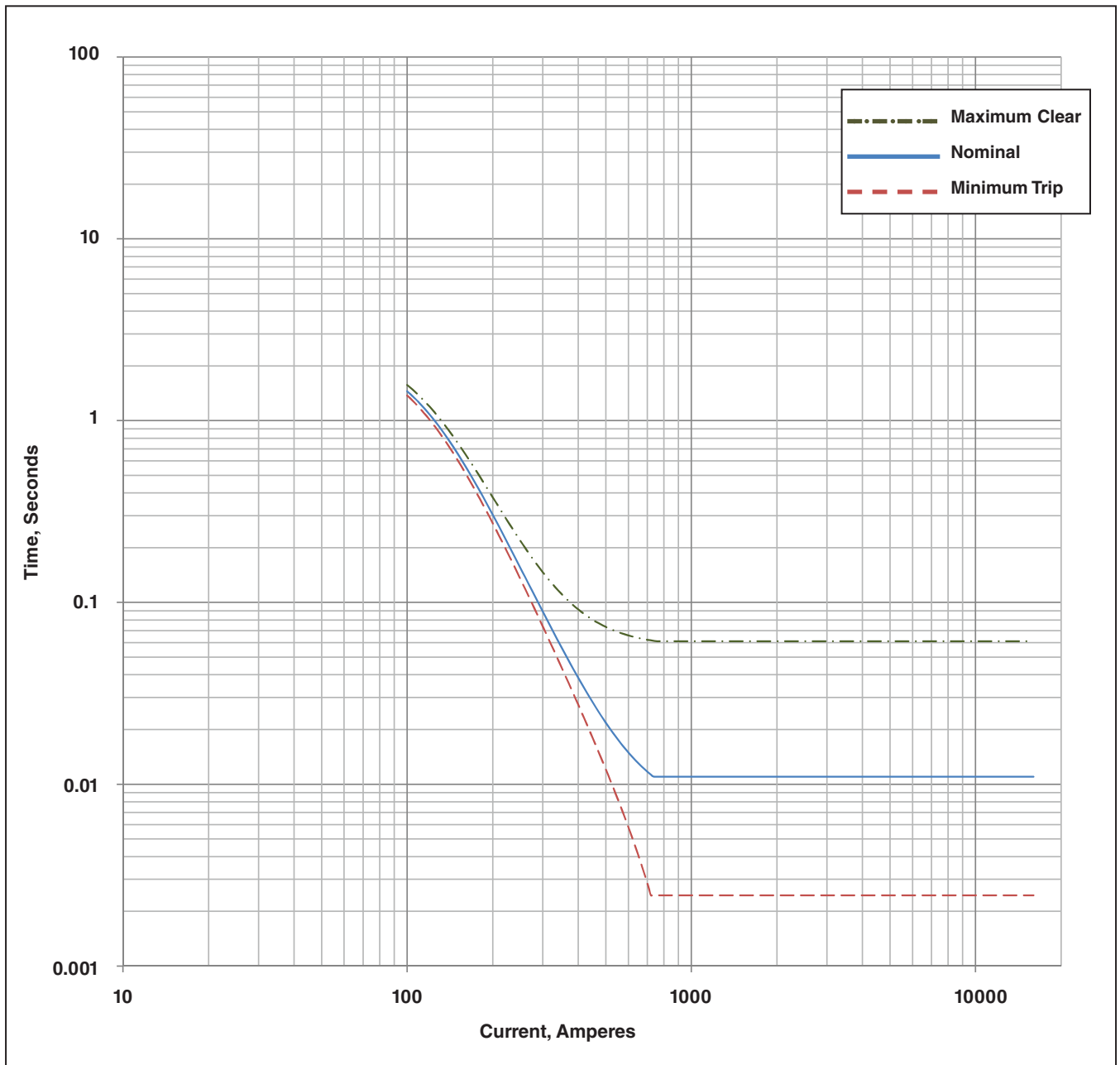
S&C Emulation of Cooper 106 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 106.xdat					
	MIRT	A	B	p	C	K
106	0.011	1.298	0.007	2.835	0	0

S&C Emulation of Cooper 107 TCC Curve

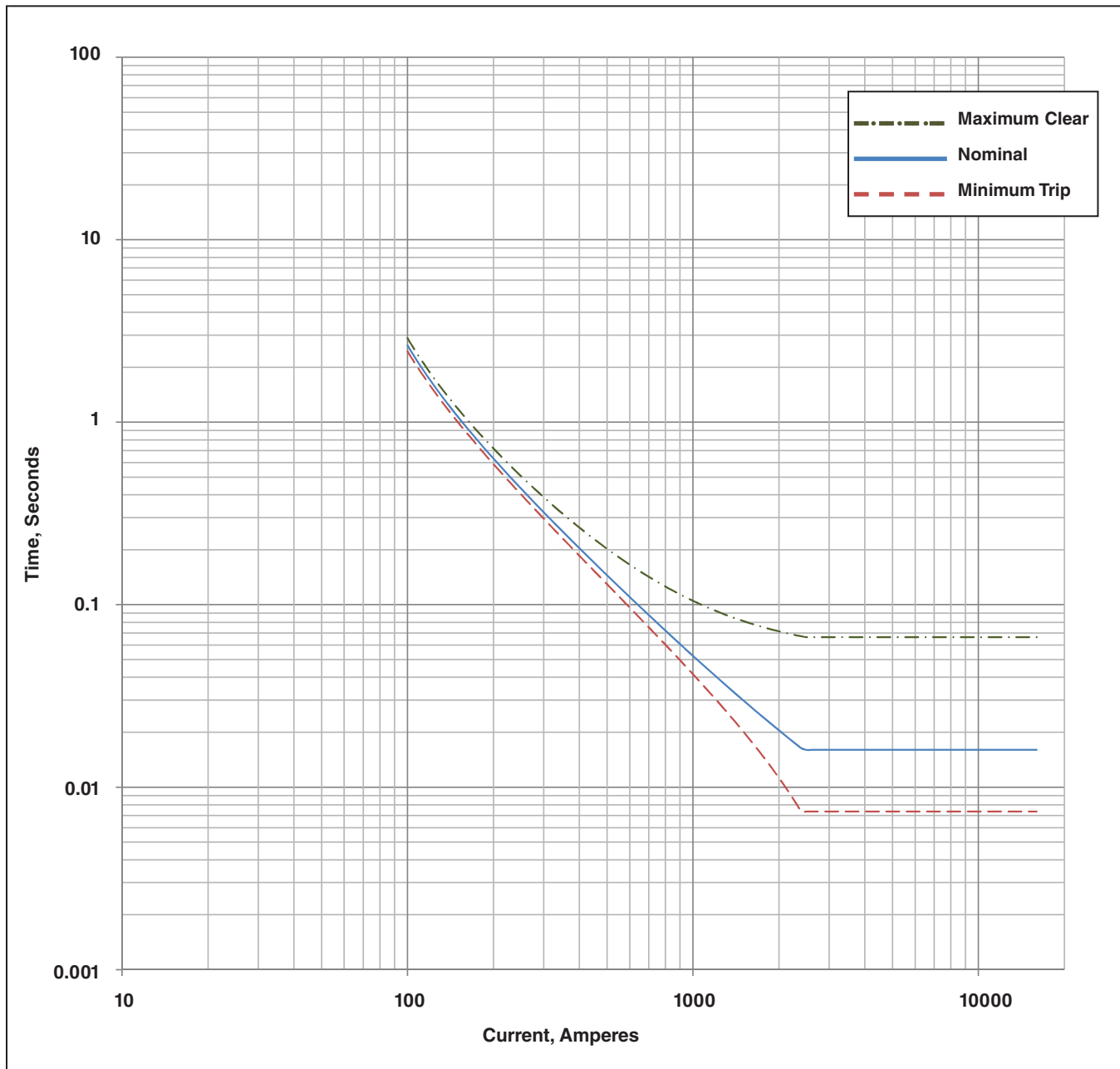


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 107.xdat					
	MIRT	A	B	p	C	K
107	0.011	3.602	0.007	3.411	-1.496	0

Base TCC Curves

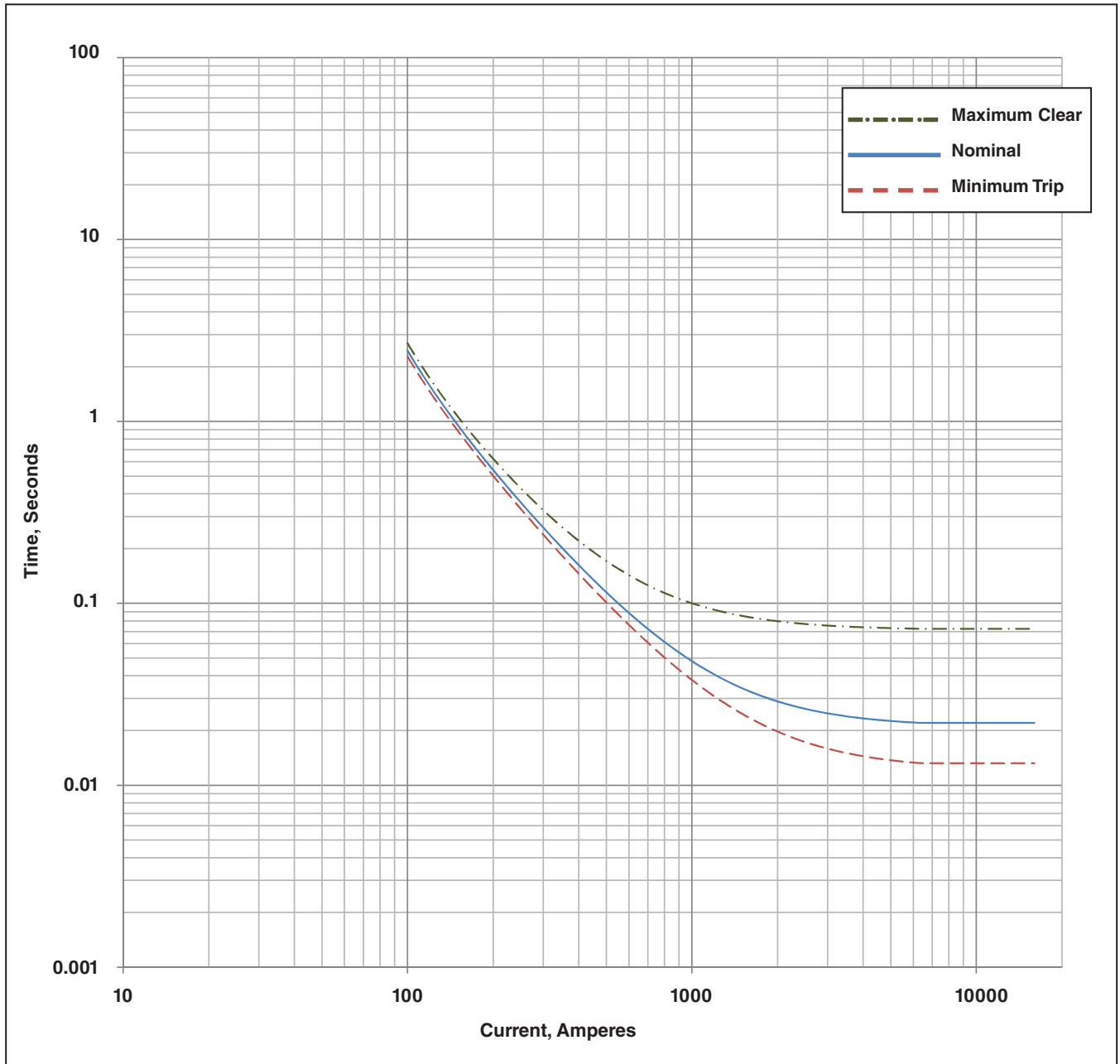
S&C Emulation of Cooper 111 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 111.xdat					
	MIRT	A	B	p	C	K
111	0.016	1.484	0.003	1.484	0.436	0

S&C Emulation of Cooper 112 TCC Curve

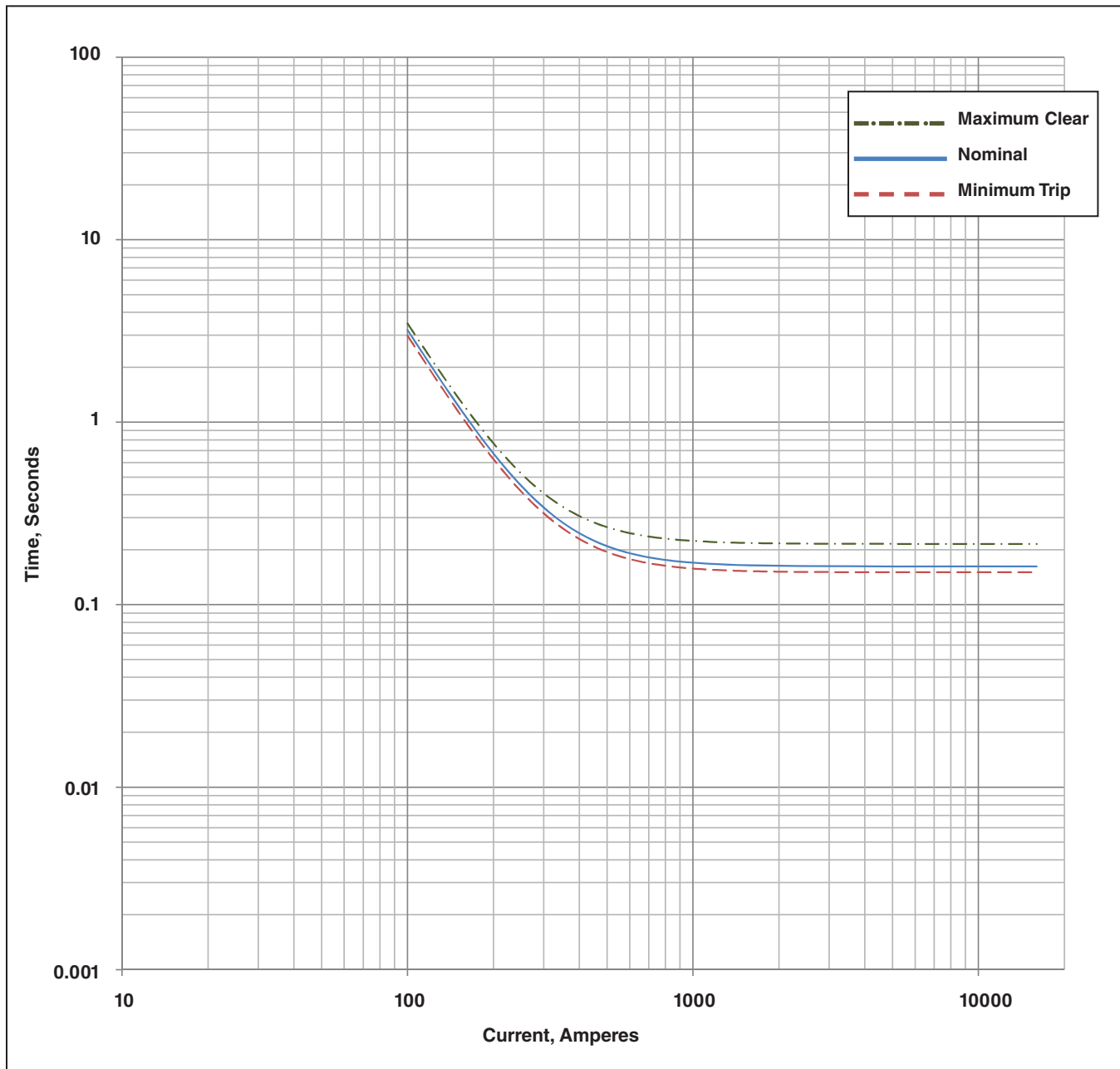


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 112.xdat					
	MIRT	A	B	p	C	K
112	0.022	1.598	0.021	1.773	0.343	0

Base TCC Curves

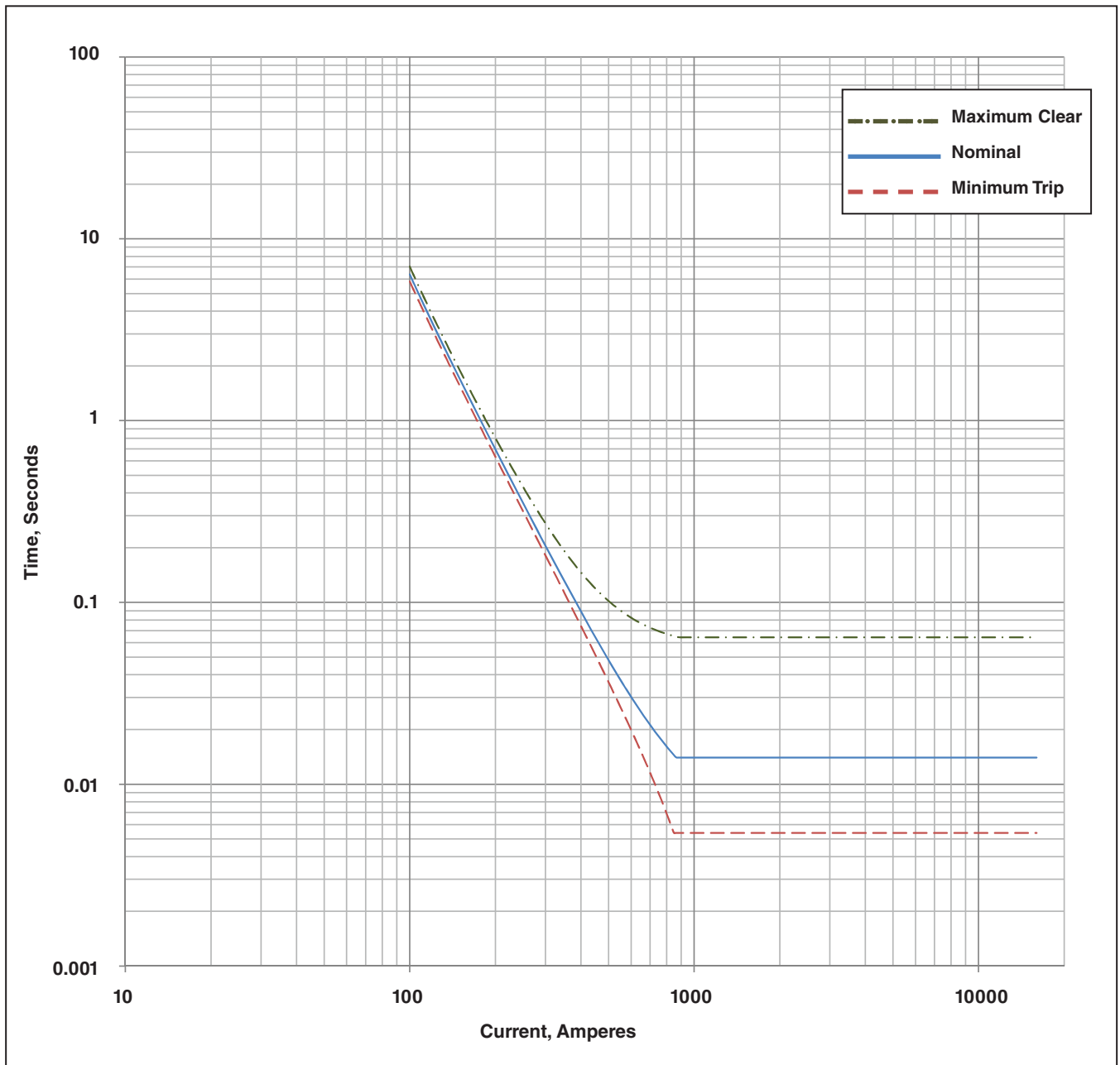
S&C Emulation of Cooper 113 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 113.xdat					
	MIRT	A	B	p	C	K
113	0	3.132	0.162	2.606	-0.032	0

S&C Emulation of Cooper 115 TCC Curve

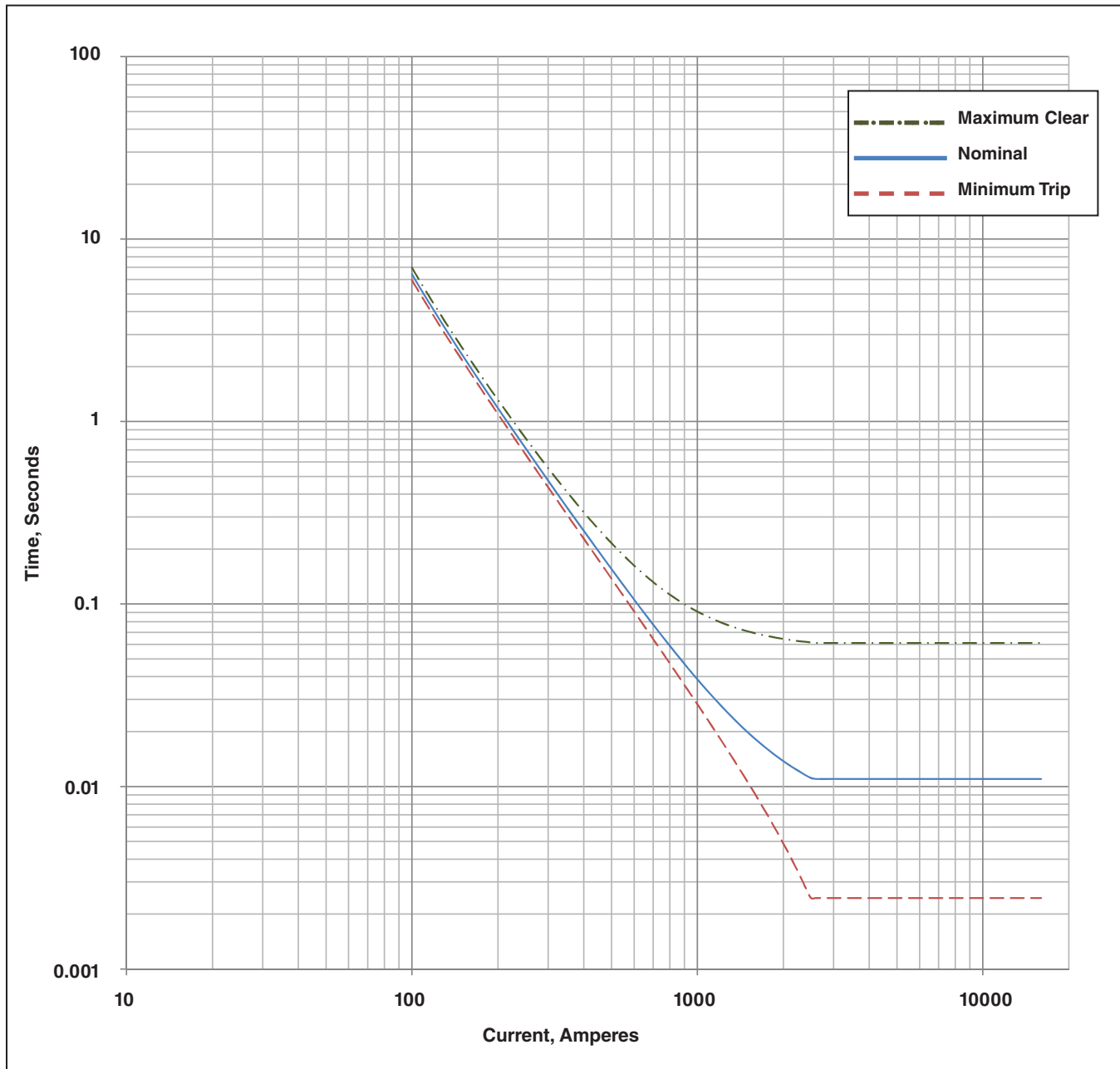


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 115.xdat					
	MIRT	A	B	p	C	K
115	0.014	5.544	0.006	3.032	0.13	0

Base TCC Curves

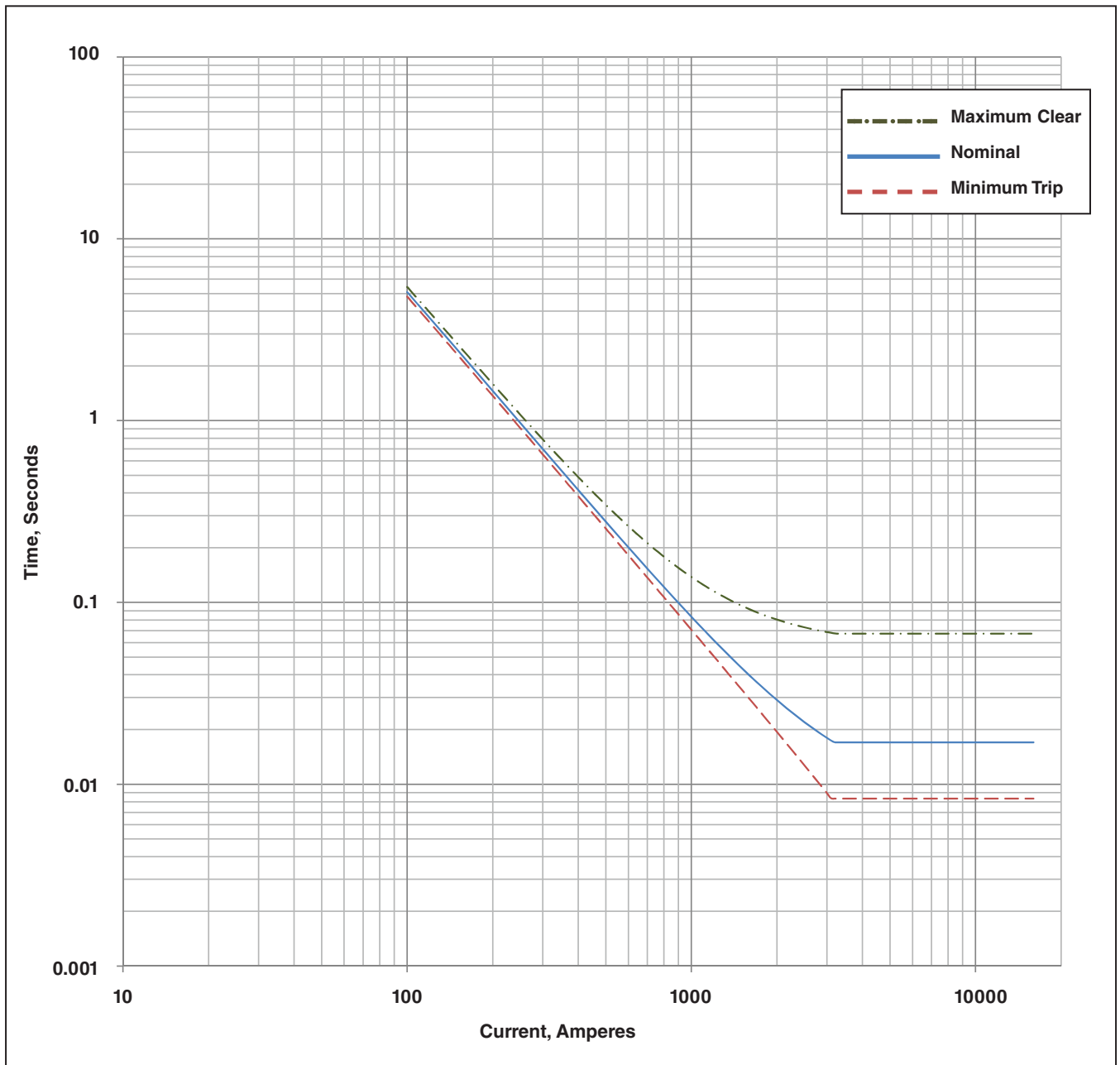
S&C Emulation of Cooper 116 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 116.xdat					
	MIRT	A	B	p	C	K
116	0.011	5.295	0.007	2.224	0.174	0

S&C Emulation of Cooper 117 TCC Curve

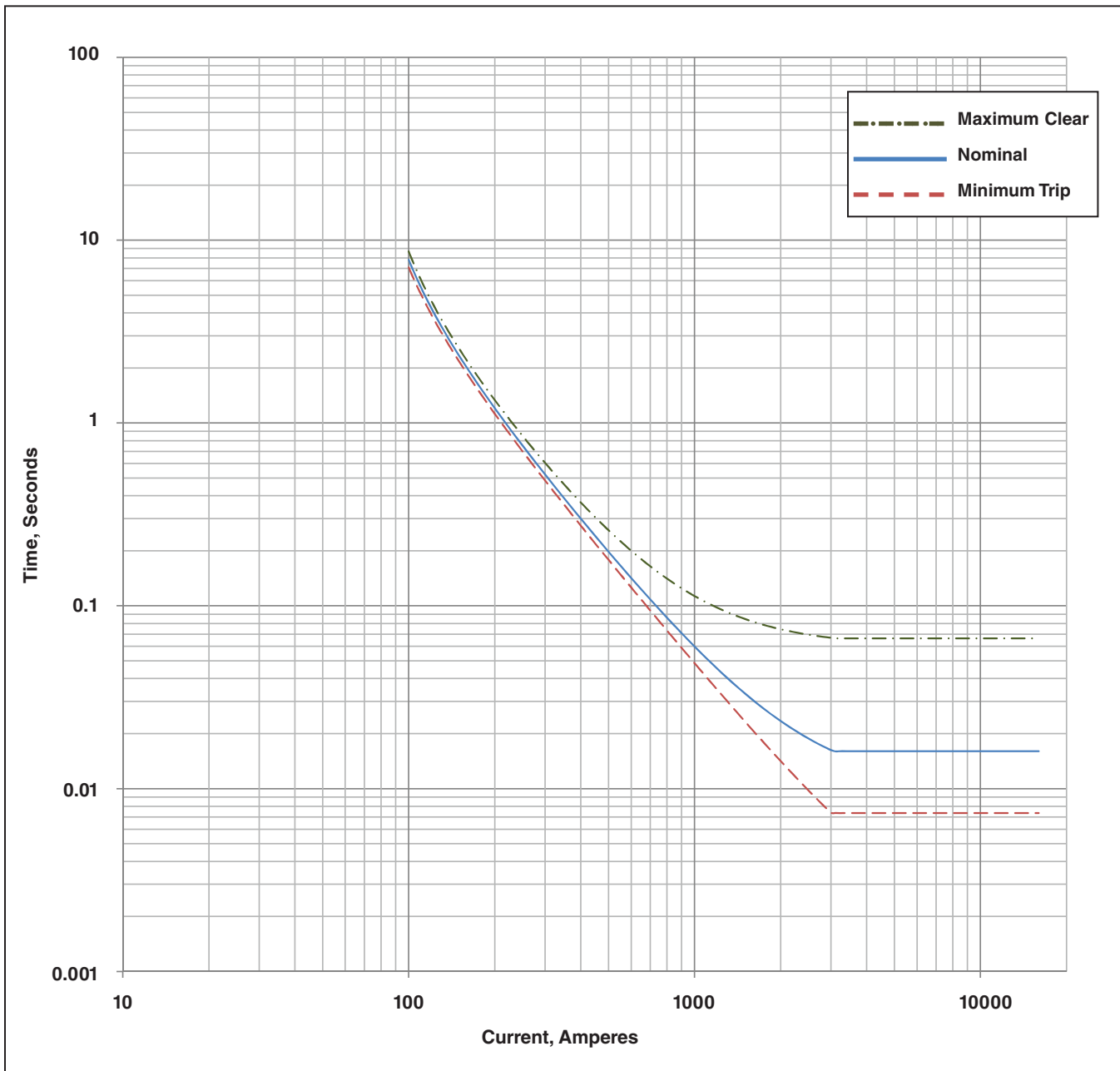


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 117.xdat					
	MIRT	A	B	p	C	K
117	0.017	5.243	0.008	1.842	-0.031	0

Base TCC Curves

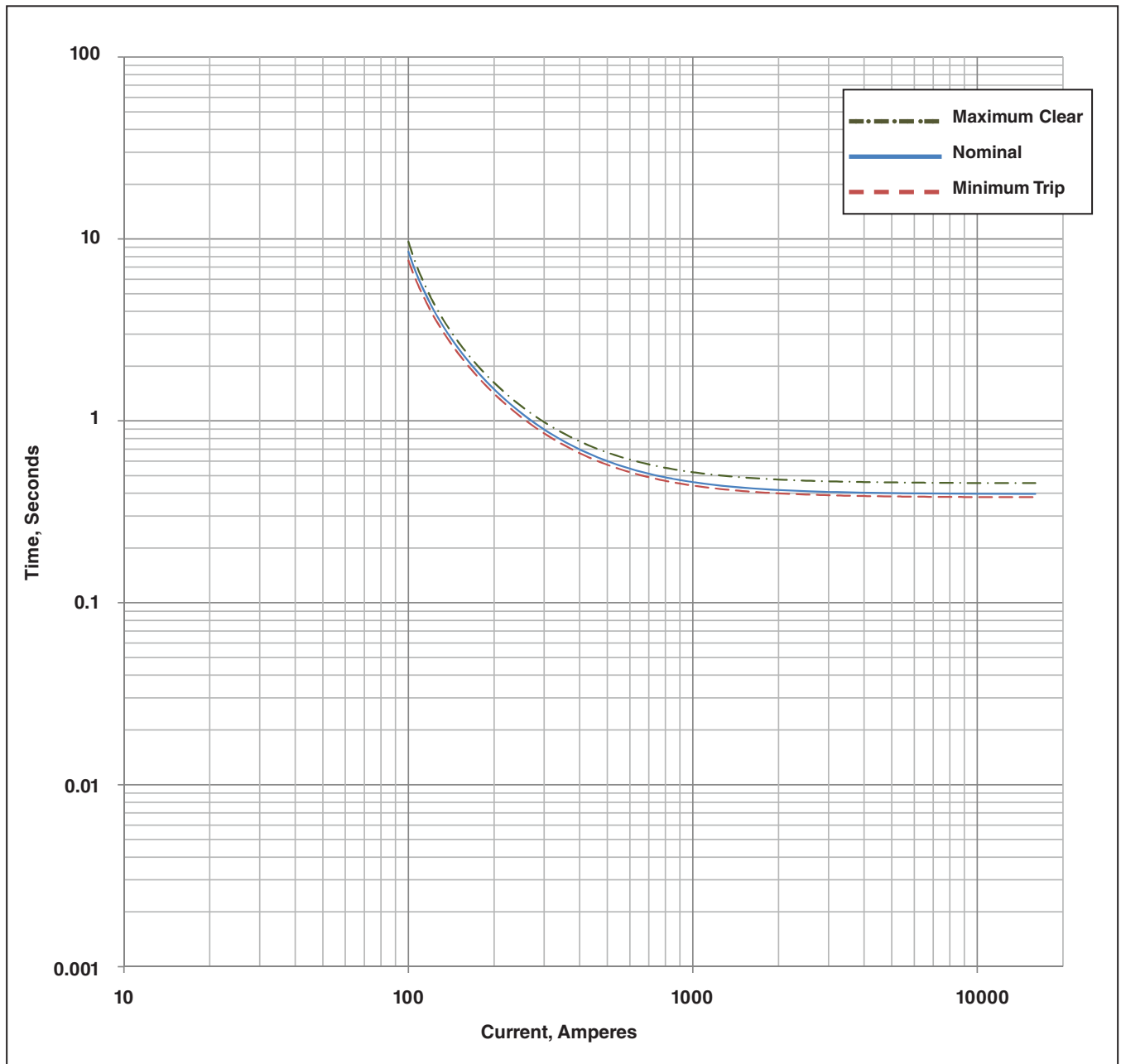
S&C Emulation of Cooper 118 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 118.xdat					
	MIRT	A	B	p	C	K
118	0.016	3.802	0.01	1.885	0.513	0

S&C Emulation of Cooper 119 TCC Curve

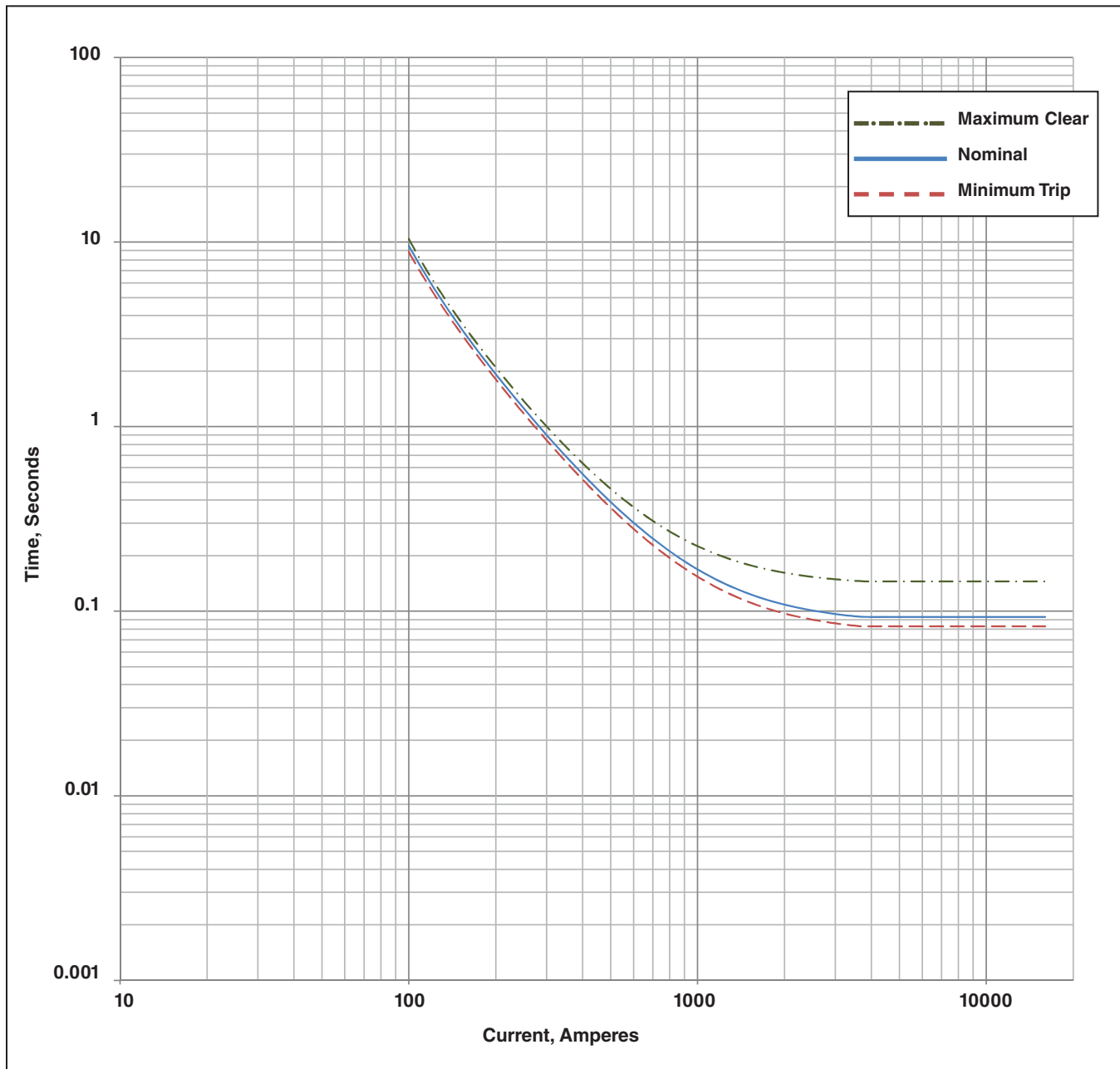


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 119.xdat					
	MIRT	A	B	p	C	K
119	0	2.616	0.396	1.615	0.678	0

Base TCC Curves

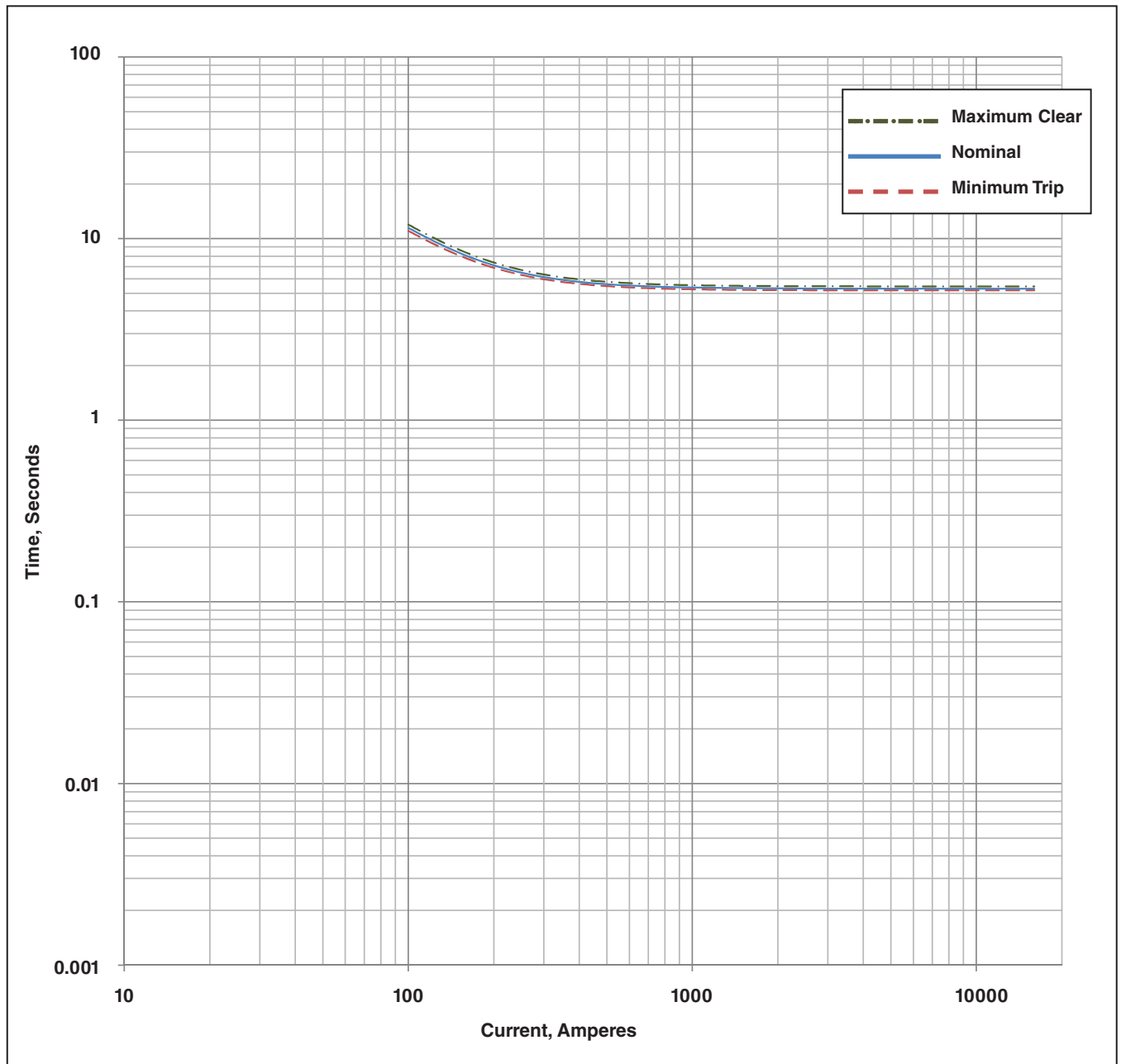
S&C Emulation of Cooper 120 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 120.xdat					
	MIRT	A	B	p	C	K
120	0.093	6.04	0.086	1.867	0.362	0

S&C Emulation of Cooper 131 TCC Curve

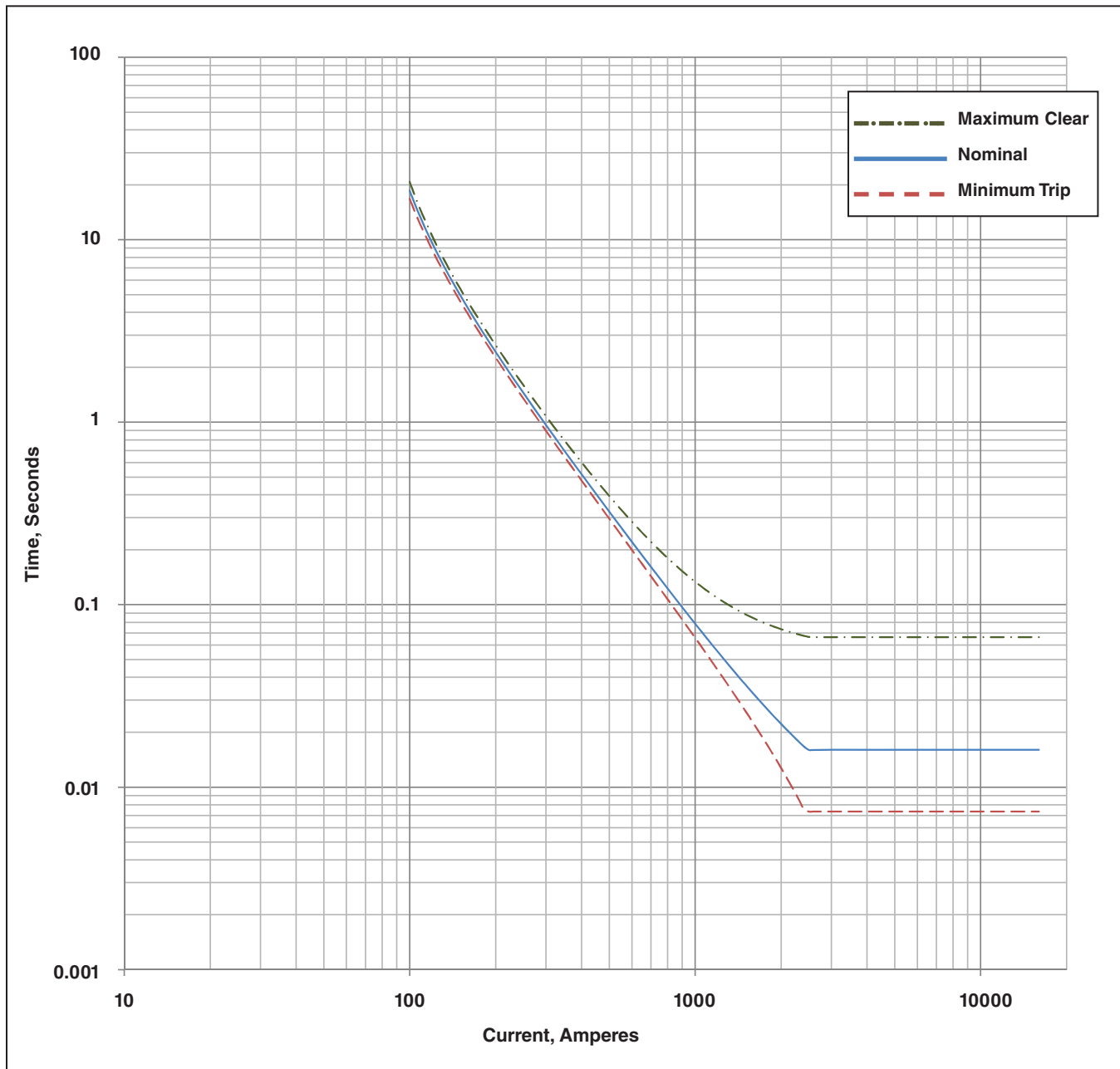


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 131.xdat					
	MIRT	A	B	p	C	K
131	0	7.767	5.299	2.002	-0.26	0

Base TCC Curves

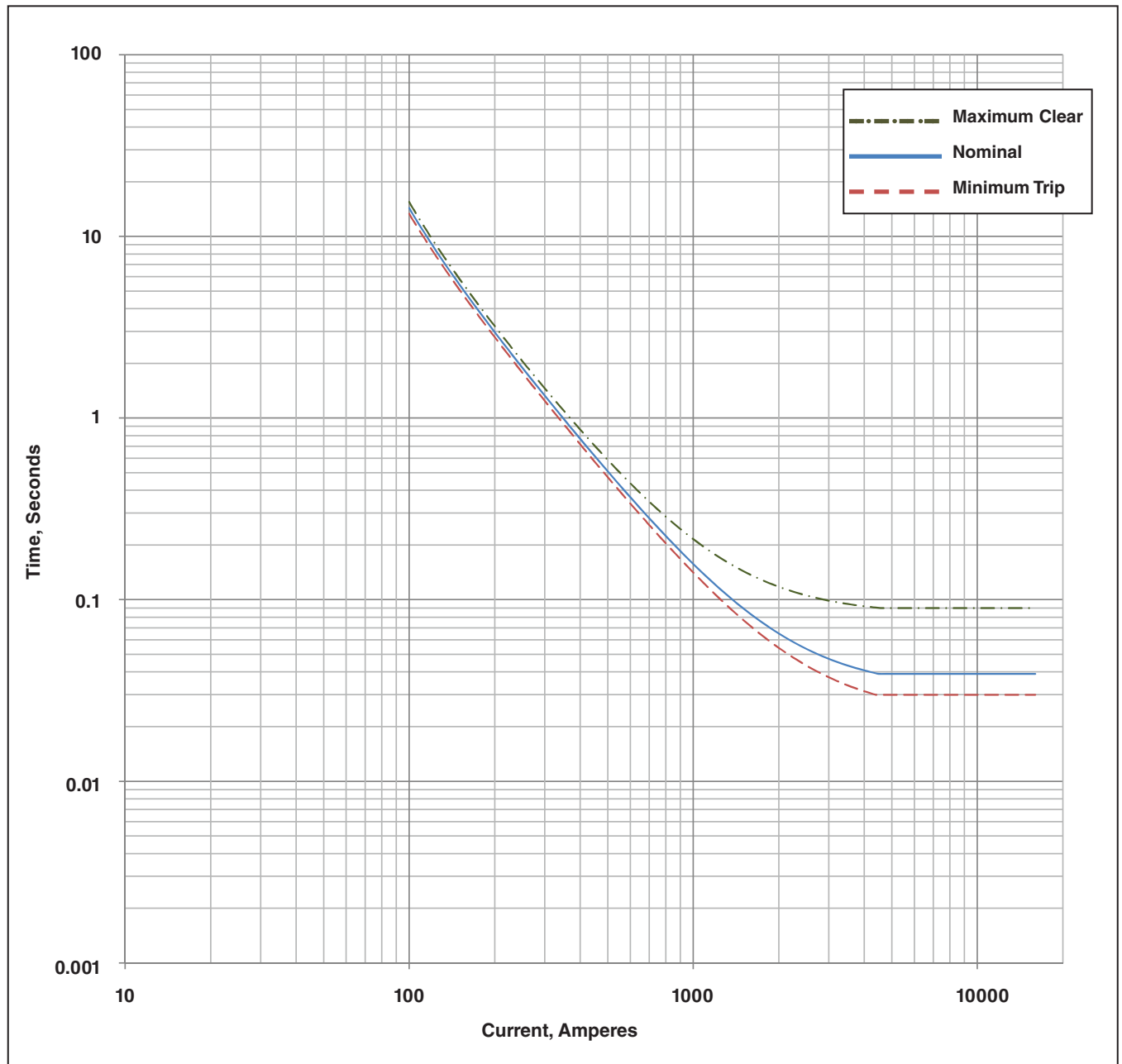
S&C Emulation of Cooper 132 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 132.xdat					
	MIRT	A	B	p	C	K
132	0.016	9.081	0.005	2.093	0.511	0

S&C Emulation of Cooper 133 TCC Curve

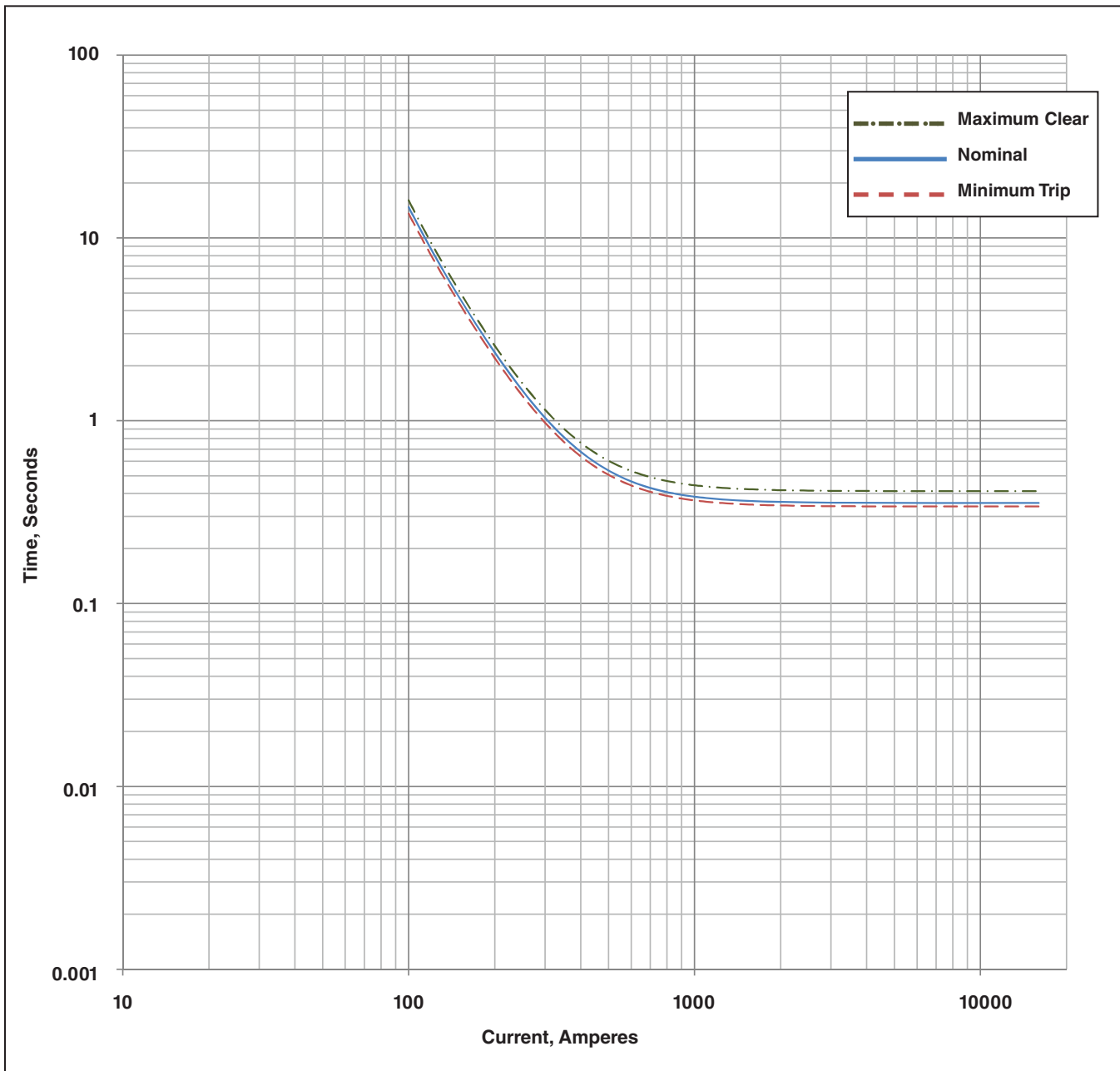


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 133.xdat					
	MIRT	A	B	p	C	K
133	0.039	10.251	0.032	1.915	0.282	0

Base TCC Curves

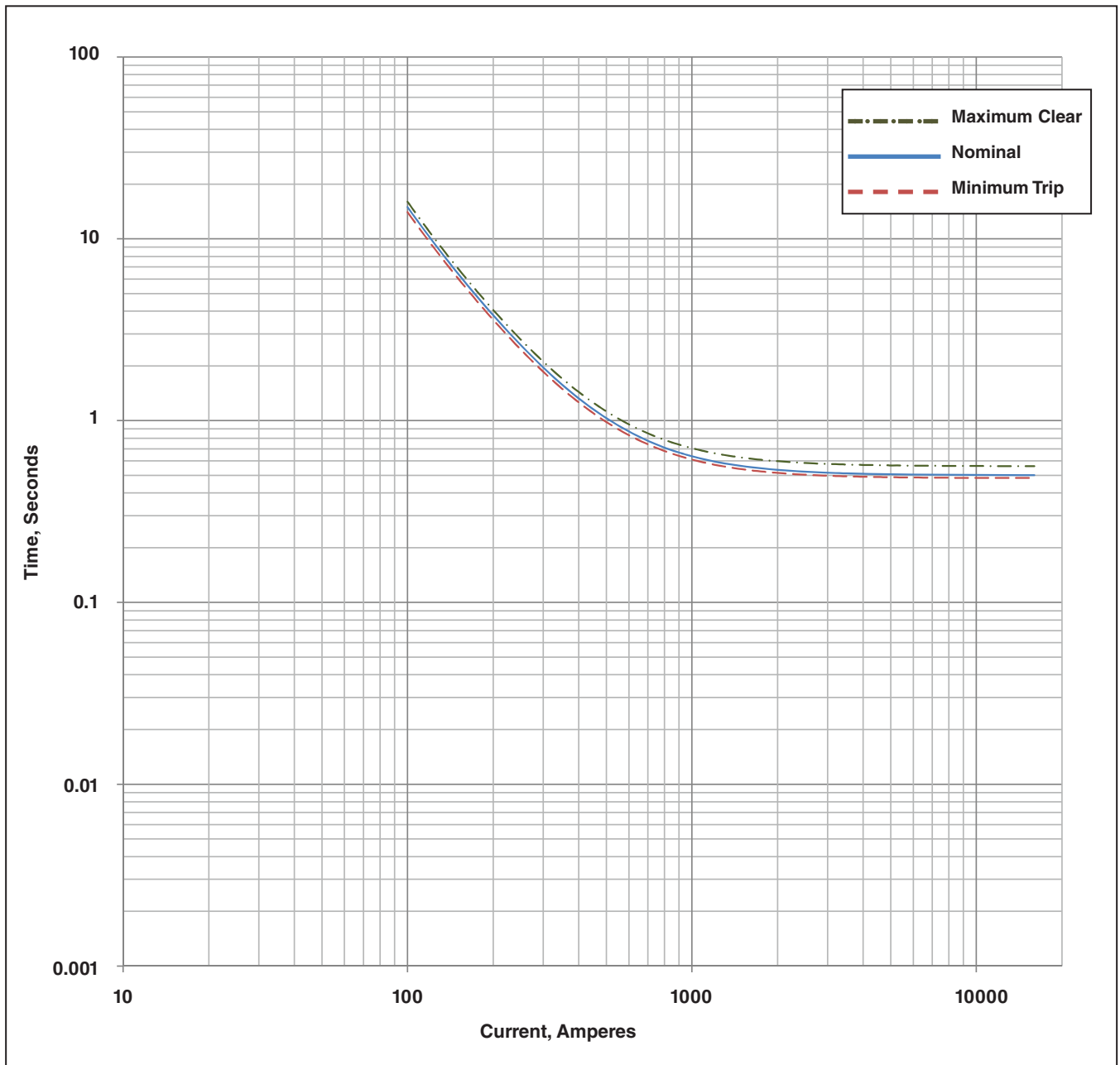
S&C Emulation of Cooper 134 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 134.xdat					
	MIRT	A	B	p	C	K
134	0.041	11.906	0.355	2.61	0.172	0

S&C Emulation of Cooper 135 TCC Curve

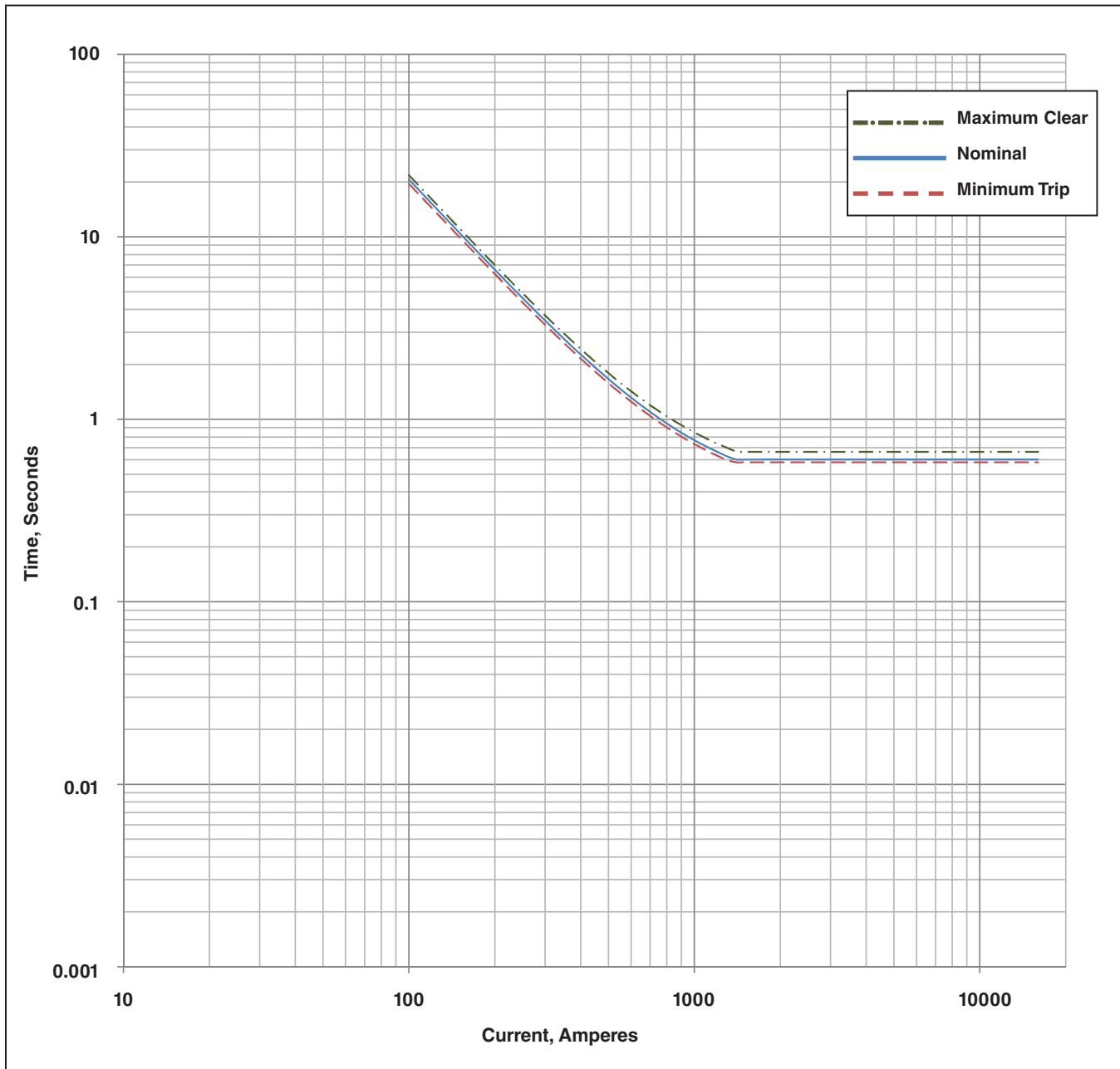


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 135.xdat					
	MIRT	A	B	p	C	K
135	0	12.355	0.501	1.96	0.145	0

Base TCC Curves

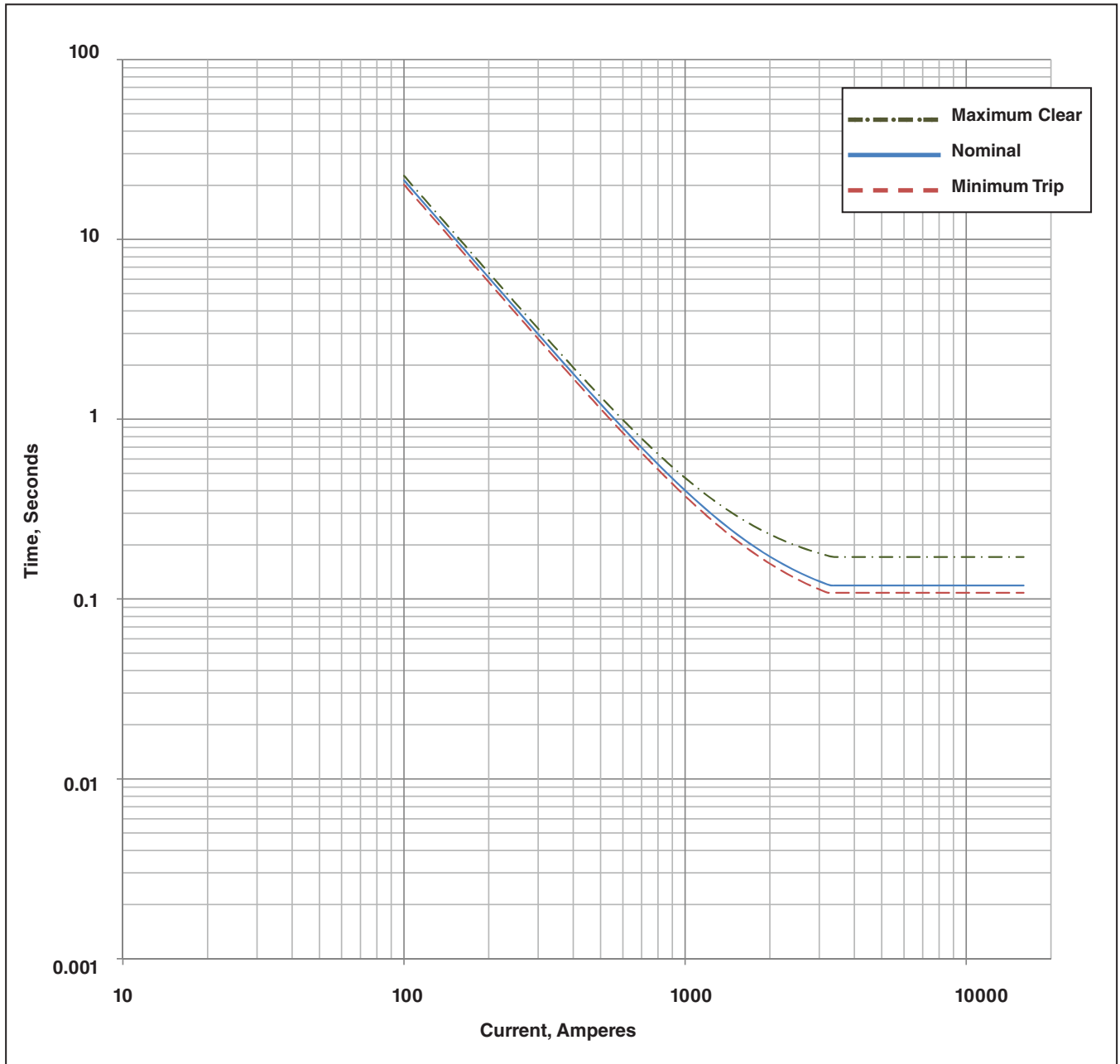
S&C Emulation of Cooper 137 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 137.xdat					
	MIRT	A	B	p	C	K
137	0.602	20.882	0.383	1.734	-0.033	0

S&C Emulation of Cooper 138 TCC Curve

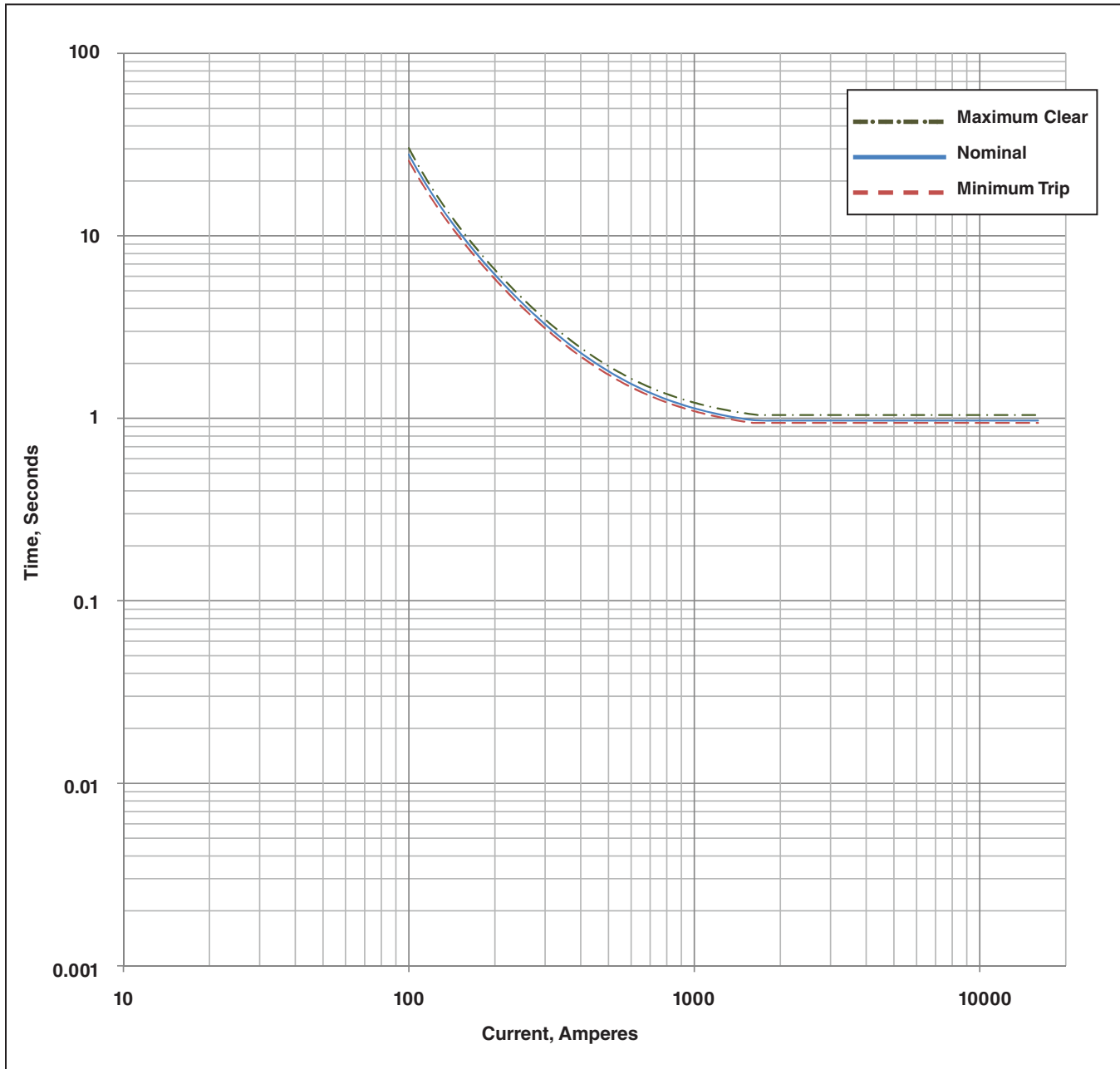


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 138.xdat					
	MIRT	A	B	p	C	K
138	0.119	21.717	0.083	1.834	-0.023	0

Base TCC Curves

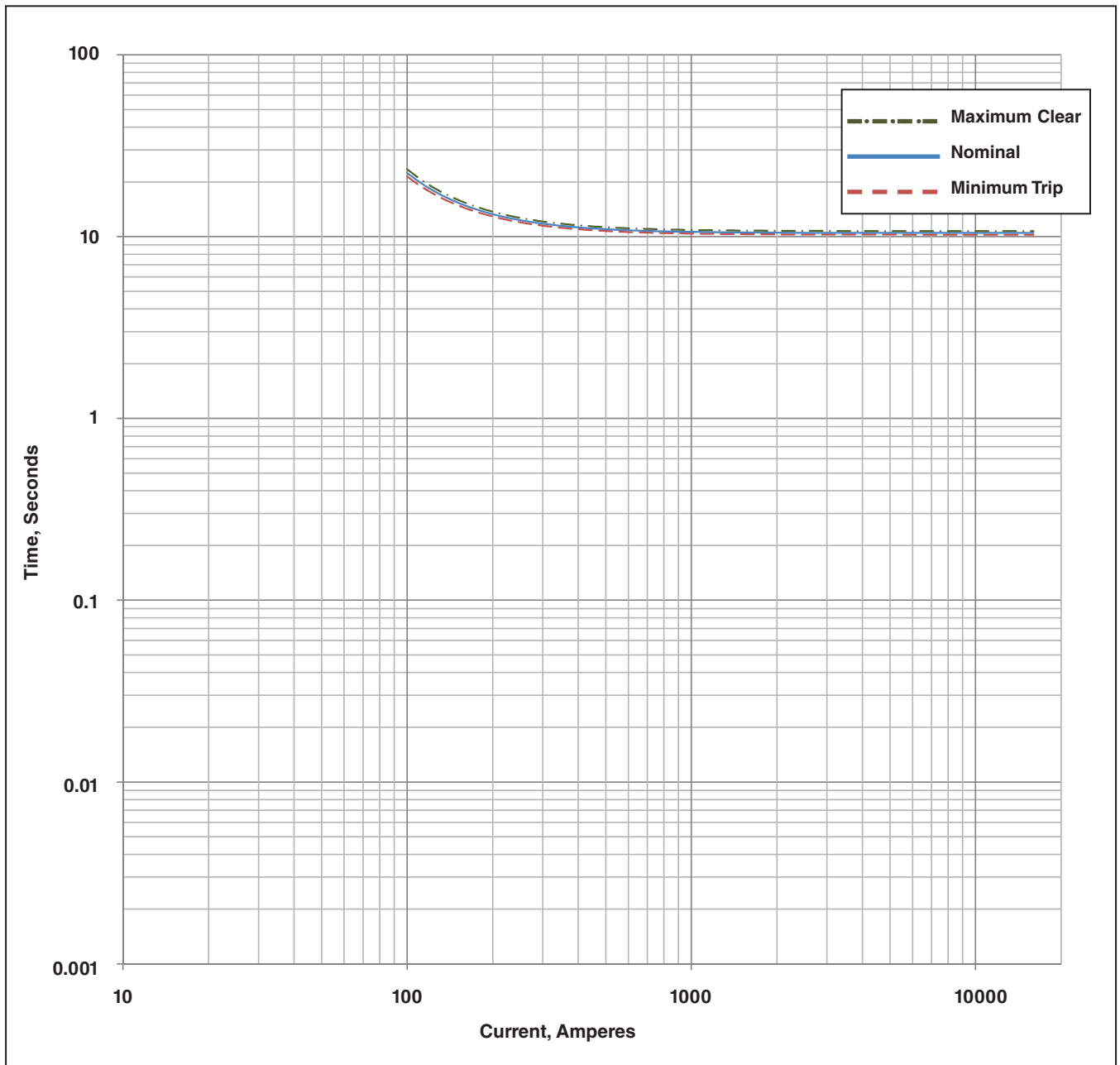
S&C Emulation of Cooper 140 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 140.xdat					
	MIRT	A	B	p	C	K
140	0.972	15.341	0.853	1.74	0.432	0

S&C Emulation of Cooper 141 TCC Curve

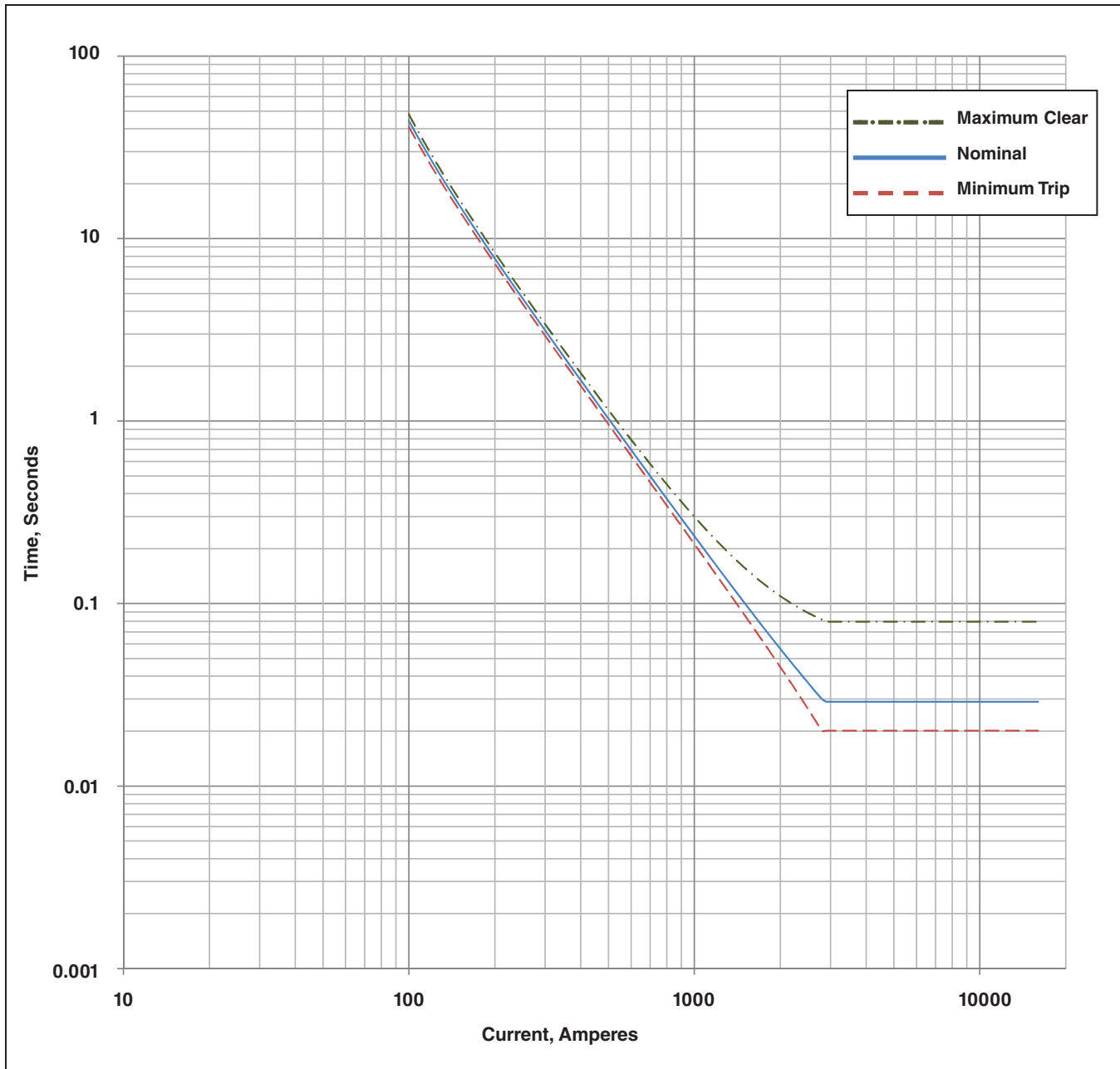


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 141.xdat					
	MIRT	A	B	p	C	K
141	0	9.059	10.466	1.792	0.241	0

Base TCC Curves

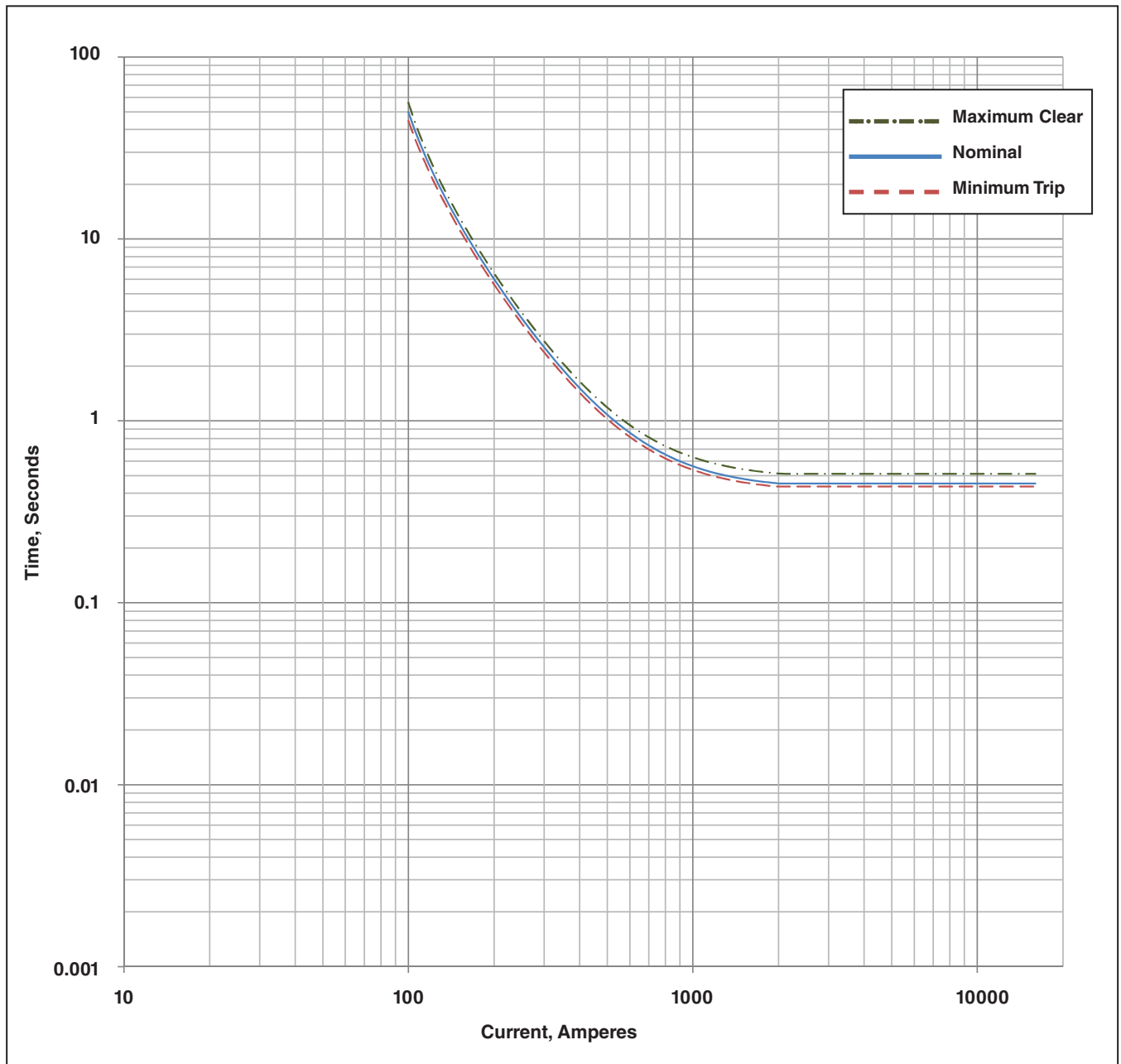
S&C Emulation of Cooper 142 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 142.xdat					
	MIRT	A	B	p	C	K
142	0.029	32.548	0.005	2.153	0.264	0

S&C Emulation of Cooper 151 TCC Curve

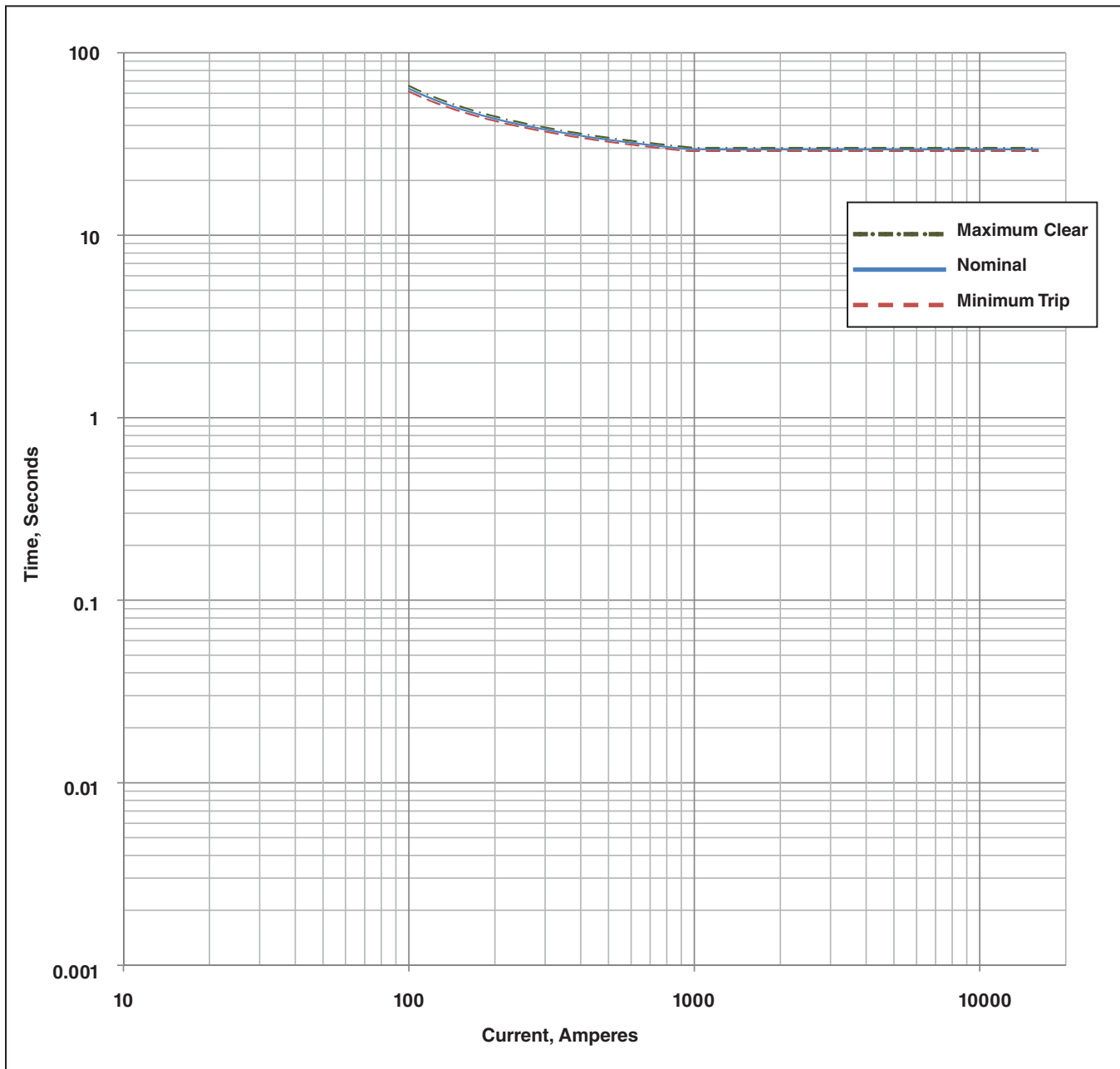


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 151.xdat					
	MIRT	A	B	p	C	K
151	0.453	22.995	0.423	2.271	0.535	0

Base TCC Curves

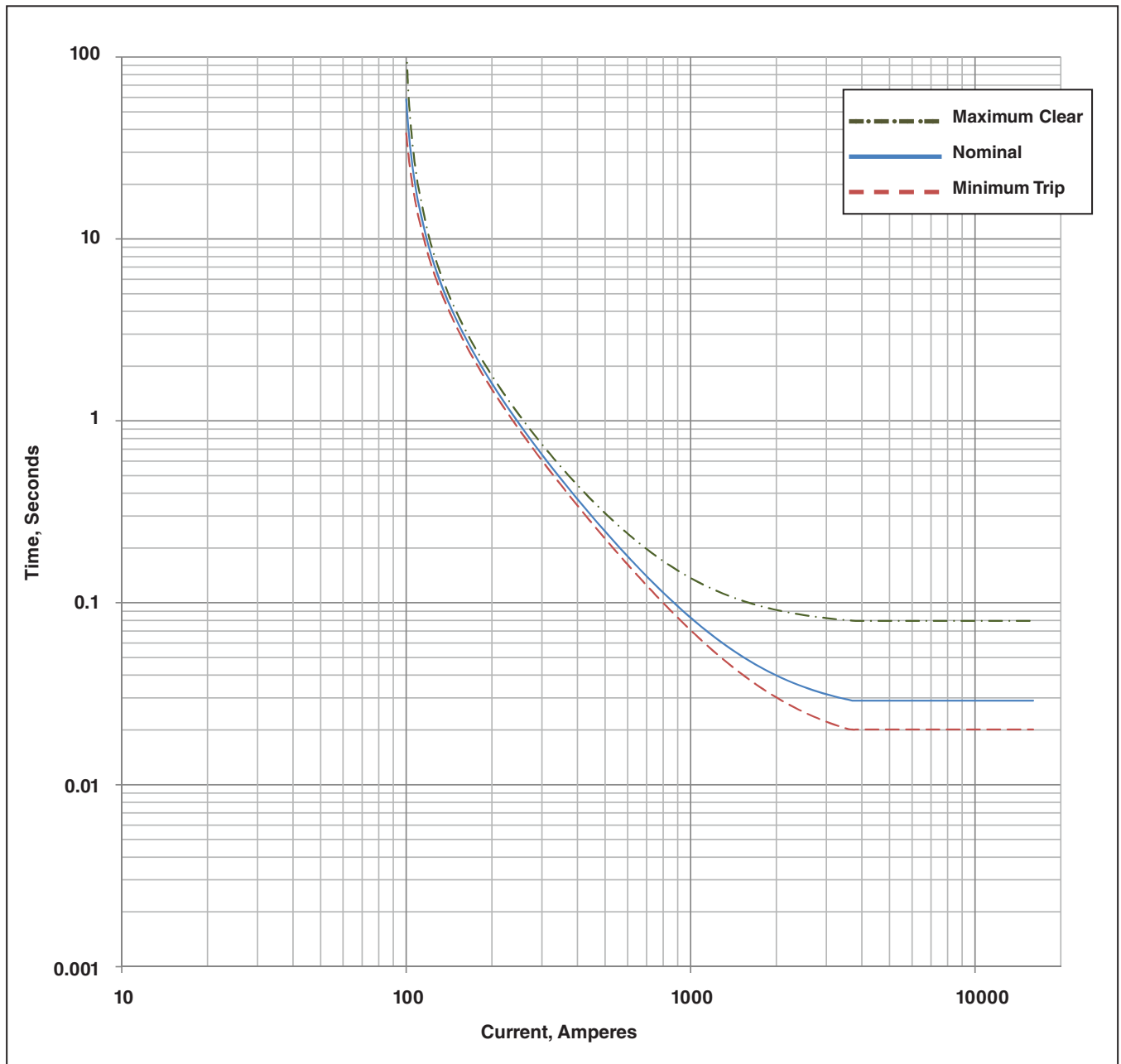
S&C Emulation of Cooper 152 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 152.xdat					
	MIRT	A	B	p	C	K
152	29.51	0.098	14.609	0.002	0.998	0

S&C Emulation of Cooper 161 TCC Curve

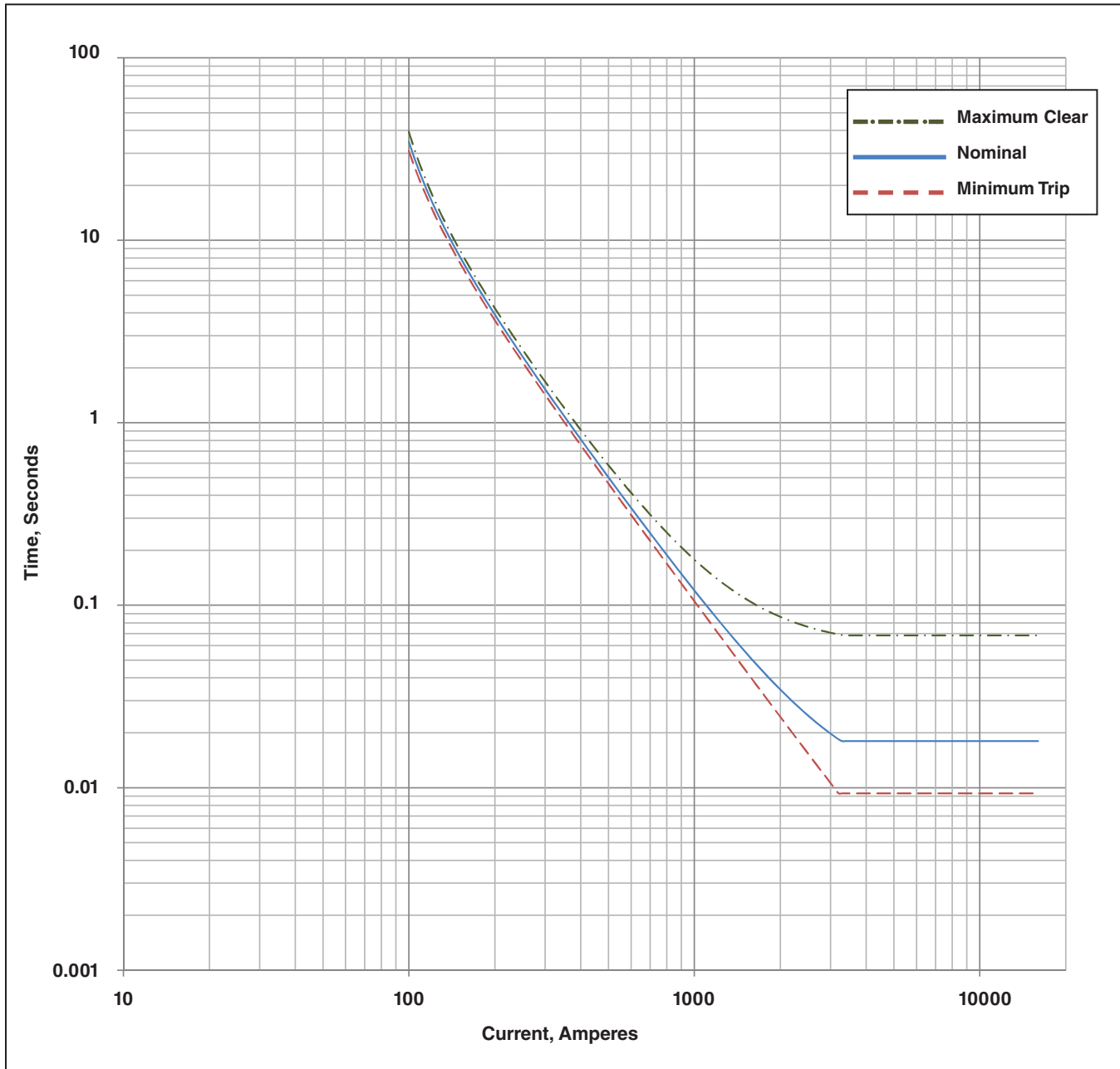


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 161.xdat					
	MIRT	A	B	p	C	K
161	0.029	4.341	0.024	1.874	0.926	0

Base TCC Curves

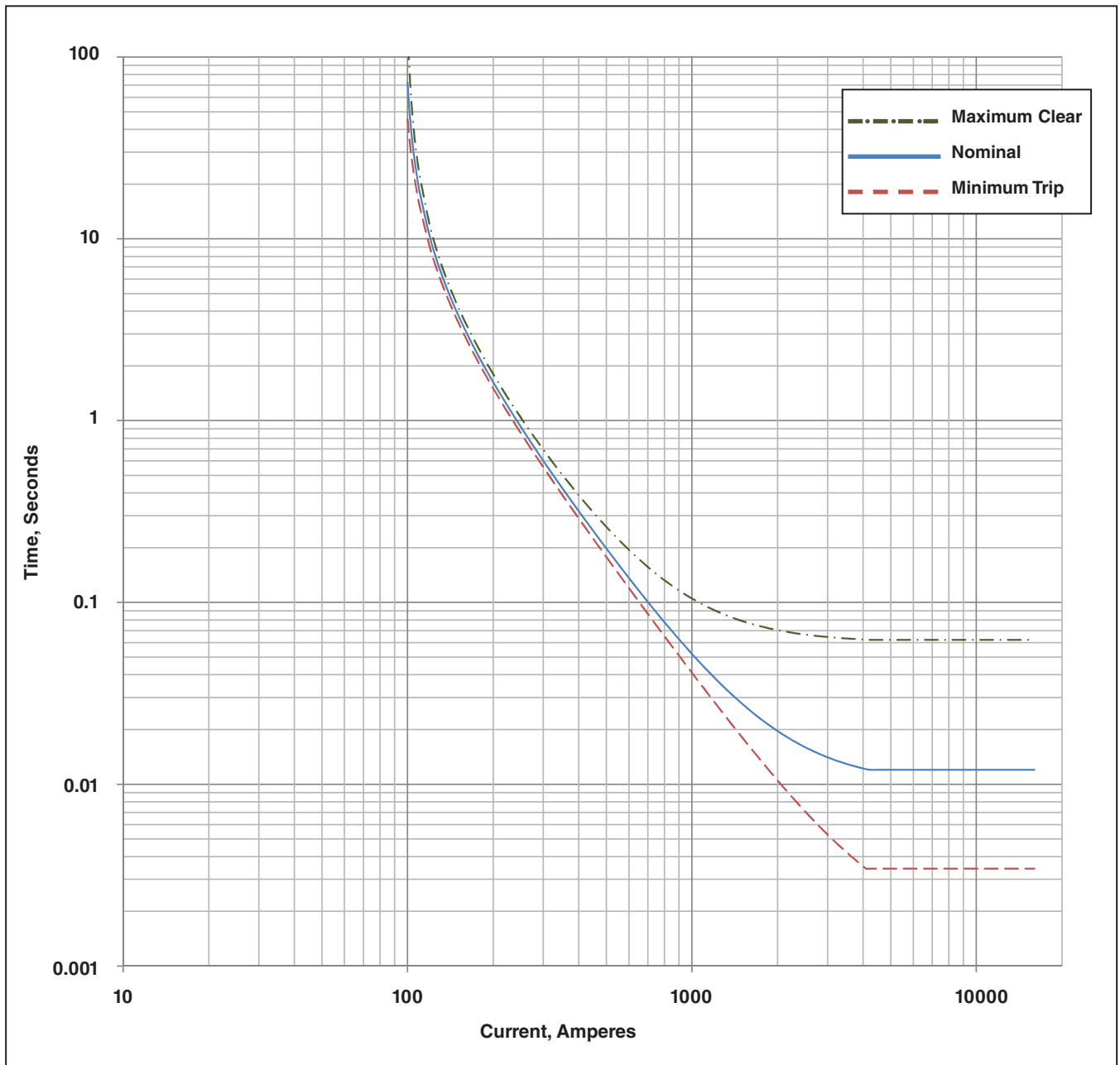
S&C Emulation of Cooper 162 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 162.xdat					
	MIRT	A	B	p	C	K
162	0.018	14.774	0.009	2.124	0.574	0

S&C Emulation of Cooper 163 TCC Curve

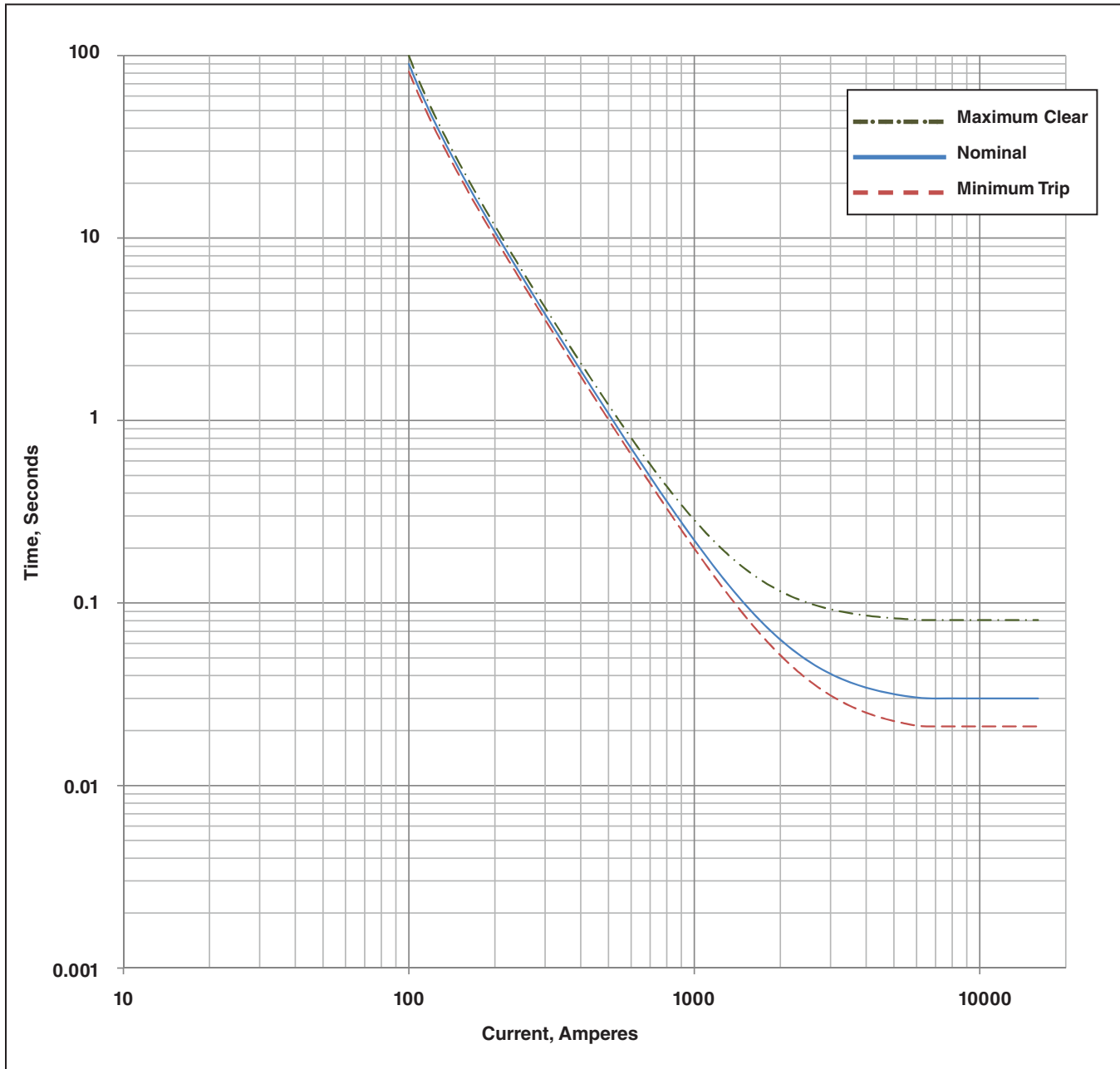


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 163.xdat					
	MIRT	A	B	p	C	K
163	0.012	5.561	0.01	2.142	0.923	0

Base TCC Curves

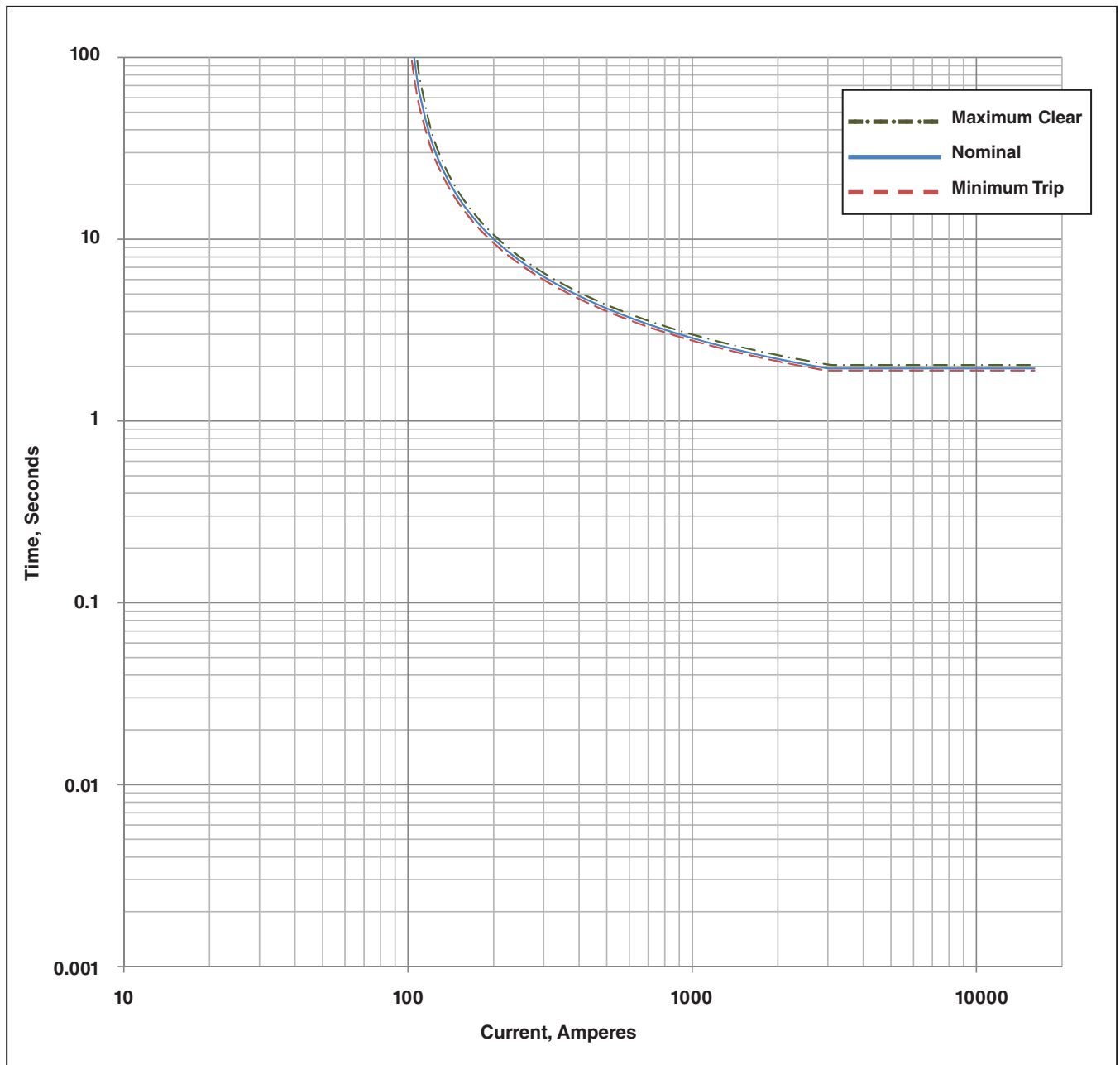
S&C Emulation of Cooper 165 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 165.xdat					
	MIRT	A	B	p	C	K
165	0.03	55.195	0.028	2.458	0.387	0

S&C Emulation of Cooper 200 TCC Curve

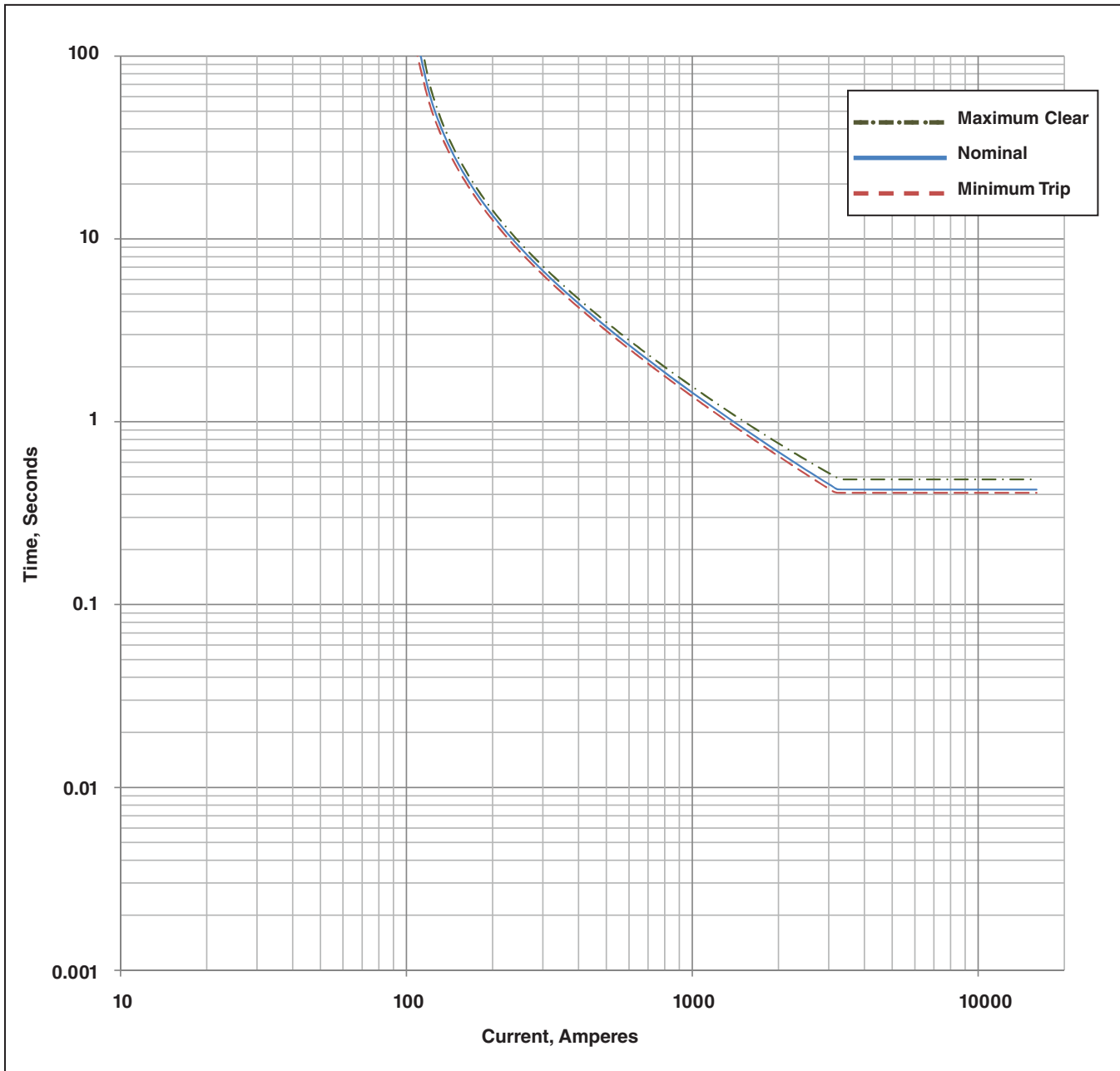


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 200.xdat					
	MIRT	A	B	p	C	K
200	1.945	3.645	1.061	0.479	0.987	0

Base TCC Curves

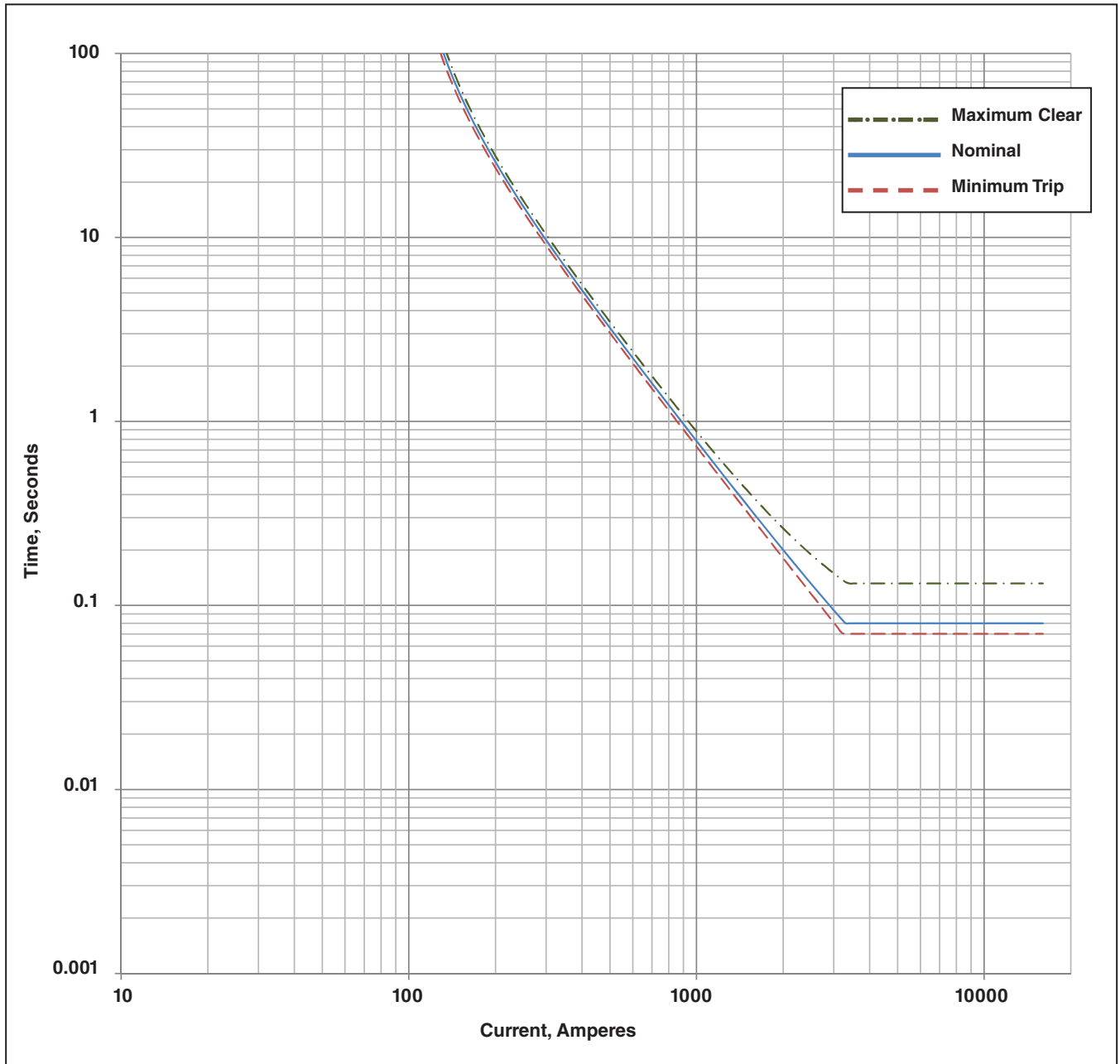
S&C Emulation of Cooper 201 TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 201.xdat					
	MIRT	A	B	p	C	K
201	0.426	15.205	0.056	1.077	0.976	0

S&C Emulation of Cooper 202 TCC Curve

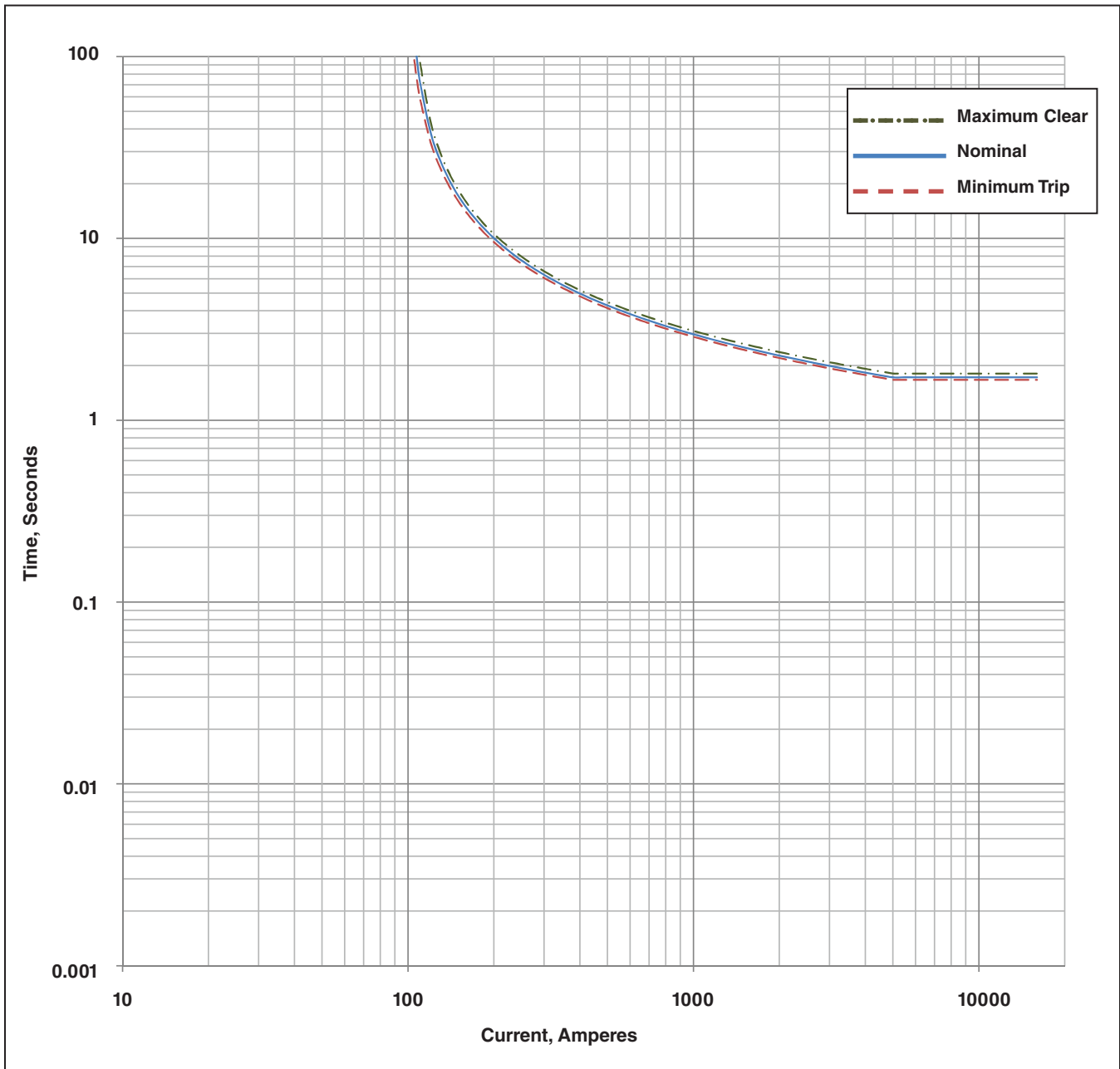


TCC Curve Parameter

Curve	Curve Parameter from S&C Emulation of Cooper 202.xdat					
	MIRT	A	B	p	C	K
202	0.08	78.976	0.01	2.013	0.962	0

Base TCC Curves

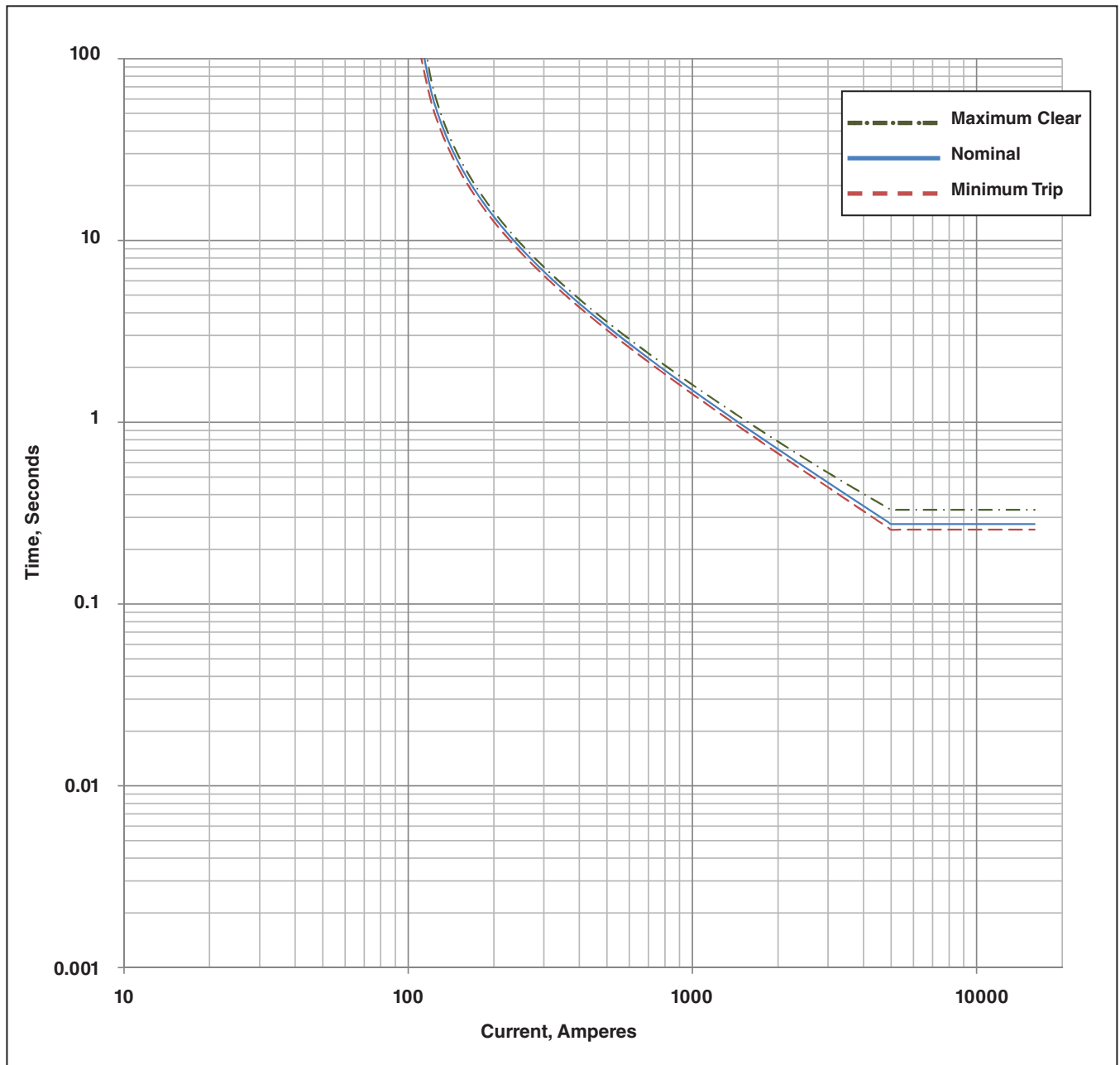
IEC C1 Class A Standard Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from IEC C1 Class A Standard Inverse.xdat				
	A	B	p	C	K
C1 Standard Inverse	0.14	0	0.02	1	0

IEC C2 Class B Very Inverse TCC Curve

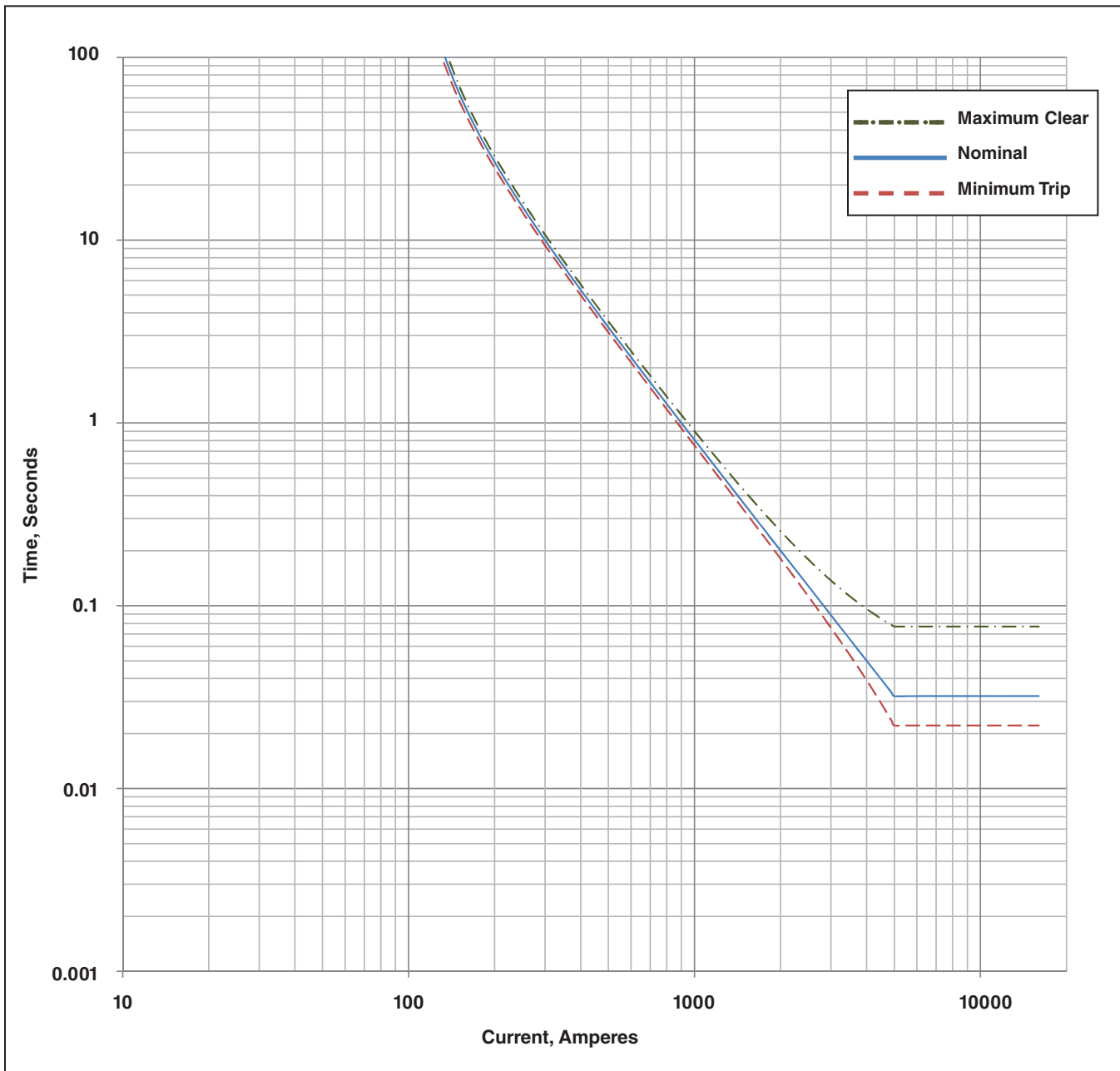


TCC Curve Parameter

Curve	Curve Parameter from IEC C2 Class B Very Inverse.xdat				
	A	B	p	C	K
C2 Very Inverse	13.5	0	1	1	0

Base TCC Curves

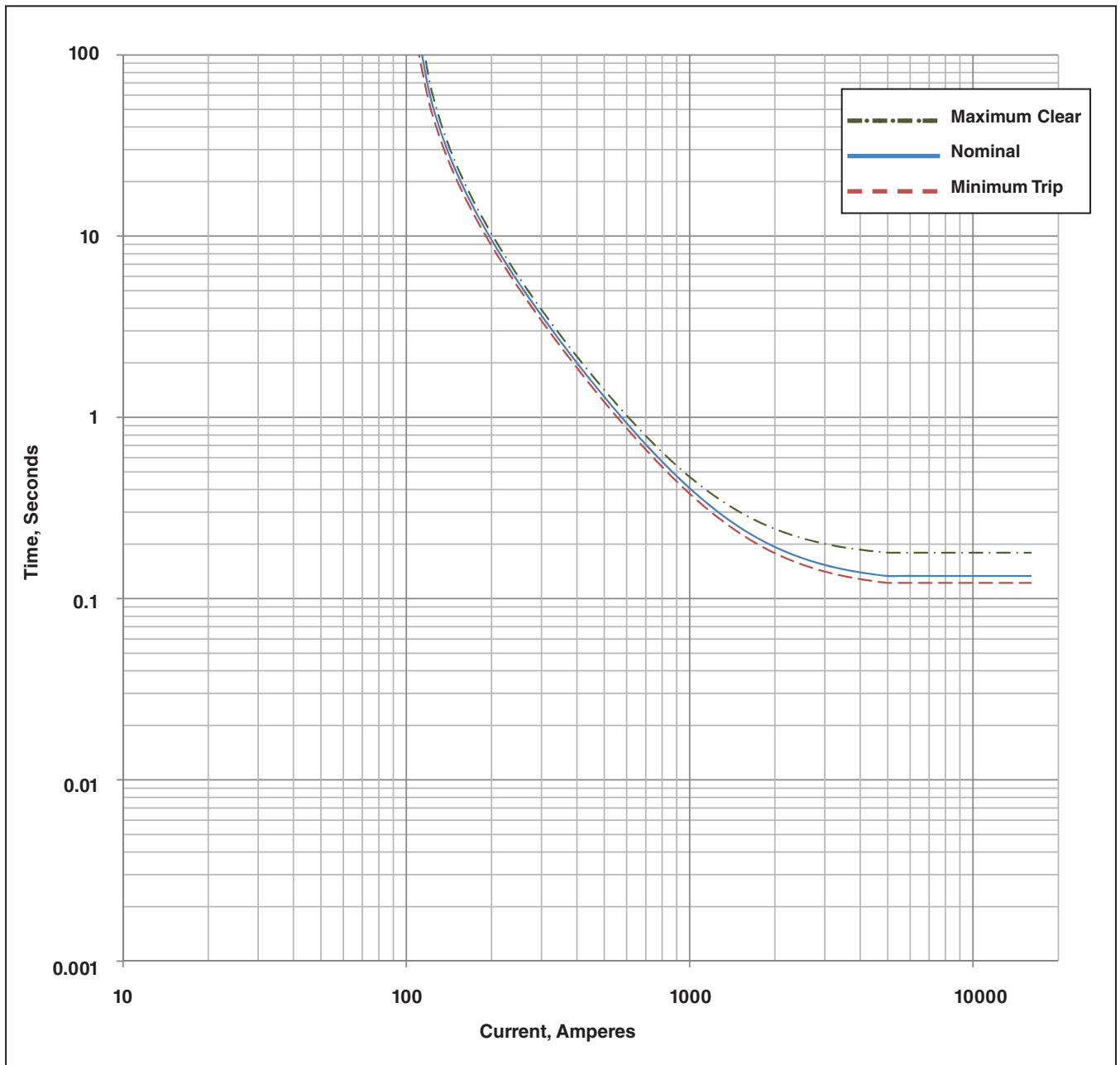
IEC C3 Class C Extremely Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from IEC C3 Class C Extremely Inverse.xdat				
	A	B	p	C	K
C3 Extremely Inverse	80	0	2	1	0

IEC C2 Class C Extremely Inverse TCC Curve

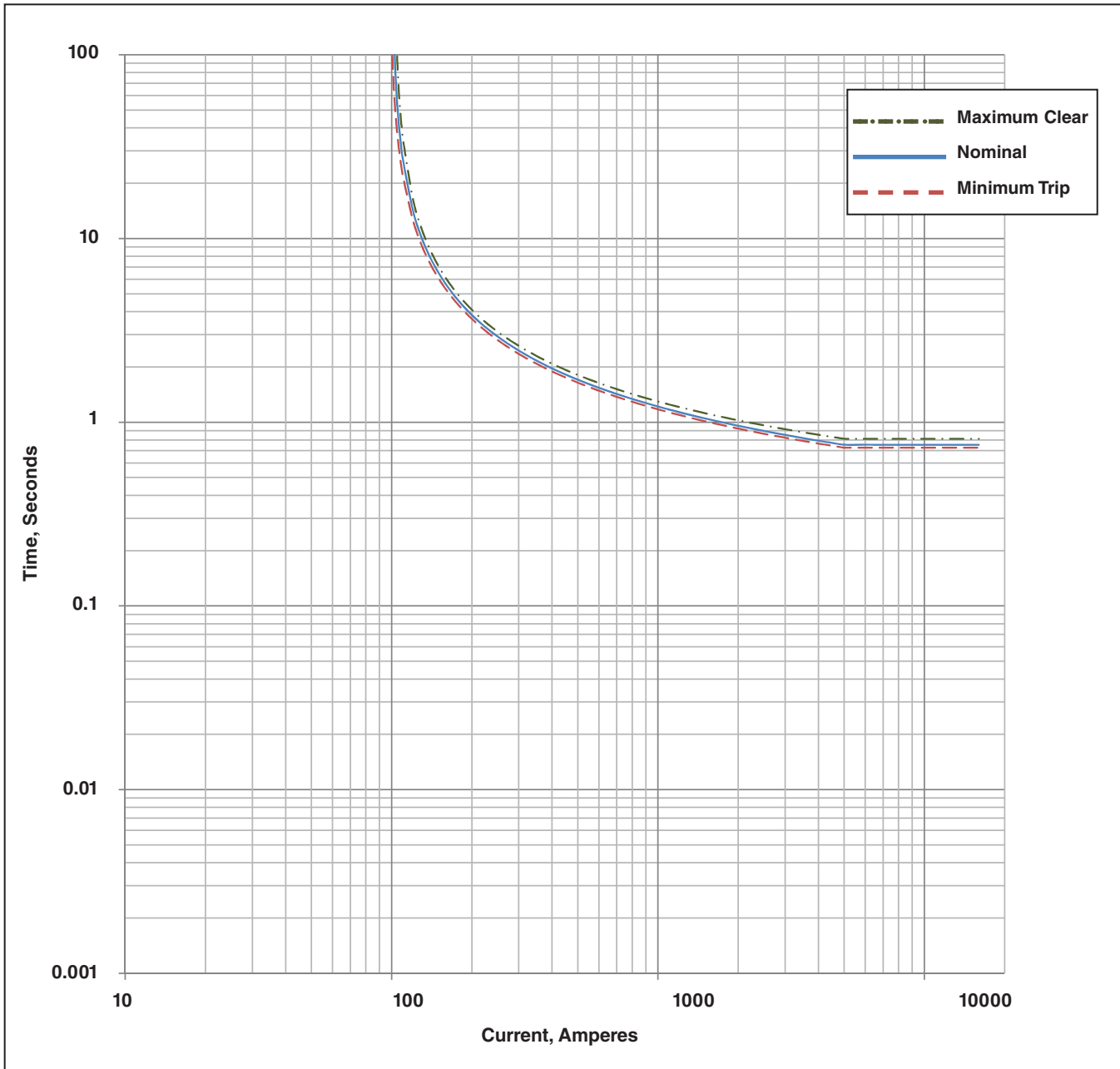


TCC Curve Parameter

Curve	Curve Parameter from IEC C2 Class C Extremely Inverse.xdat				
	A	B	p	C	K
IEC Extremely Inverse	80	0	2	1	0

Base TCC Curves

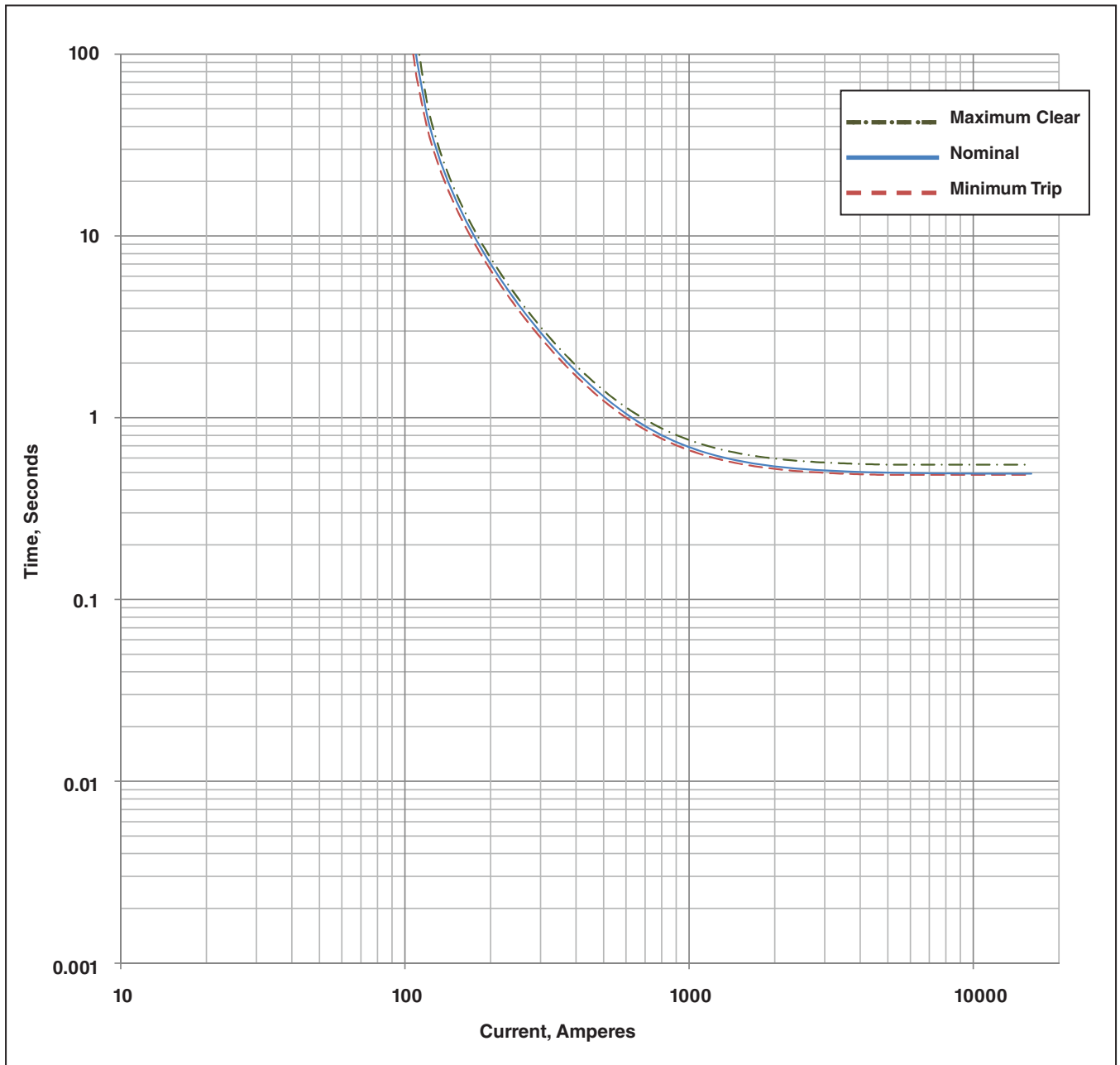
IEEE Moderately Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from 1_IEEE Moderately Inverse.xdat				
	A	B	p	C	K
IEEE Moderately Inverse	0.052	0.114	0.02	1	0

IEEE Very Inverse TCC Curve

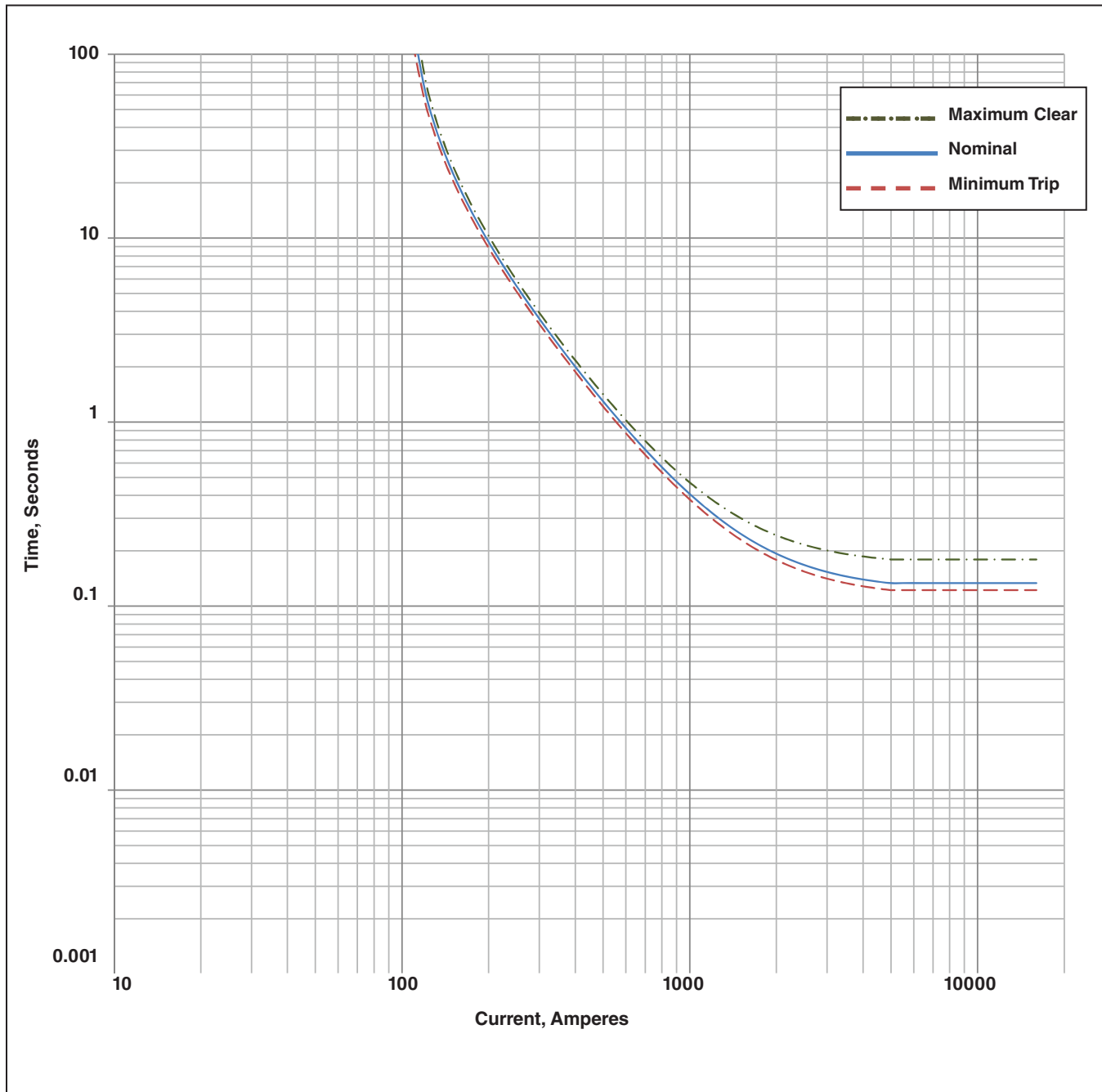


TCC Curve Parameter

Curve	Curve Parameter from 2_IEEE Very Inverse.xdat				
	A	B	p	C	K
IEEE Very Inverse	19.61	0.491	2	1	0

Base TCC Curves

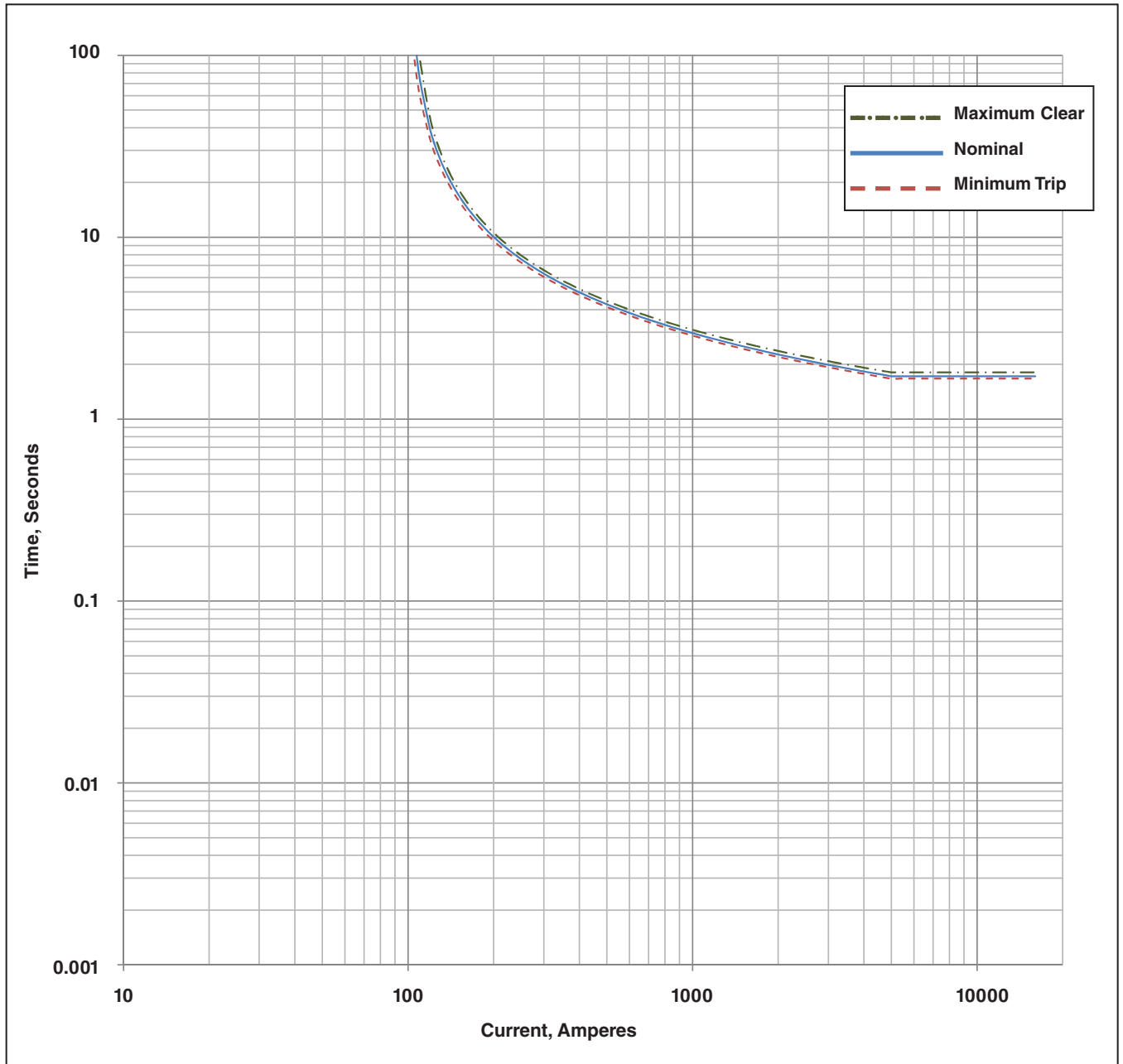
IEEE Extremely Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from 3_IEEE Extremely Inverse.xdat				
	A	B	p	C	K
IEEE Extremely Inverse	28.2	0.122	2	1	0

SEL C1 Standard Inverse TCC Curve

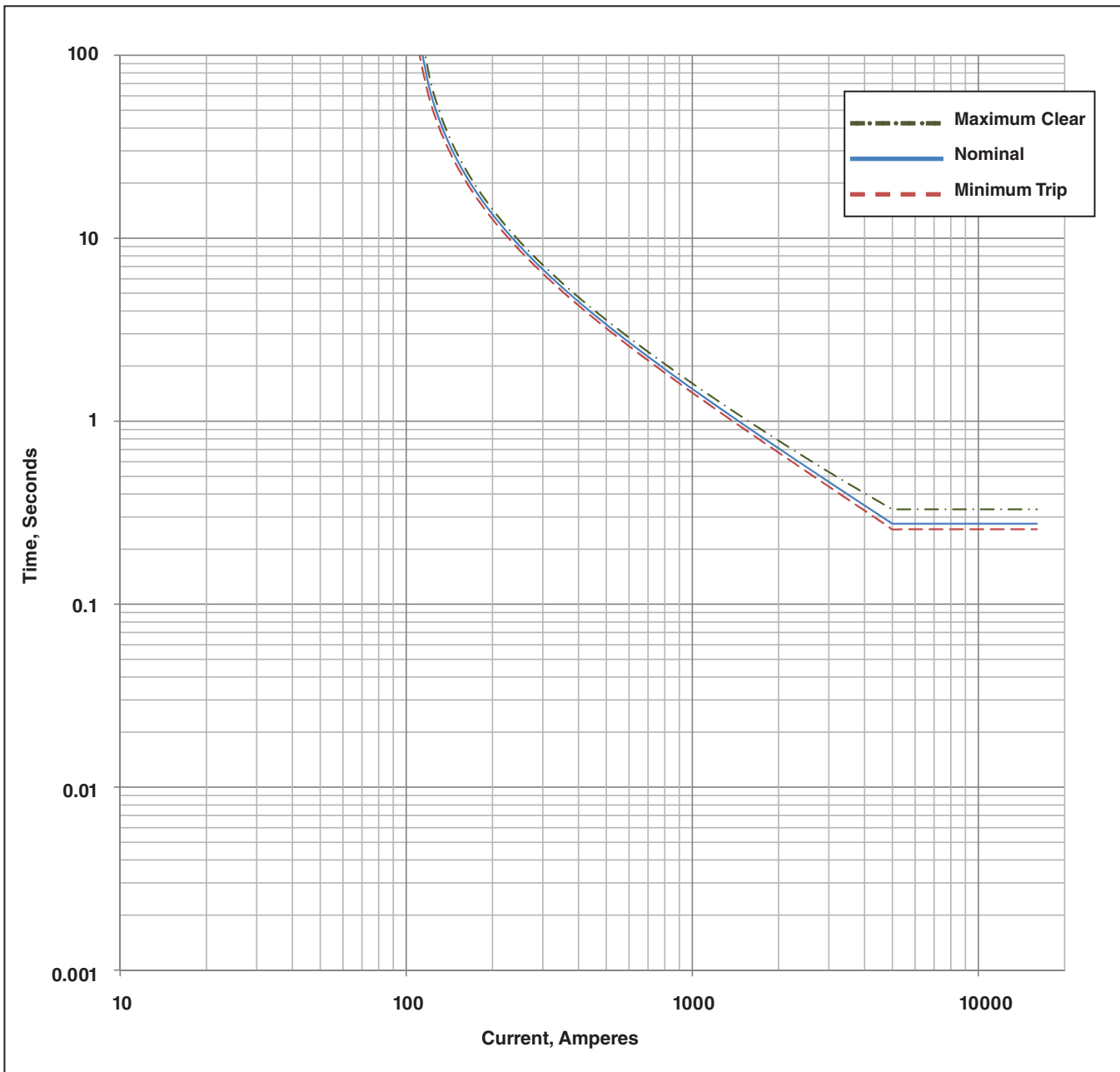


TCC Curve Parameter

Curve	Curve Parameter from SEL C1 Standard Inverse.xdat				
	A	B	p	C	K
C1 Standard Inverse	0.14	0	0.02	1	0

Base TCC Curves

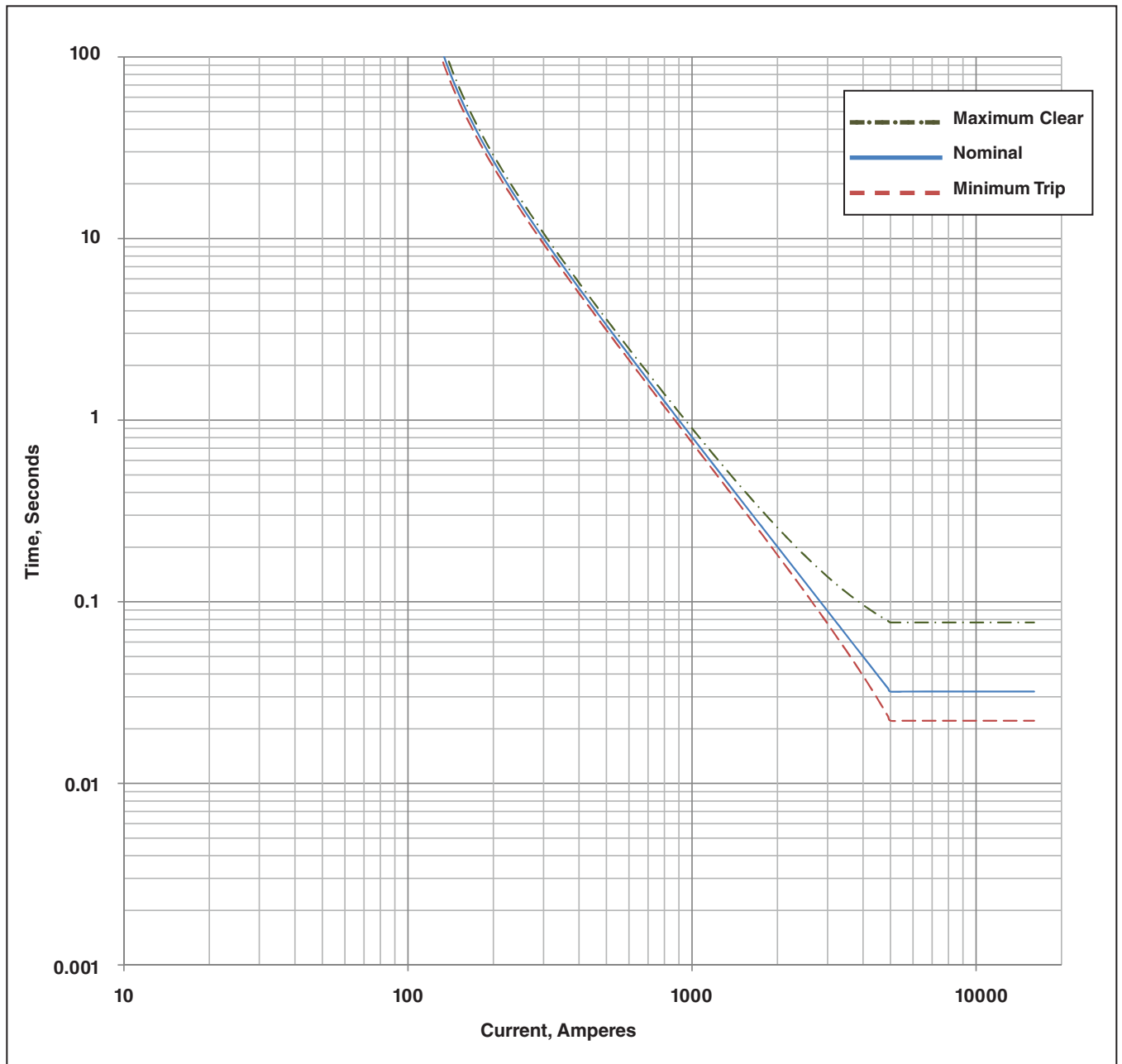
SEL C2 Very Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from SEL C2 Very Inverse.xdat				
	A	B	p	C	K
C2 Very Inverse	13.5	0	1	1	0

SEL C3 Extremely Inverse TCC Curve

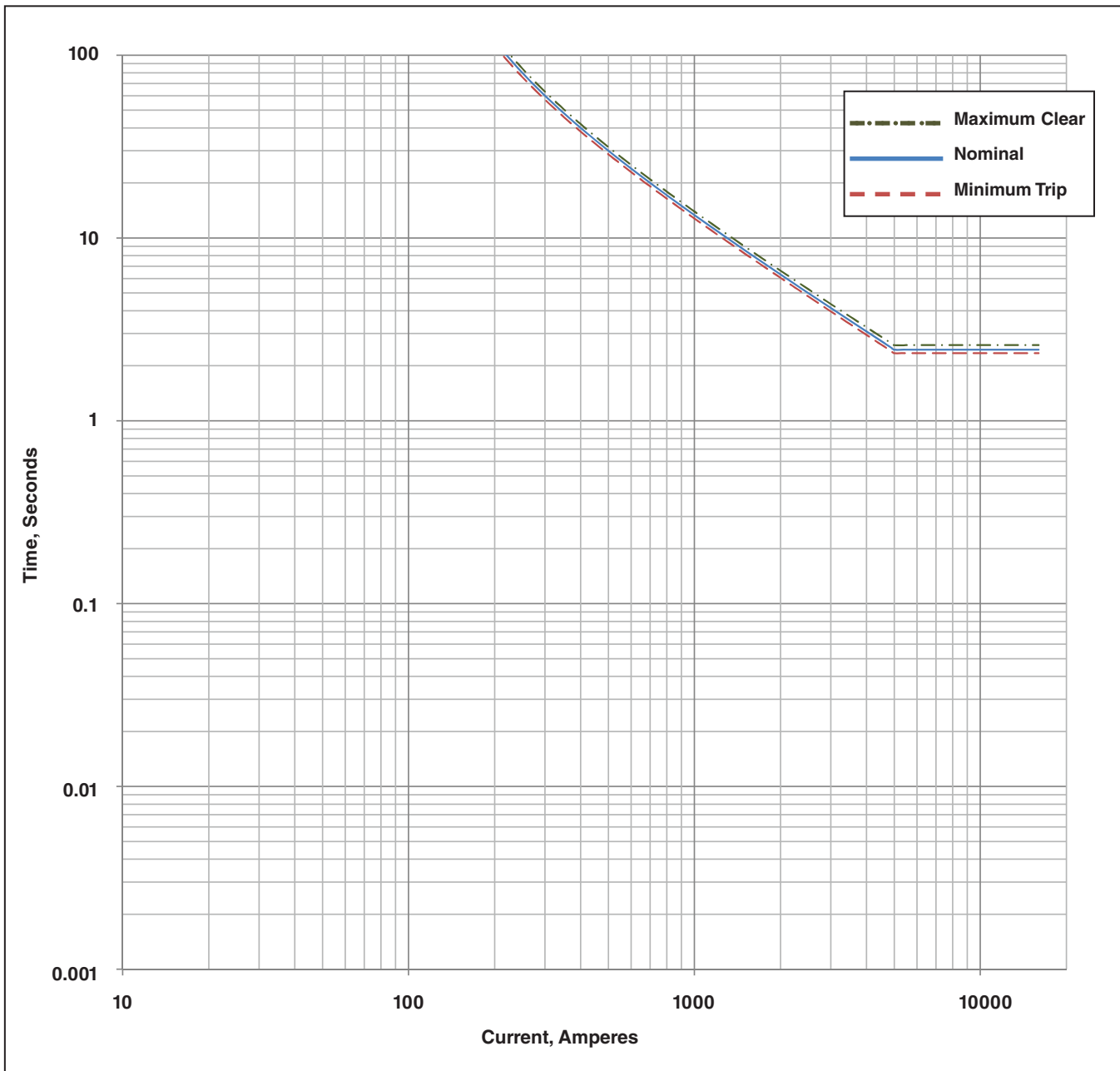


TCC Curve Parameter

Curve	Curve Parameter from SEL C3 Extremely Inverse.xdat				
	A	B	p	C	K
C5 Extremely Inverse	80	0	2	1	0

Base TCC Curves

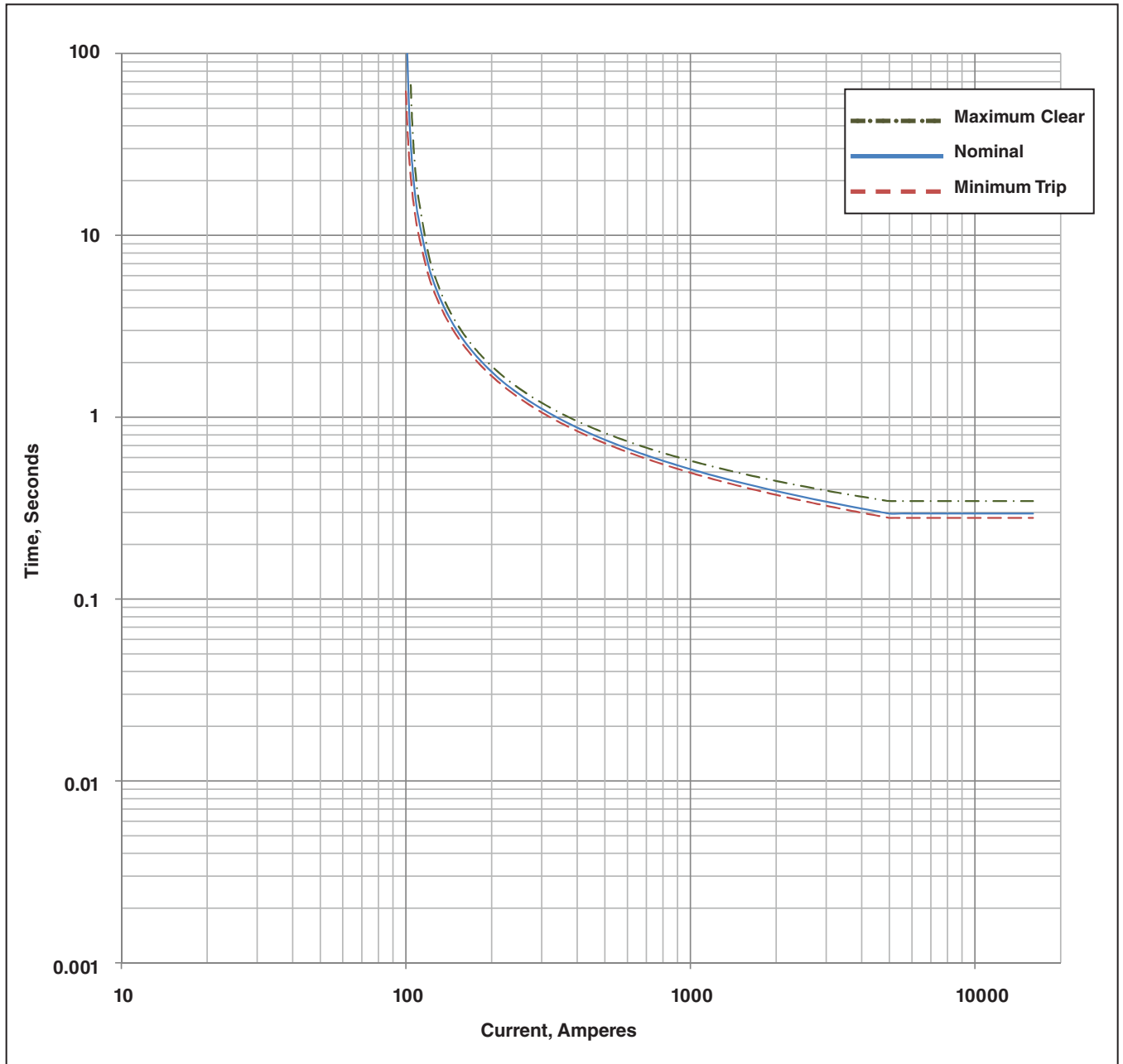
SEL C4 Long-Time Inverse TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from SEL C4 Long-Time Inverse.xdat				
	A	B	p	C	K
C4 Long-Time Inverse	120	0	1	1	0

SEL C5 Short-Time Inverse TCC Curve

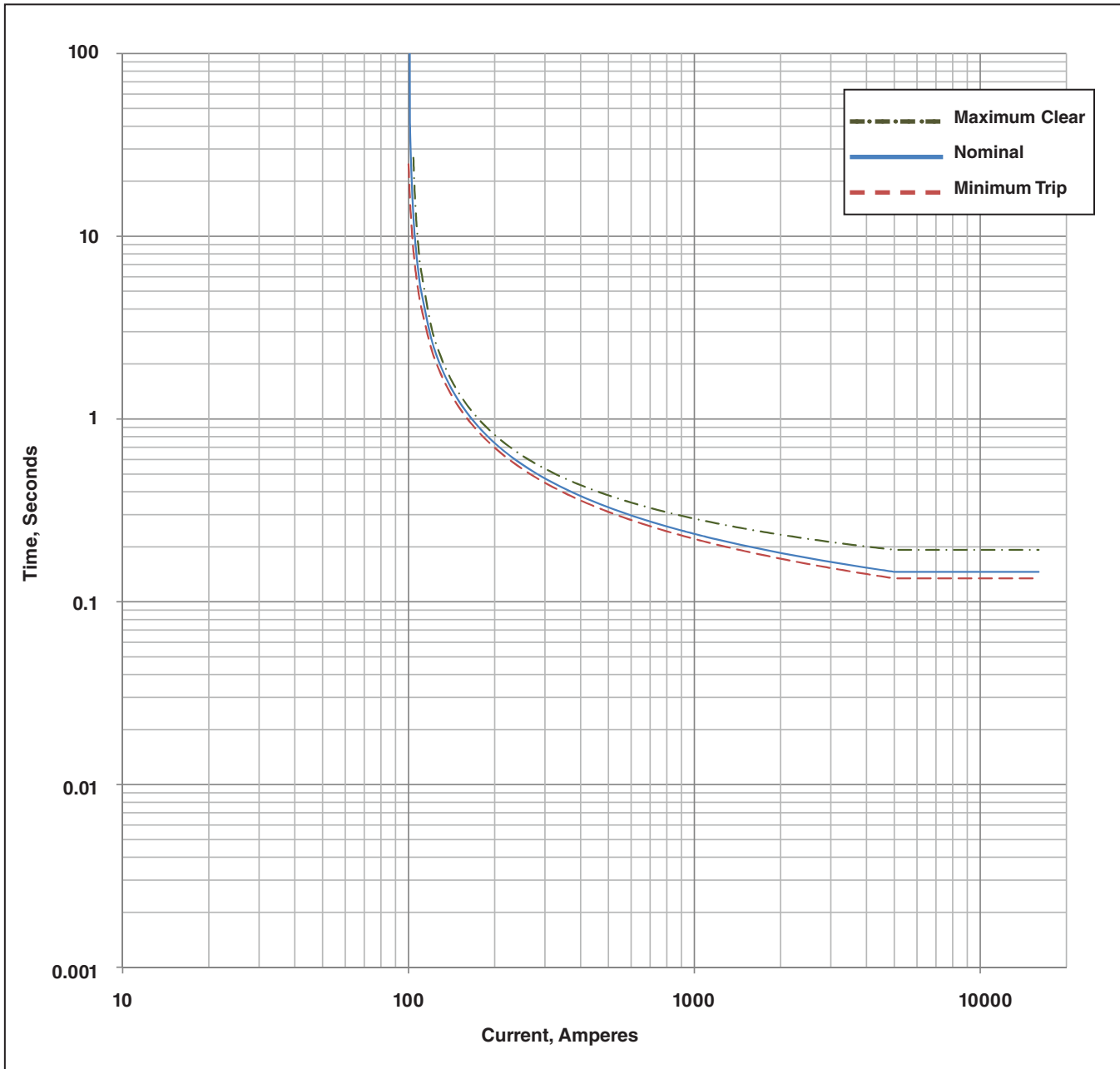


TCC Curve Parameter

Curve	Curve Parameter from SEL C5 Short-Time Inverse.xdat				
	A	B	p	C	K
C5 Short-Time Inverse	0.05	0	0.04	1	0

Base TCC Curves

SEL U1 Moderately Inverse TCC Curve

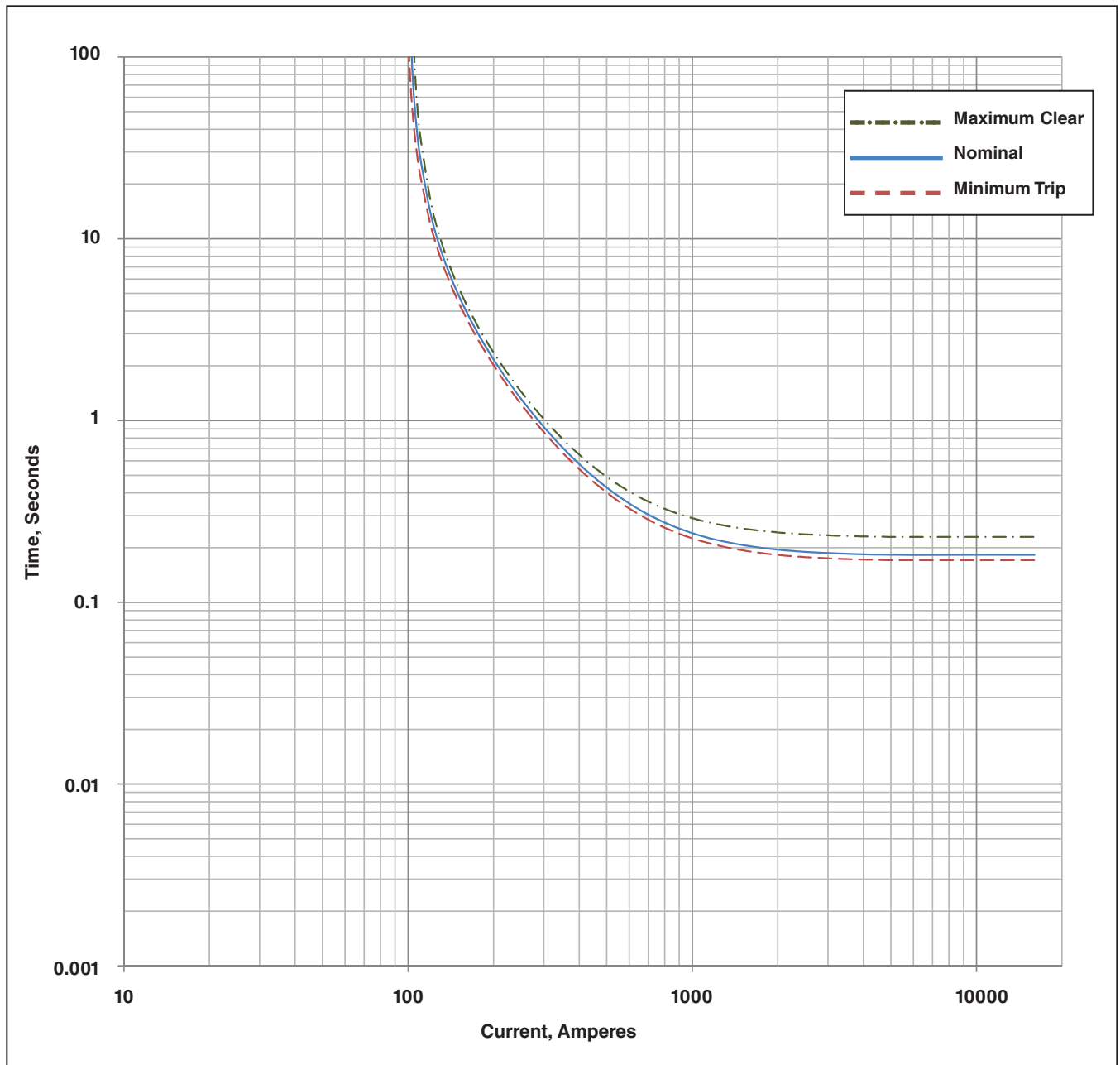


TCC Curve Parameter

Curve	Curve Parameter from SEL U1 Moderately Inverse r2.xdat				
	A	B	p	C	K
U1 Moderately Inverse	0.0104	0.0226	0.02	1	0

Curve	Curve Parameter from SEL U1 Moderately Inverse.xdat				
	A	B	p	C	K
U1 Moderately Inverse	0.01	0.023	0.02	1	0

SEL U2 Inverse TCC Curve

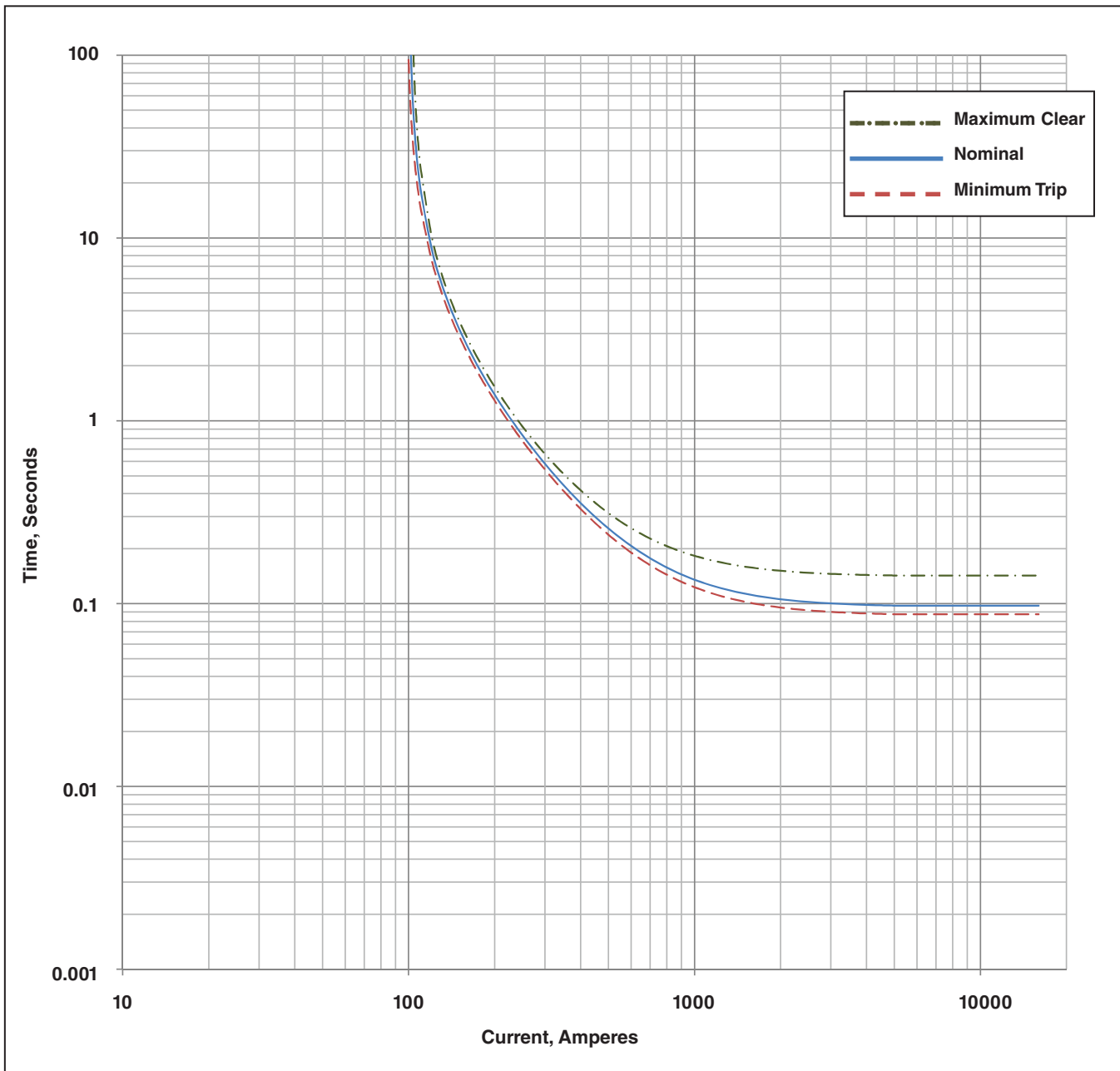


TCC Curve Parameter

Curve	Curve Parameter from SEL U2 Inverse.xdat				
	A	B	p	C	K
U2 Inverse	5.95	0.18	2	1	0

Base TCC Curves

SEL U3 Very Inverse TCC Curve

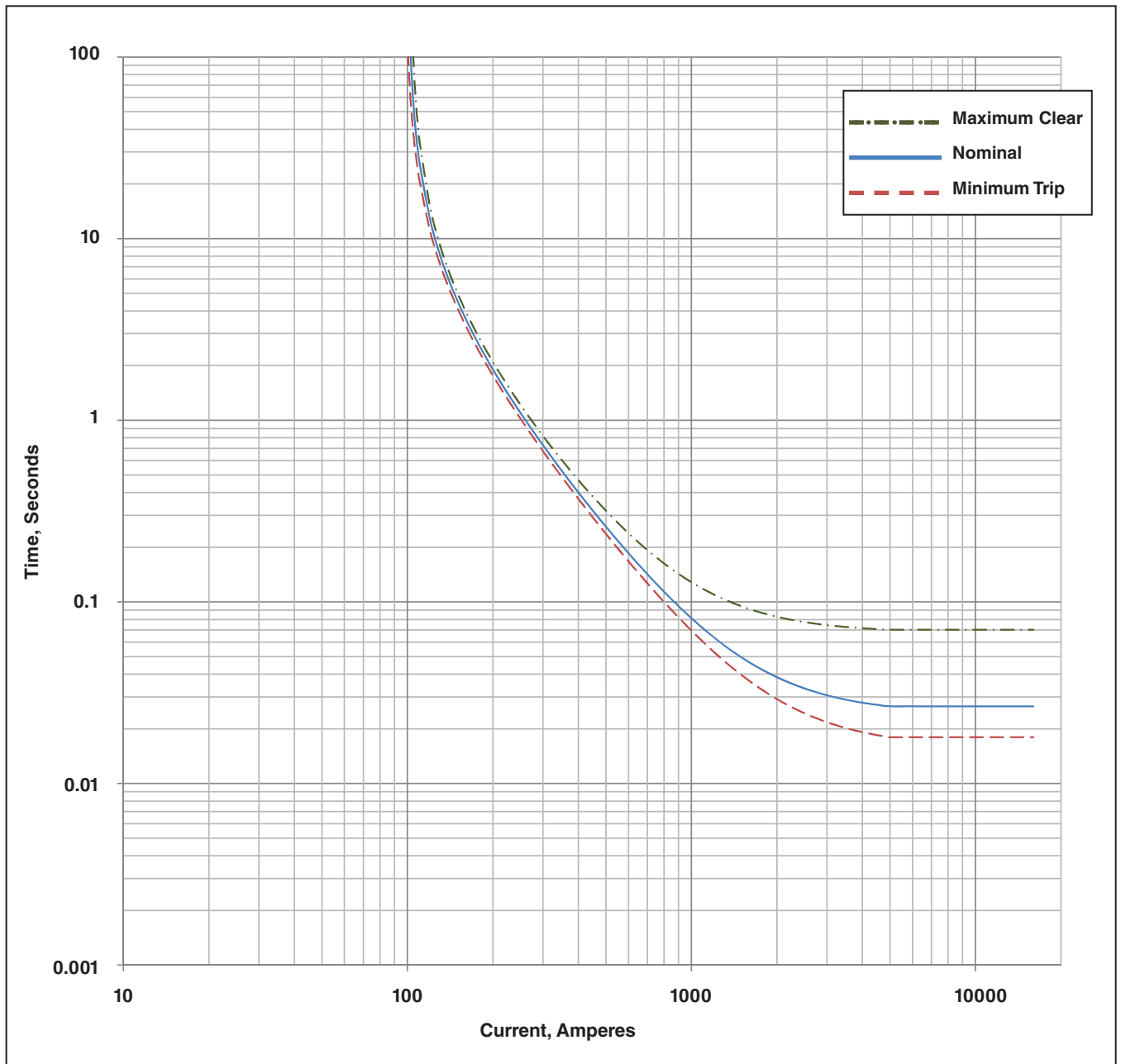


TCC Curve Parameter

Curve	Curve Parameter from SEL U3 Very Inverse r2.xdat				
	A	B	p	C	K
U3 Very Inverse	3.88	0.0963	2	1	0

Curve	Curve Parameter from SEL U3 Very Inverse.xdat				
	A	B	p	C	K
U3 Very Inverse	3.88	0.096	2	1	0

SEL U4 Extremely Inverse TCC Curve



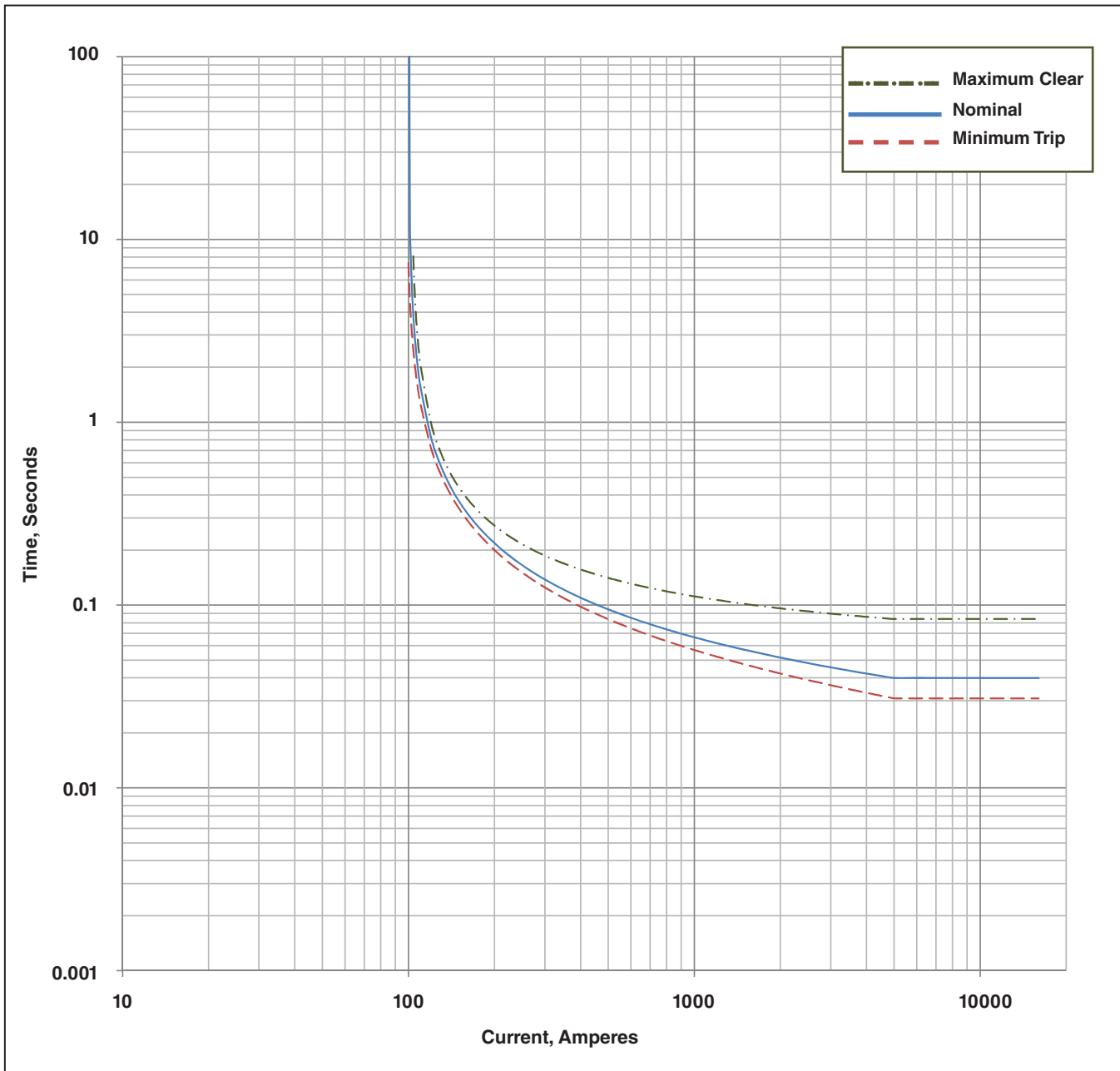
TCC Curve Parameter

Curve	Curve Parameter from SEL U4 Extremely Inverse.xdat				
	A	B	p	C	K
U4 Extremely Inverse	5.64	0.02434	2	1	0

Note: This curve implementation is based on the SEL-651 curve implementation.

Base TCC Curves

SEL U5 Short-Time Inverse TCC Curve

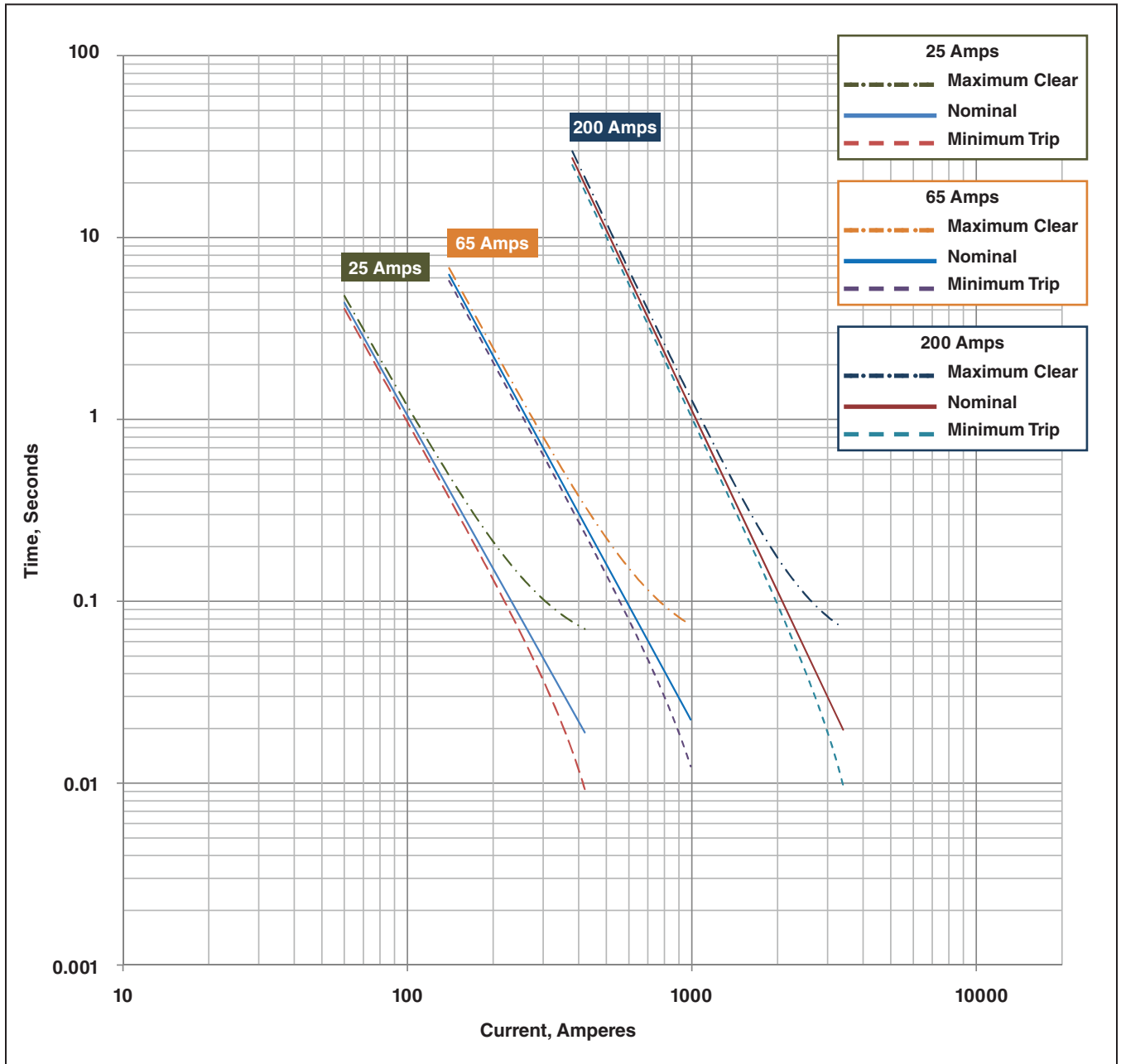


TCC Curve Parameter

Curve	Curve Parameter from SEL U5 Short-Time Inverse r2.xdat				
	A	B	p	C	K
U5 Short-Time Inverse	0.00342	0.00262	0.02	1	0

Curve	Curve Parameter from SEL U5 Short-Time Inverse.xdat				
	A	B	p	C	K
U5 Short-Time Inverse	0.003	0.003	0.02	1	0

25-, 65-, 200-Ampere Standard Speed Fuse Link TCC Curve

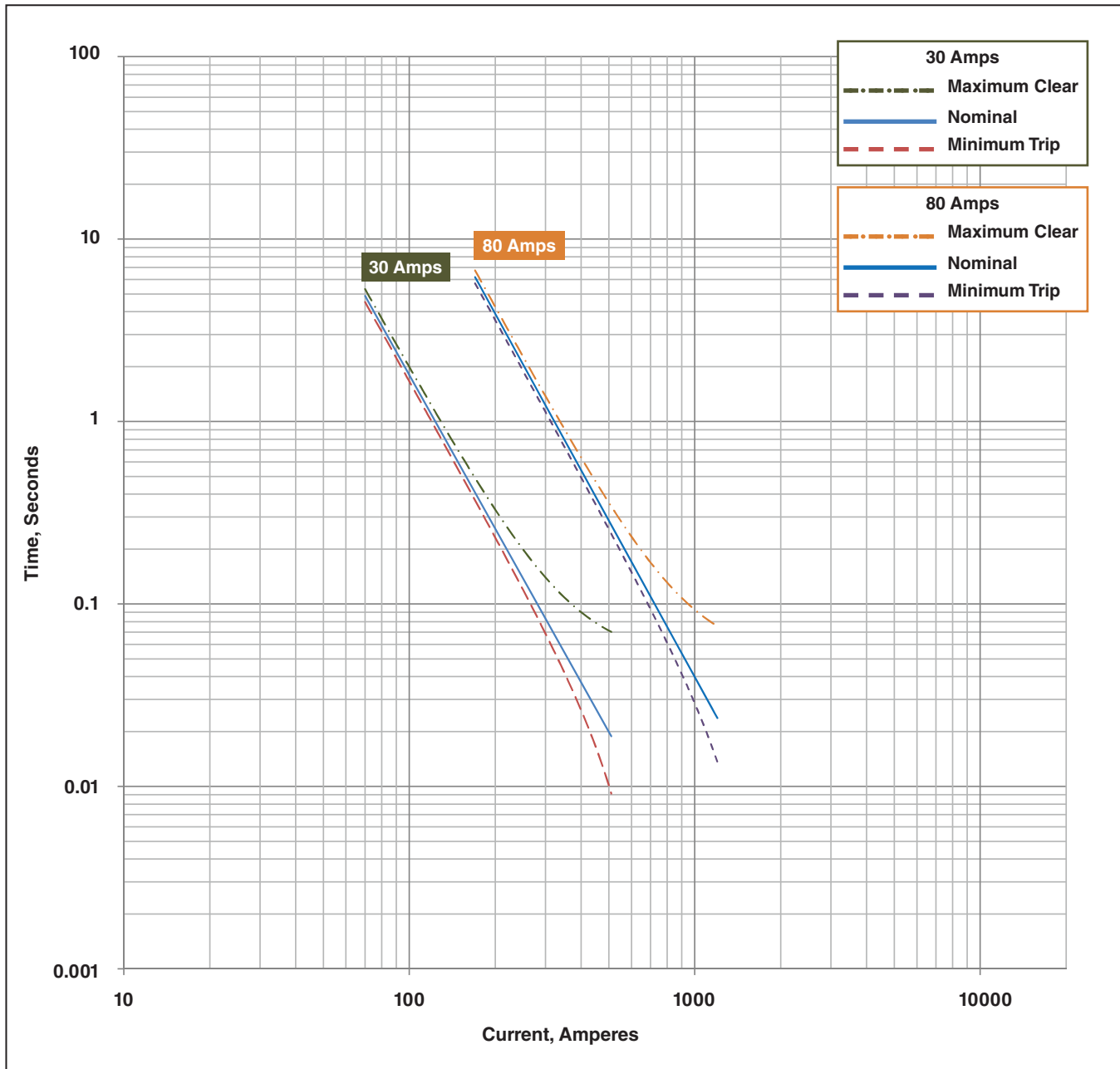


TCC Curve Parameters

Curve	Curve Parameter from 25-, 65-, and 200-Ampere Standard Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 Amps	7.303575	0	2.796659	0	0	50	437
65 Amps	7.915	0	2.879849	0	0	129	1089
200 Amps	30.92407	0	3.301993	0	0	366	3554

Fuse Link TCC Curves

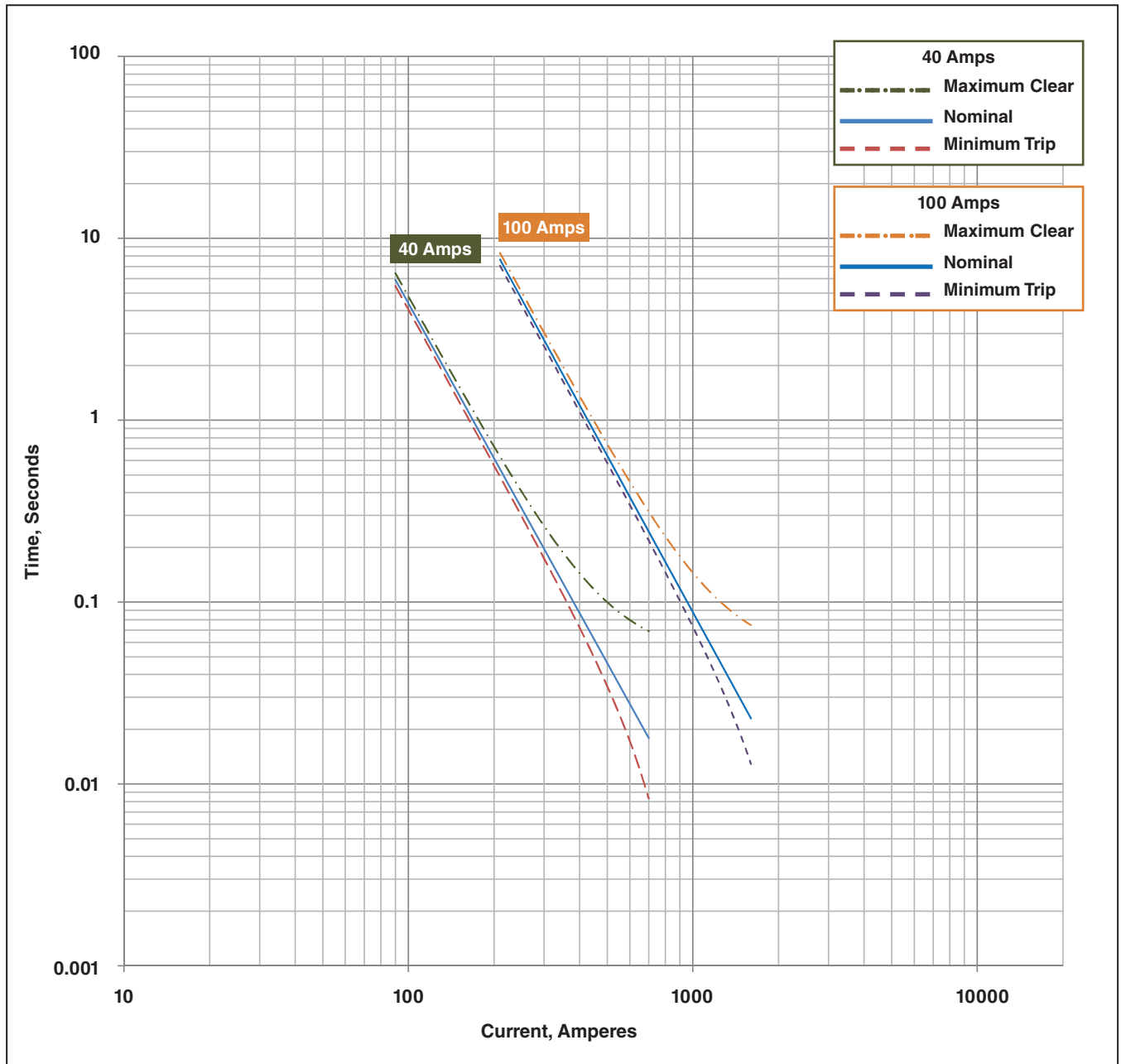
30-, 80-Ampere Standard Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere Standard Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 Amps	7.516375	0	2.798632	0	0	60	529
80 Amps	7.484188	0	2.847912	0	0	159	1348

40-, 100-Ampere Standard Speed Fuse Links TCC Curve

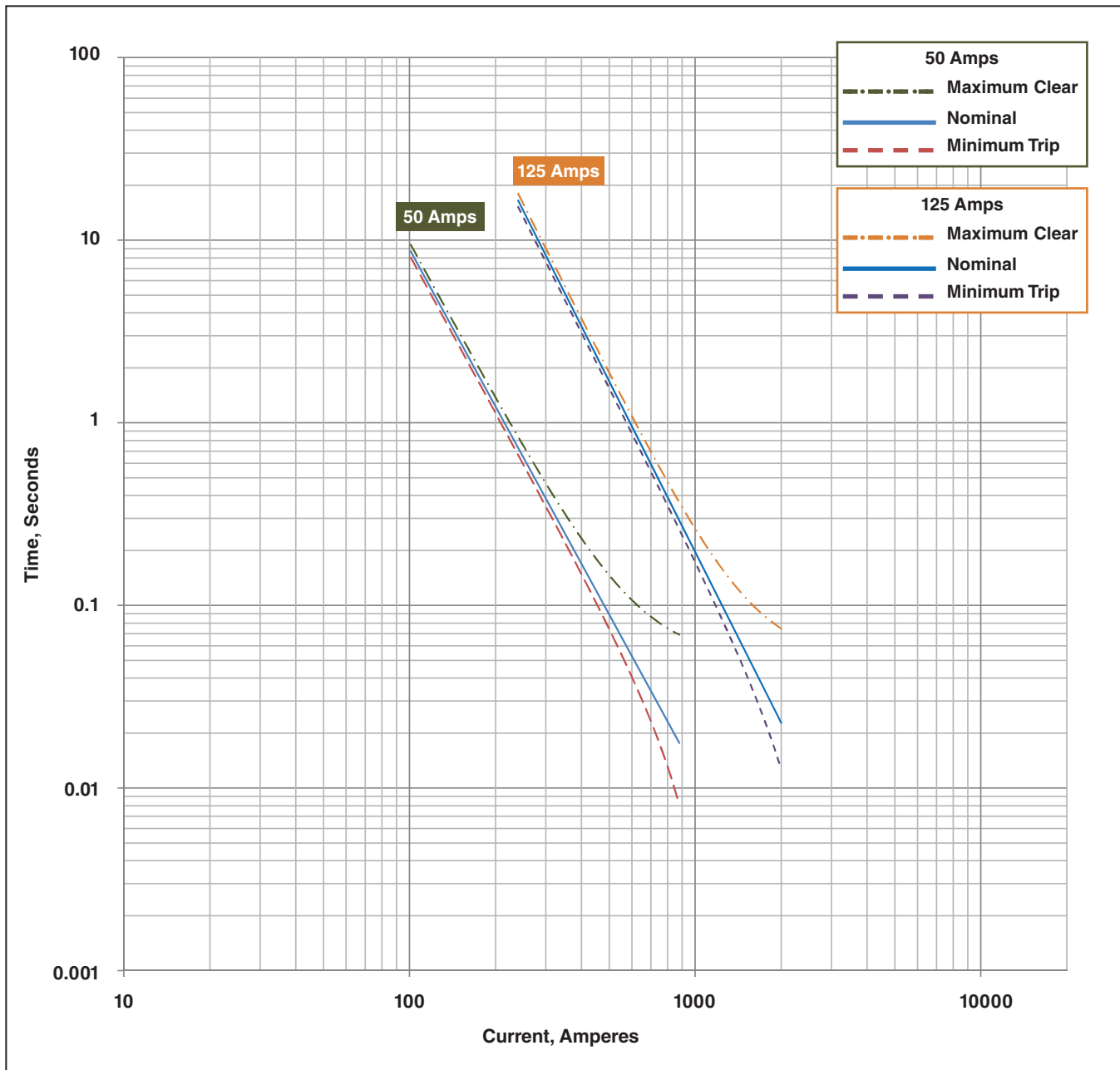


TCC Curve Parameters

Curve	Curve Parameter from 40- and 100-Ampere Standard Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 Amps	8.253496	0	2.829384	0	0	80	712
100 Amps	8.790416	0	2.861159	0	0	200	1776

Fuse Link TCC Curves

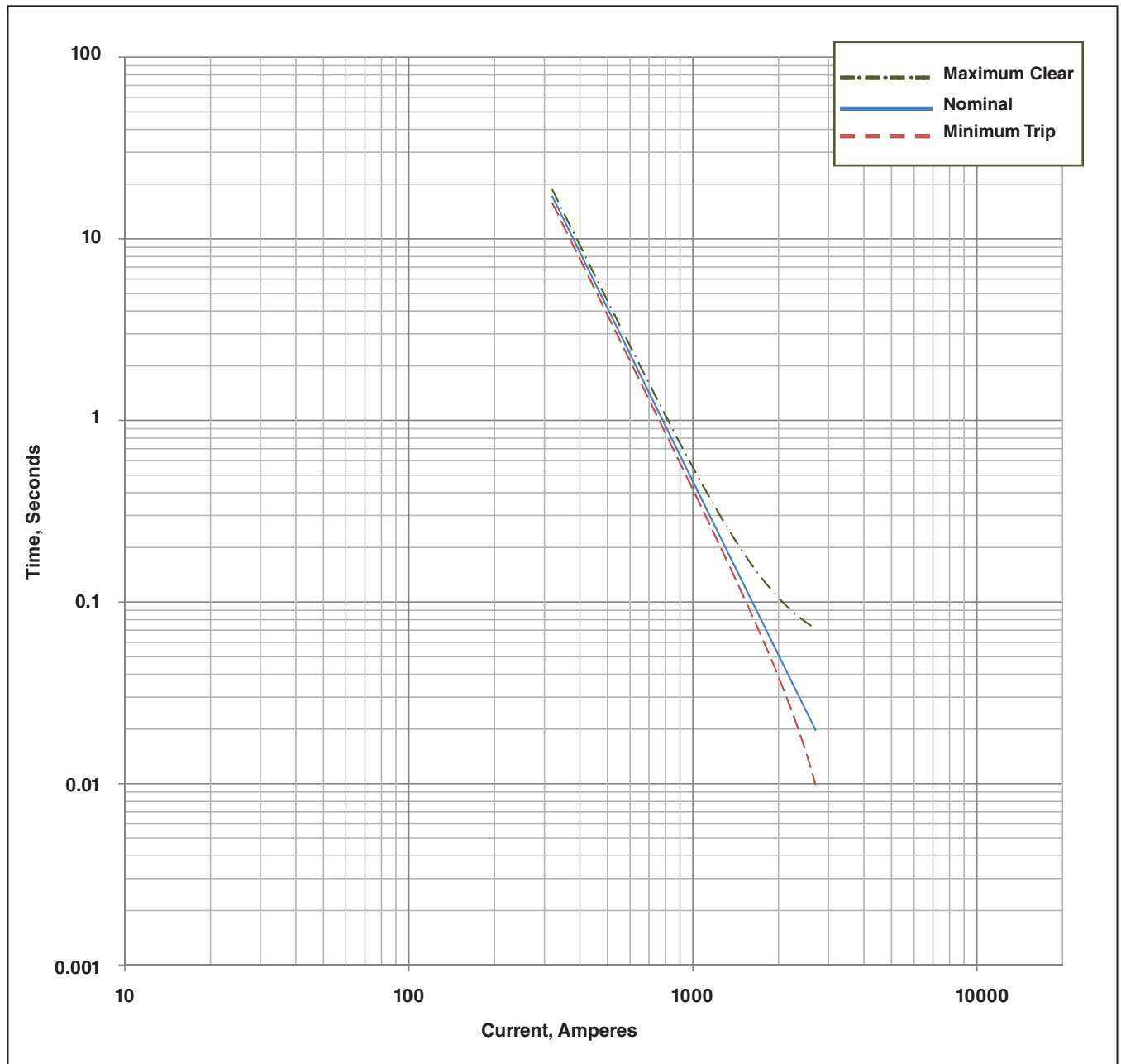
50-, 125-Ampere Standard Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 125-Ampere Standard Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 Amps	8.946028	0	2.3863302	0	0	100	829
125 Amps	19.106743	0	3.106743	0	0	229	2179

150-Ampere Standard Speed Fuse Links TCC Curve

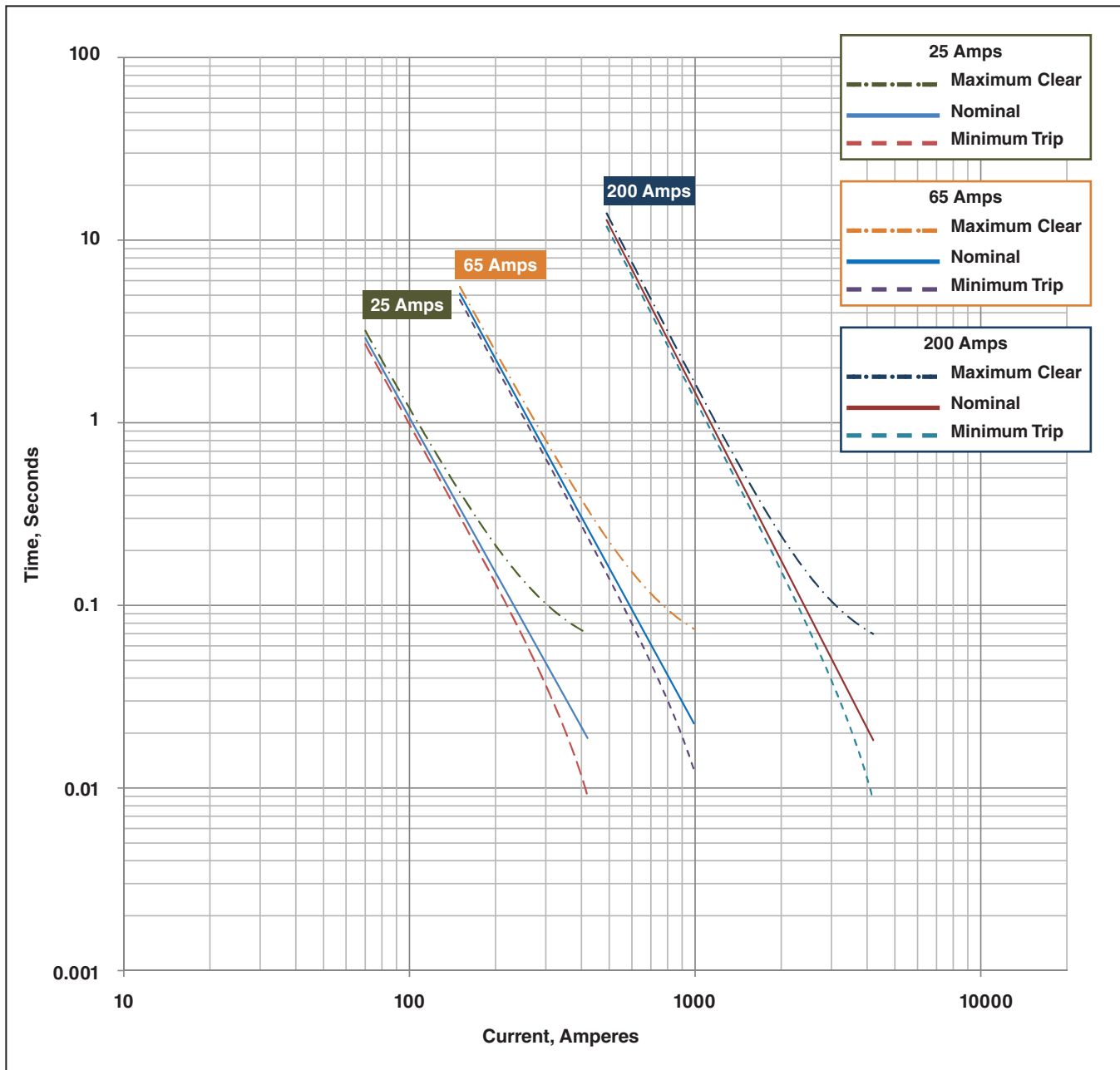


TCC Curve Parameters

Curve	Curve Parameter from 150-Ampere Standard Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
150 Amps	19.681542	0	3.170722	0	0	306	2831

Fuse Link TCC Curves

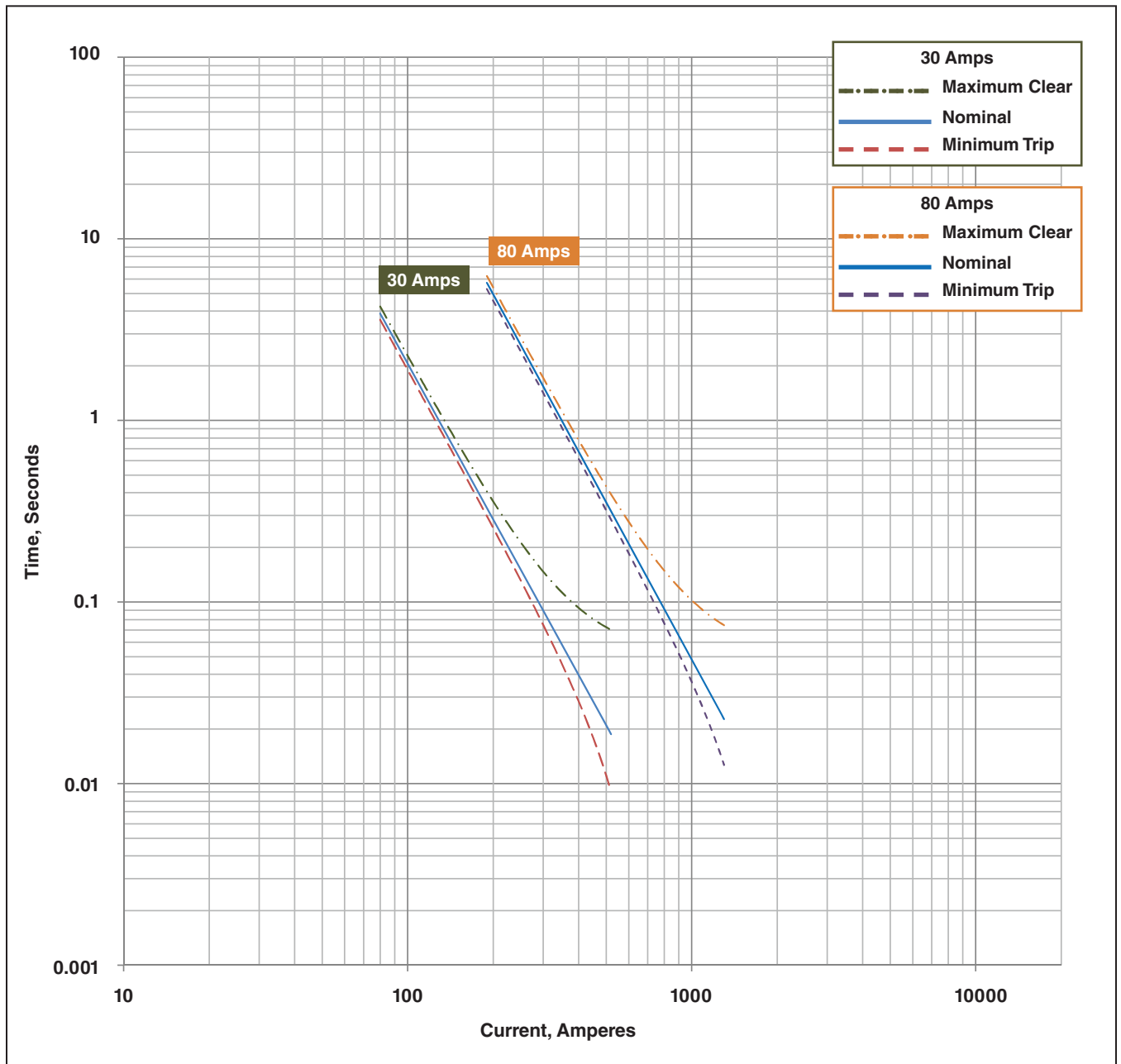
25-, 65-, 200-Ampere K Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 25-, 65-, and 200-Ampere K Speed Fuse Link						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 K	6.724468	0	2.8151446	0	0	52	435
65 K	6.479063	0	2.871865	0	0	138	1093
200 K	13.81907	0	3.052151	0	0	479	4303

30-, 80-Ampere K Speed Fuse Links TCC Curve

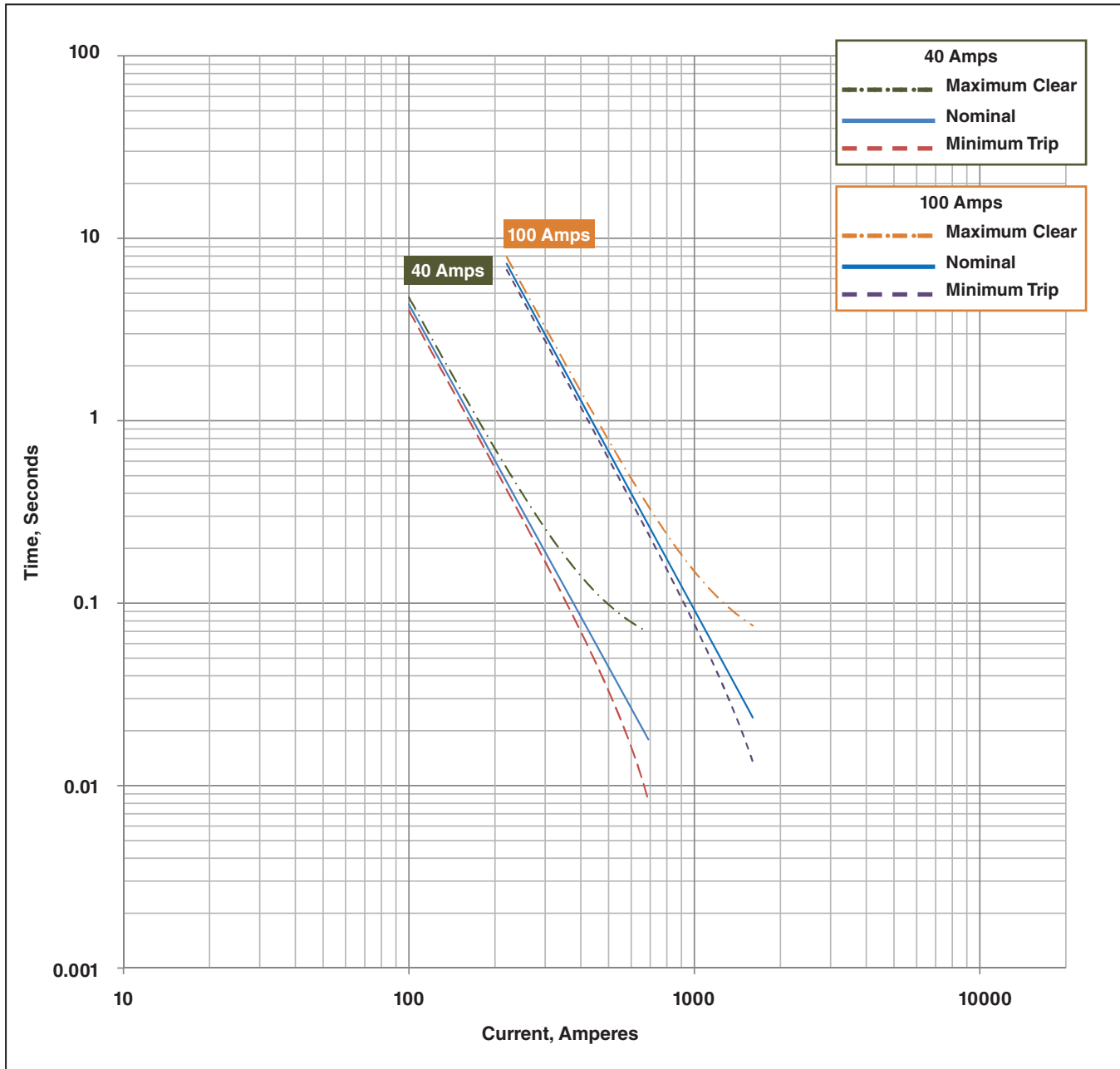


TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere K Speed Fuse Link						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 K	6.431782	0	2.84941	0	0	67	538
80 K	7.623636	0	2.876268	0	0	172	1437

Fuse Link TCC Curves

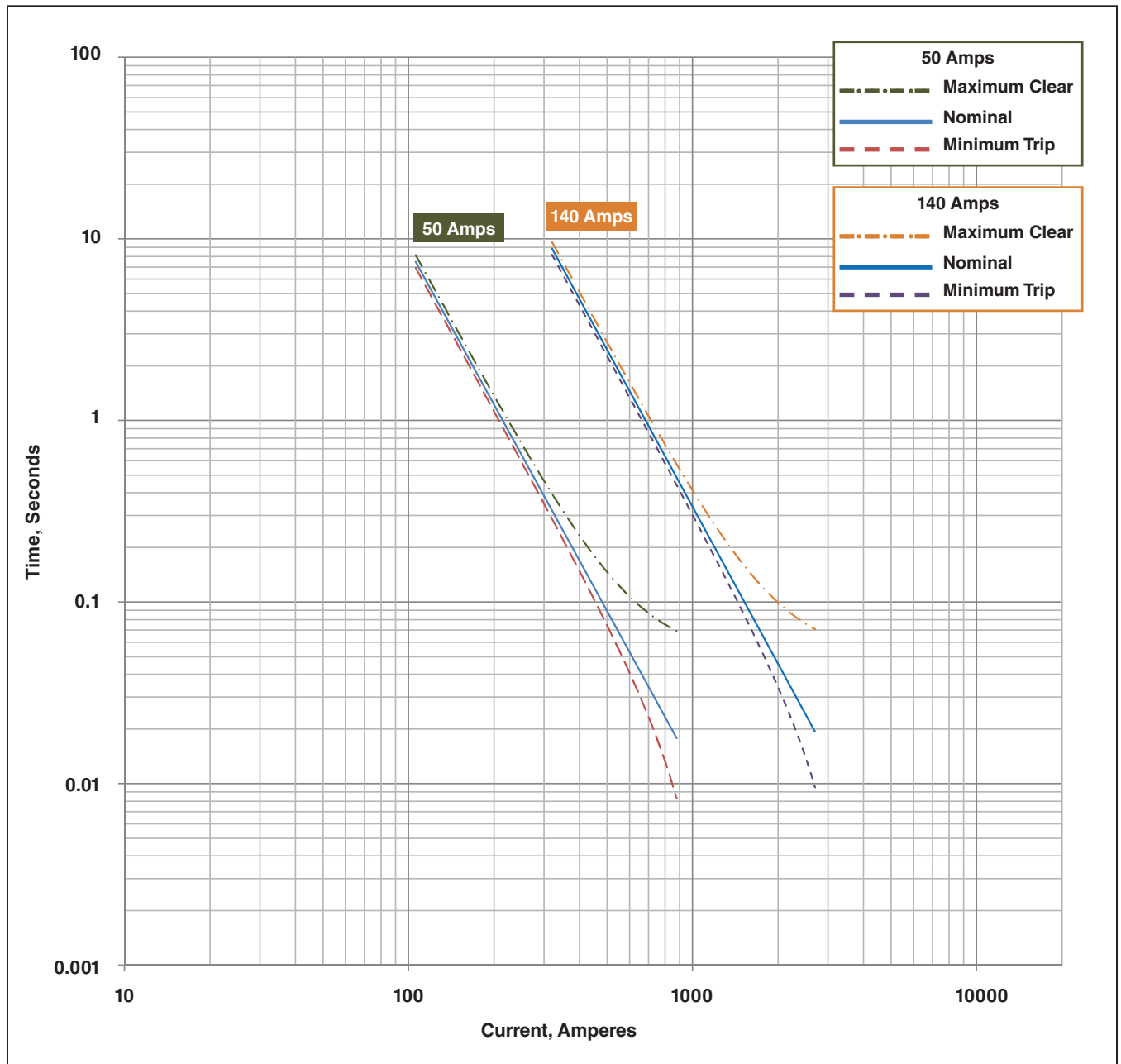
40-, 100-Ampere K Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameters from 40- and 100-Ampere K Speed Fuse Link						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 K	7.898896	0	2.843639	0	0	163	1365
100 K	8.3005	0	2.927412	0	0	657	5081

50-, 140-Ampere K Speed Fuse Links TCC Curve

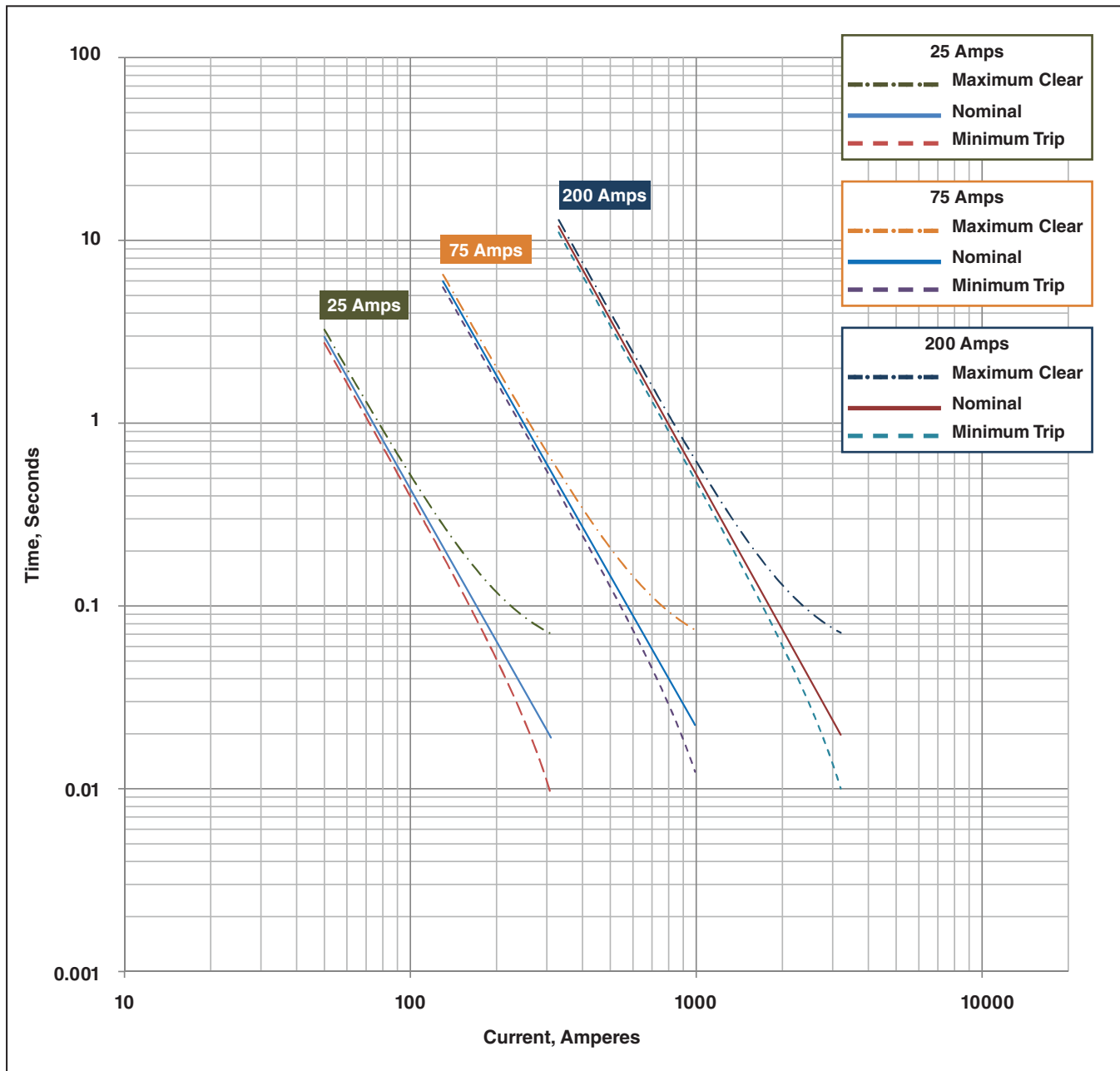


TCC Curve Parameters

Curve	Curve Parameters from 50- and 140-Ampere K Speed Fuse Link						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 K	7.961482	0	2.854987	0	0	105	894
140 K	19.106743	0	3.106743	0	0	229	2197

Fuse Link TCC Curves

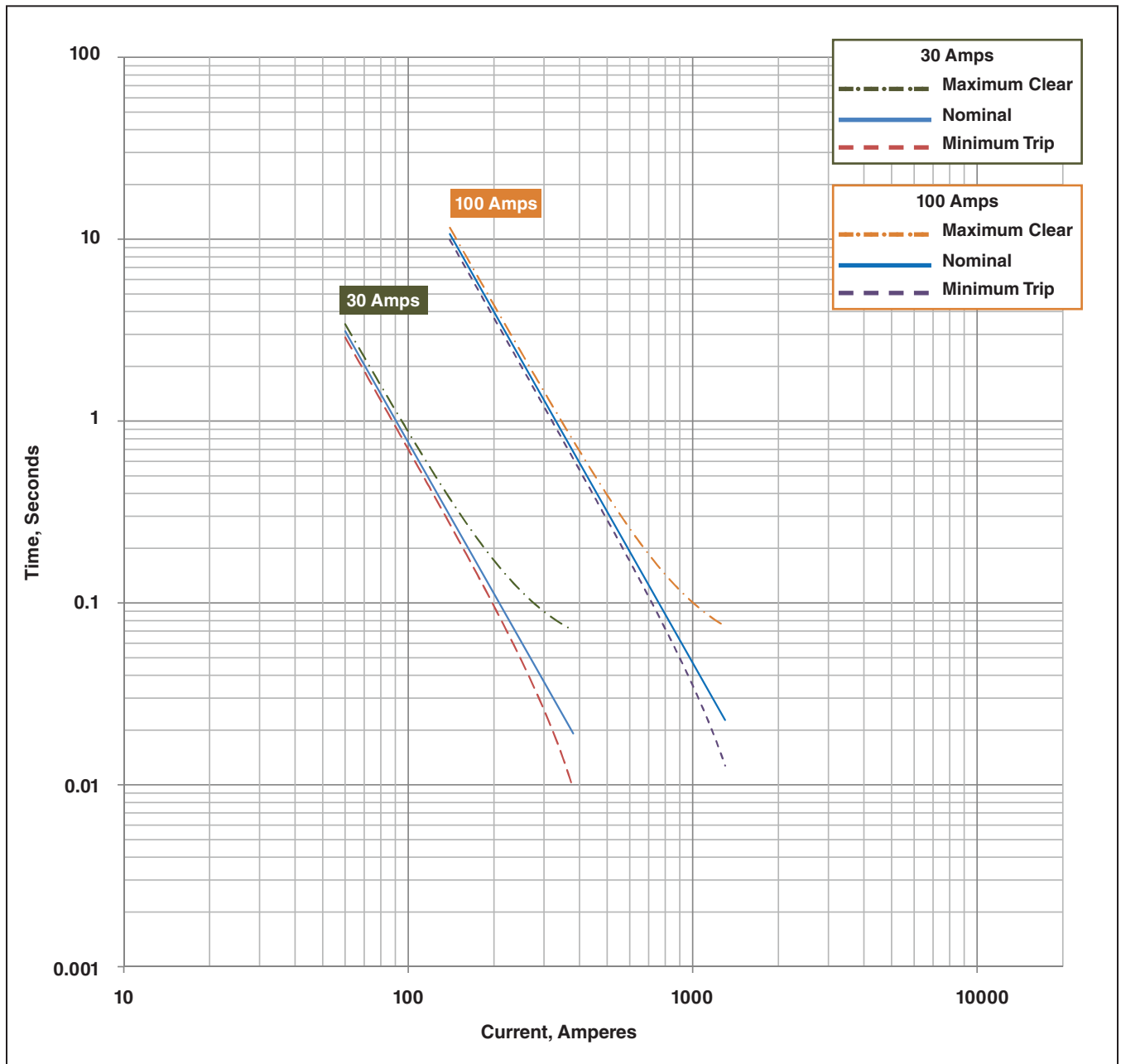
25-, 75-, 200-Ampere QR Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 25-, 75-, and 200-Ampere QR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 QR	7.369011	0	2.7673	0	0	36	323
75 QR	9.238517	0	2.75361	0	0	111	1093
200 QR	13.01841	0	2.81857	0	0	320	3376

30-, 100-Ampere QR Speed Fuse Links TCC Curve

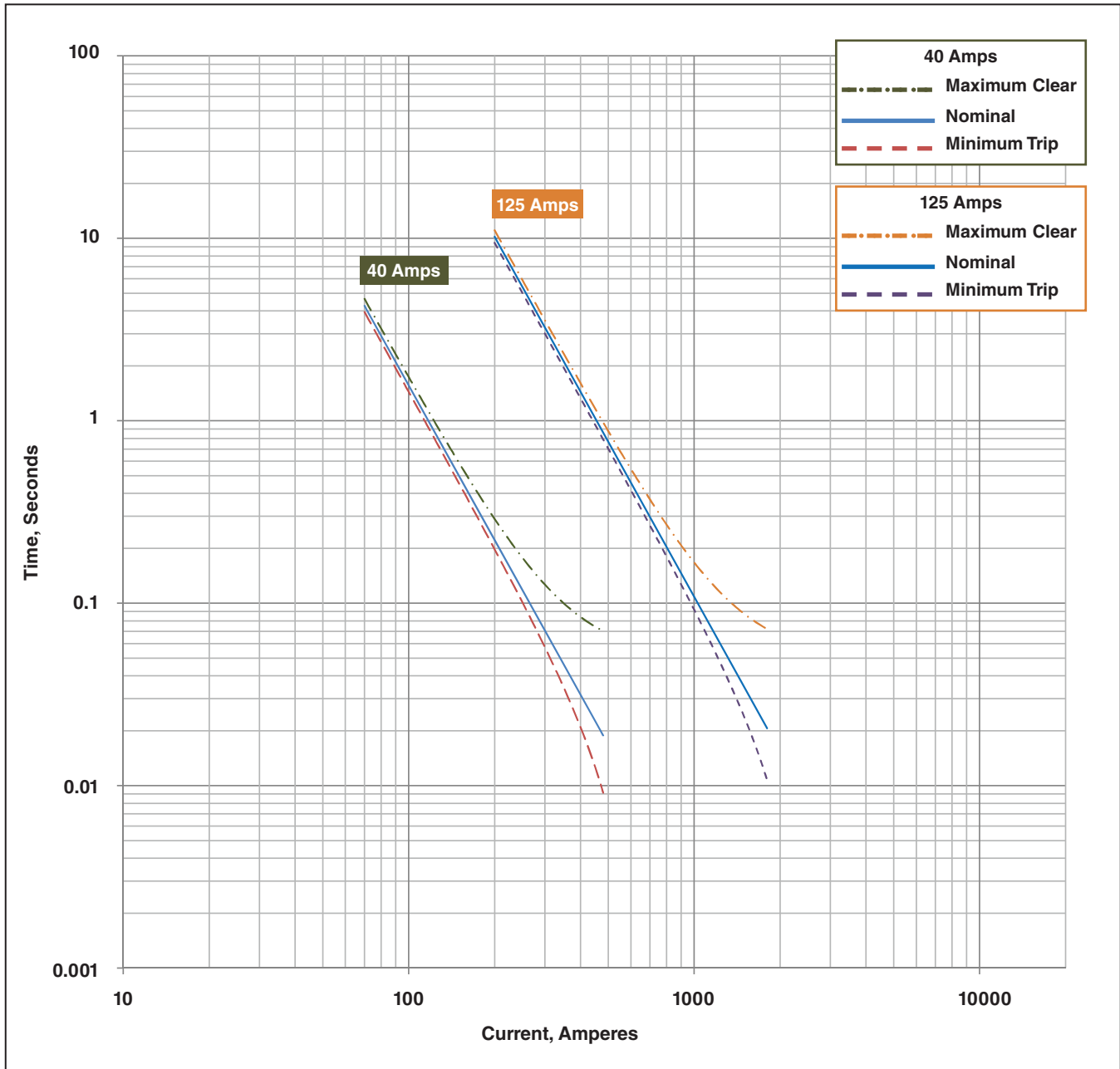


TCC Curve Parameters

Curve	Curve Parameter from 30- and 100-Ampere QR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 QR	7.820694	0	2.758454	0	0	43	397
100 QR	13.689616	0	2.761356	0	0	128	1444

Fuse Link TCC Curves

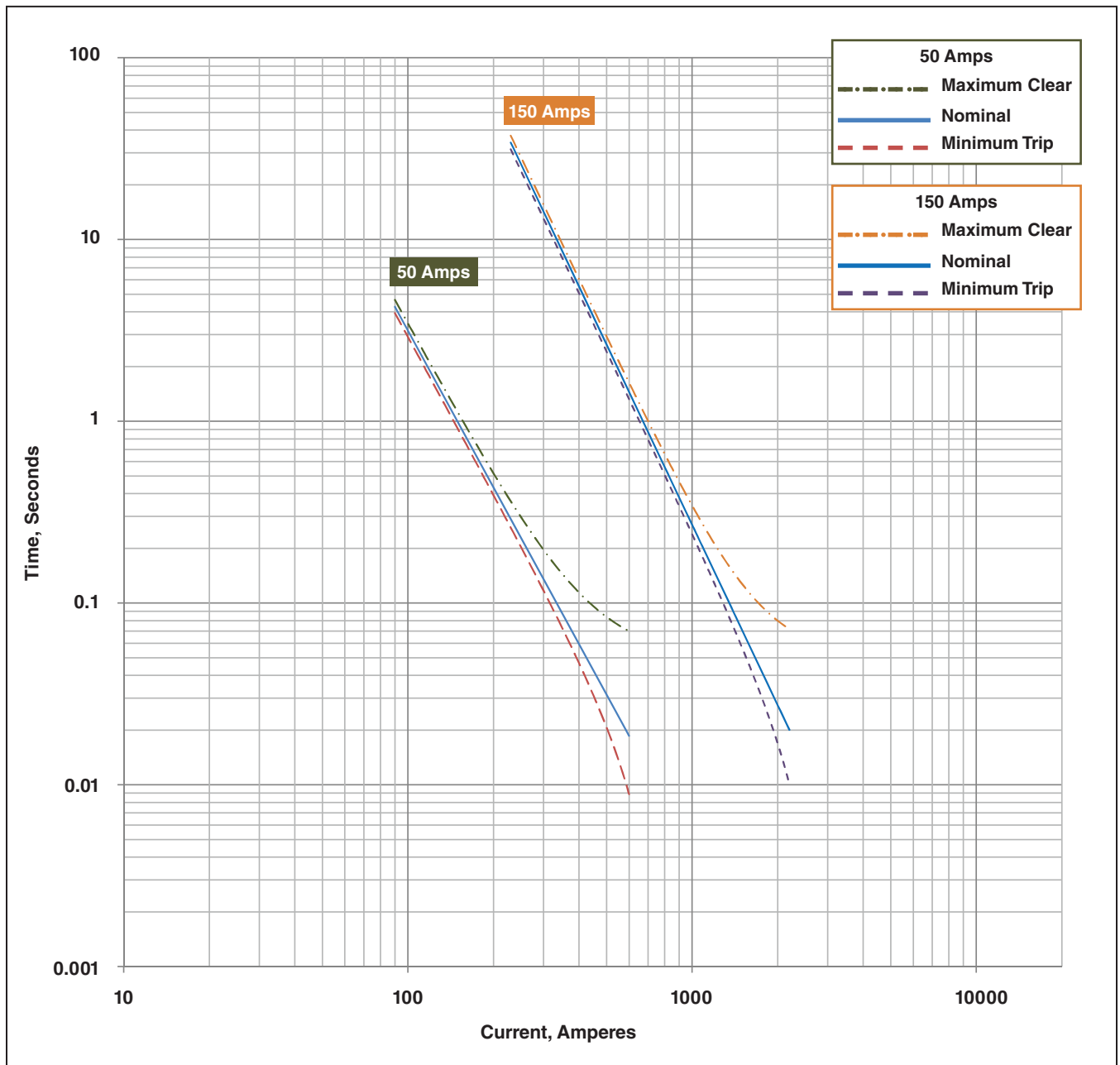
40-, 125-Ampere QR Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 40- and 125-Ampere QR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 QR	7.243481	0	2.815908	0	0	58	498
125 QR	11.977939	0	2.824154	0	0	189	1927

50-, 150-Ampere QR Speed Fuse Links TCC Curve

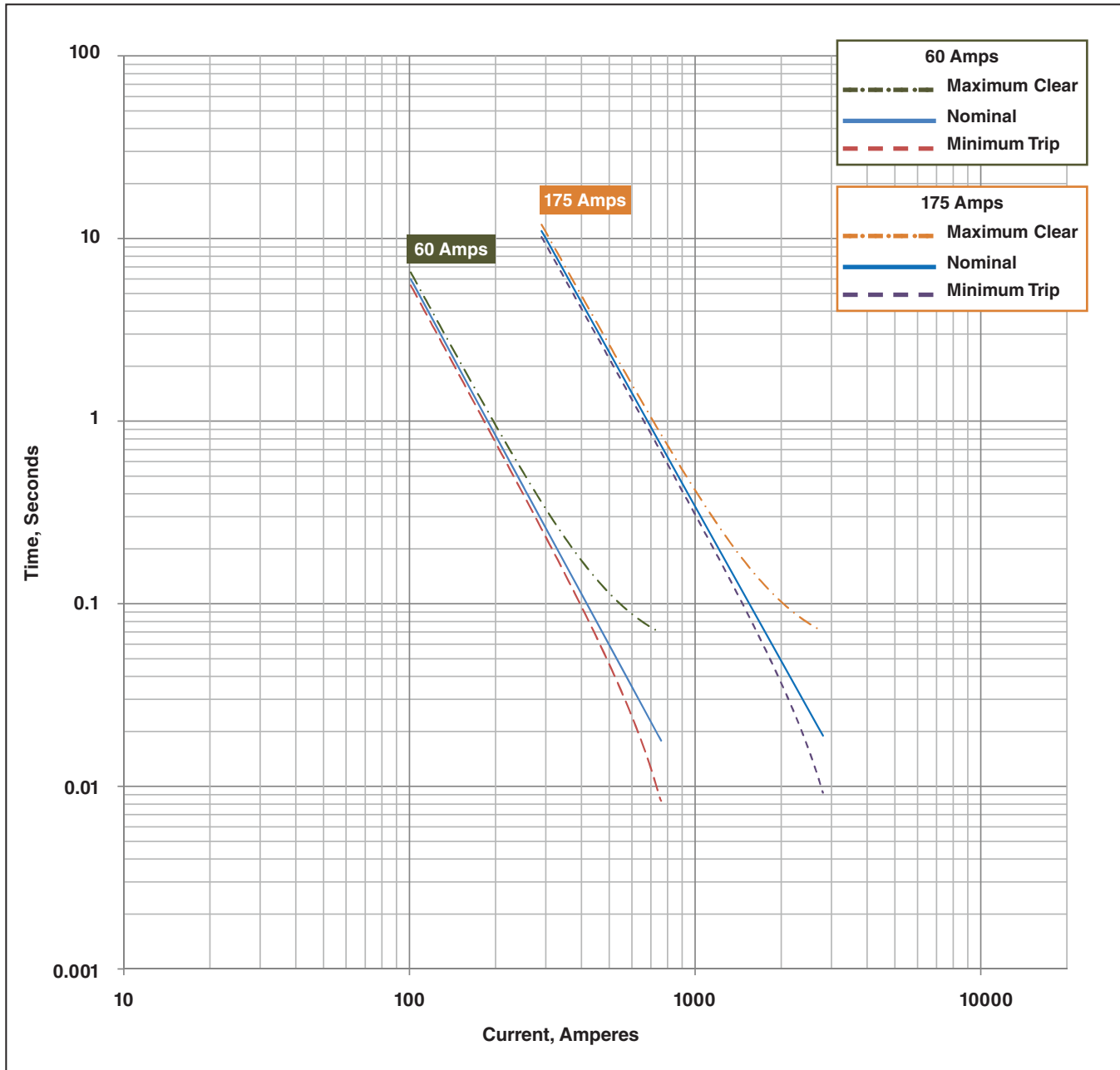


TCC Curve Parameters

Curve	Curve Parameter from 50- and 150-Ampere QR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 QR	7.191139	0	2.865224	0	0	75	619
150 QR	44.015443	0	3.295201	0	0	213	2313

Fuse Link TCC Curves

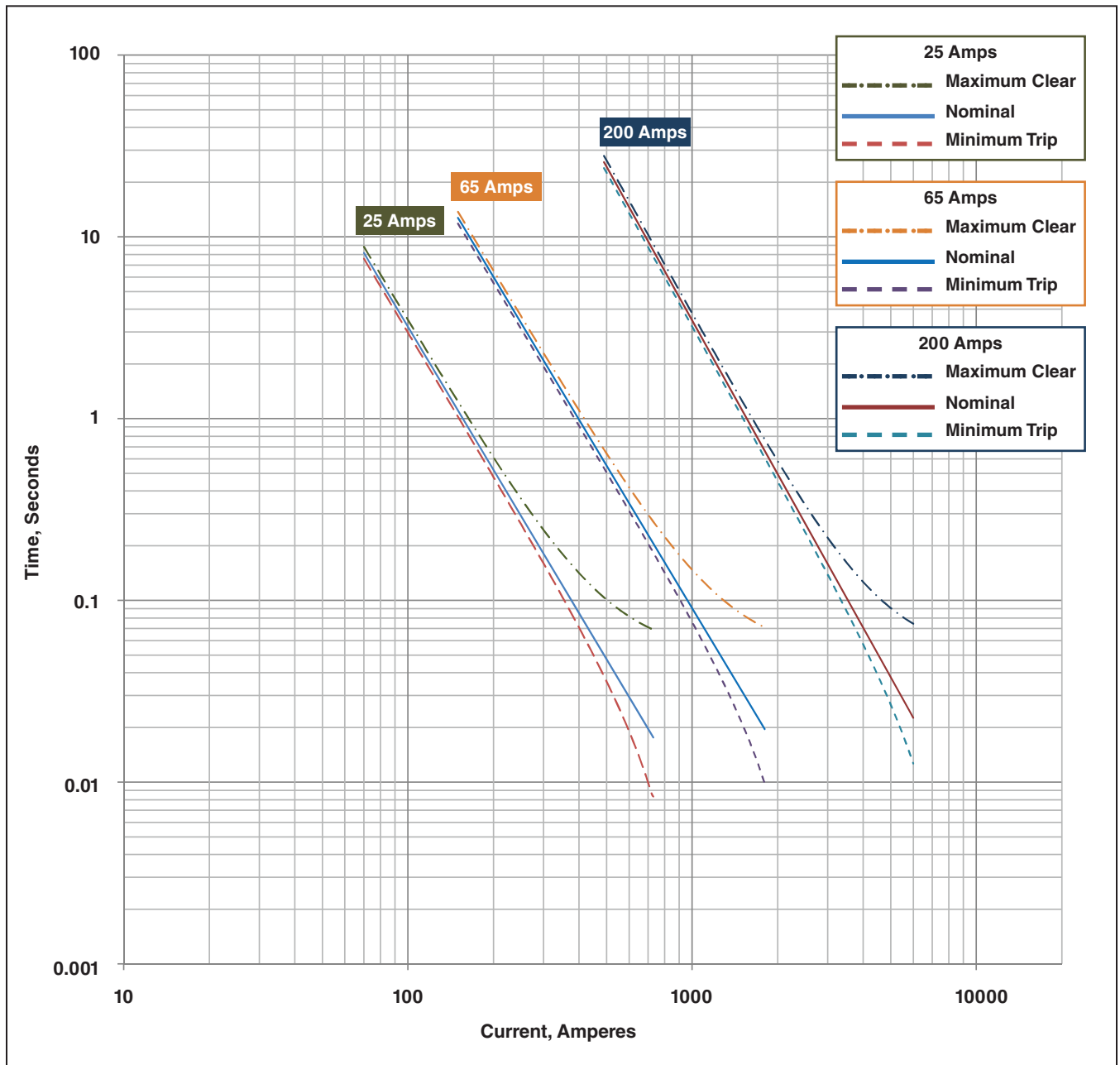
60-, 175-Ampere QR Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 65- and 175-Ampere QR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
60 QR	8.09546	0	2.88376	0	0	91	772
175 QR	13.167557	0	2.806751	0	0	272	2910

25-, 65-, 200-Ampere T Speed Fuse Links TCC Curve

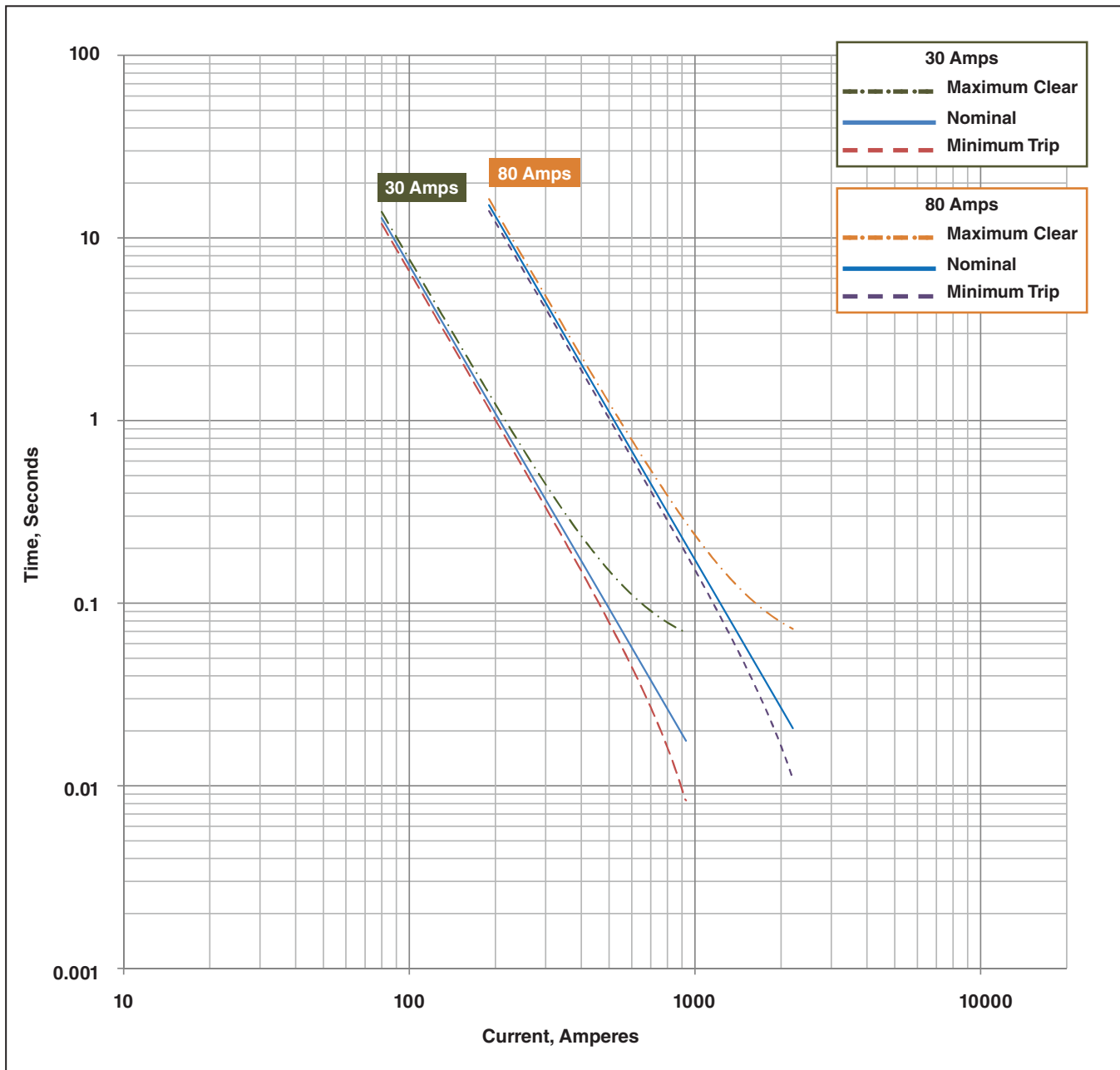


TCC Curve Parameters

Curve	Curve Parameter from 25-, 65-, and 200-Ampere T Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 T	16.892304	0	2.61778	0	0	53	740
65 T	15.530242	0	2.606875	0	0	139	1900
200 T	28.316186	0	2.810201	0	0	474	6640

Fuse Link TCC Curves

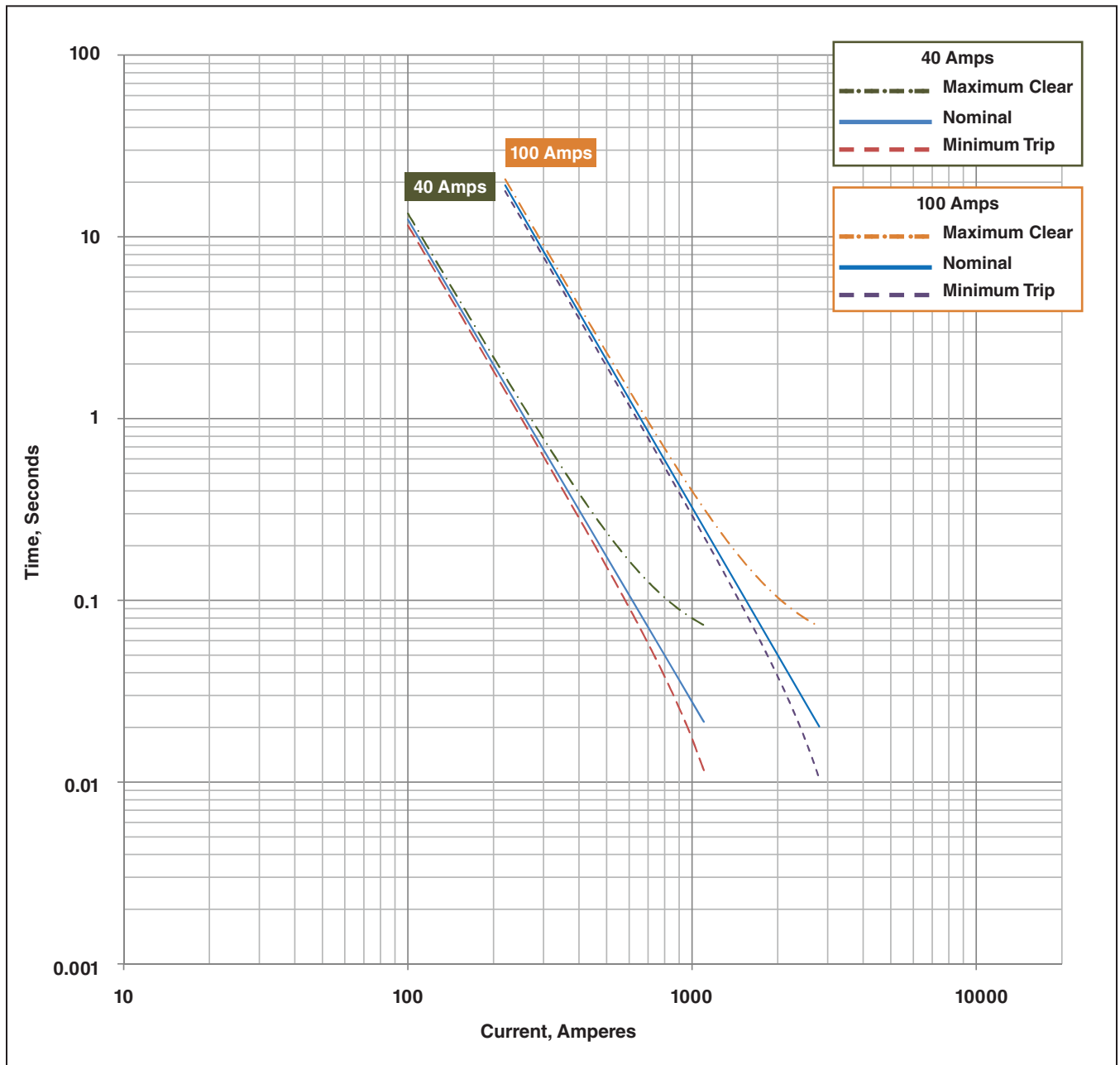
30-, 80-Ampere T Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere T Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 T	19.146702	0	2.687105	0	0	69	943
80 T	19.15569	0	2.692494	0	0	174	2366

40-, 100-Ampere T Speed Fuse Links TCC Curve

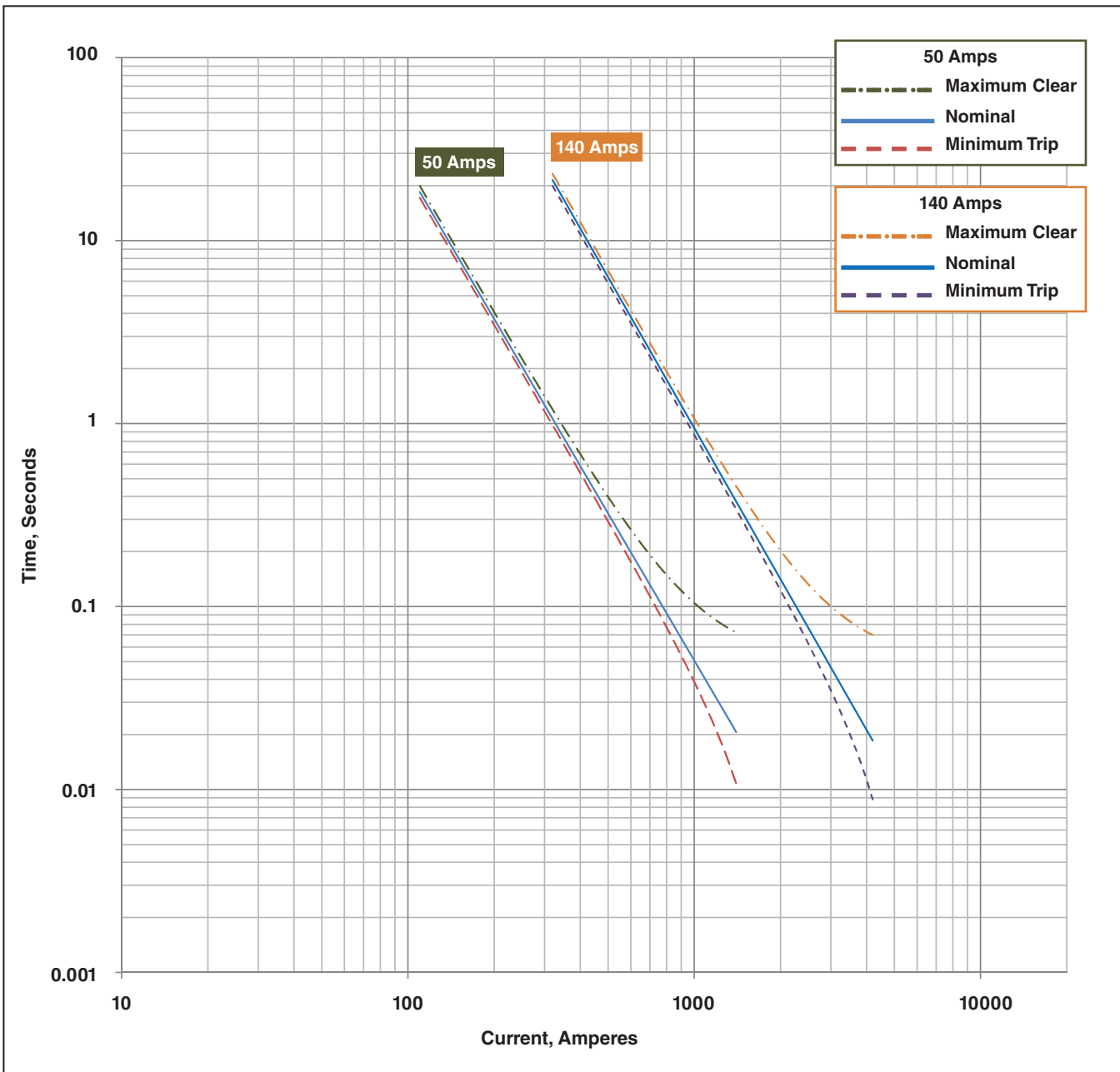


TCC Curve Parameters

Curve	Curve Parameter from 40- and 100-Ampere T Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 T	18.013515	0	2.653585	0	0	87	1201
100 T	22.080413	0	2.695853	0	0	209	2986

Fuse Link TCC Curves

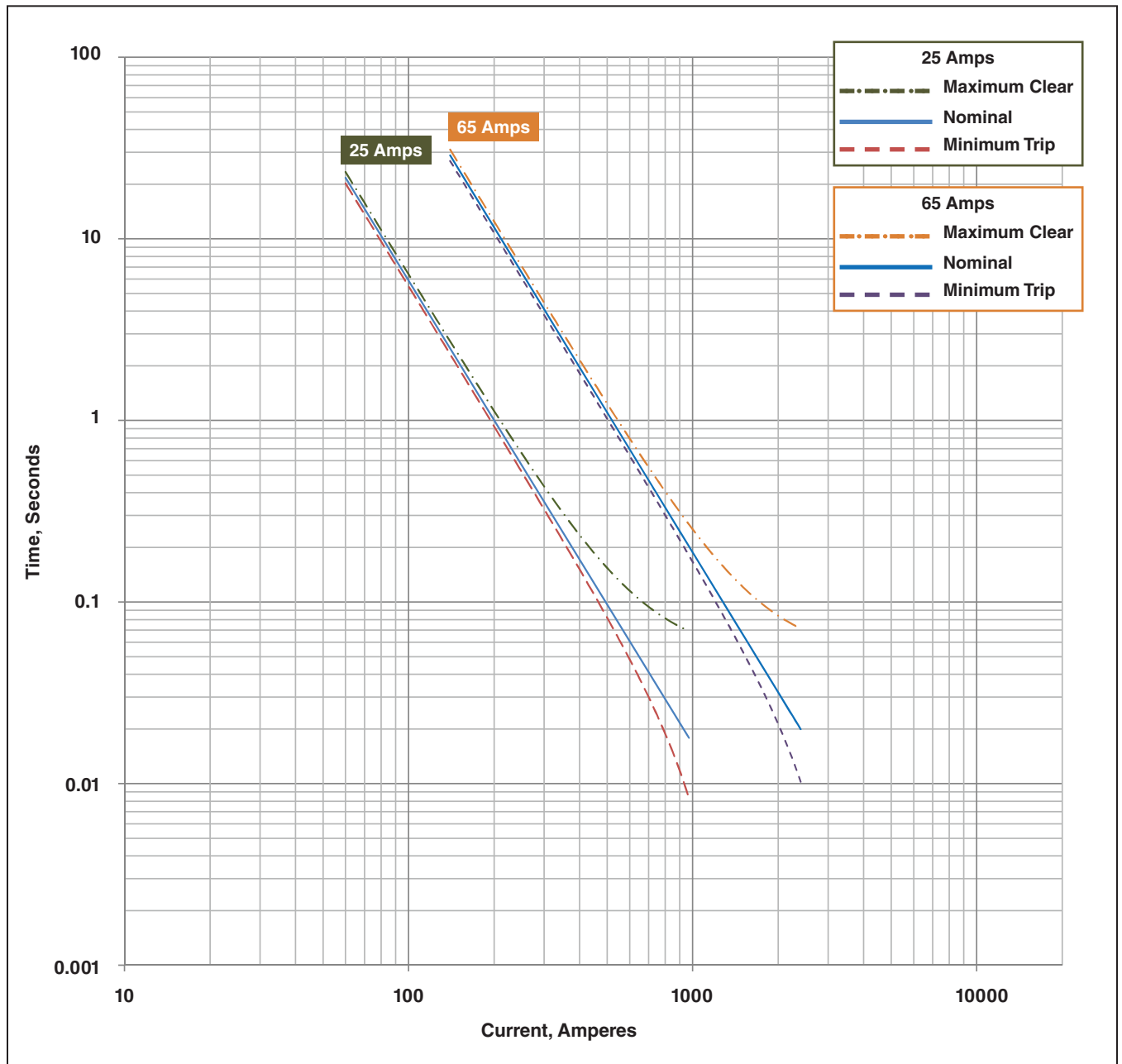
50-, 140-Ampere T Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 140-Ampere T Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 T	18.909108	0	2.671867	0	0	109	1505
140 T	23.615661	0	2.74062	0	0	309	4332

25-, 65-Ampere KSR Speed Fuse Links TCC Curve

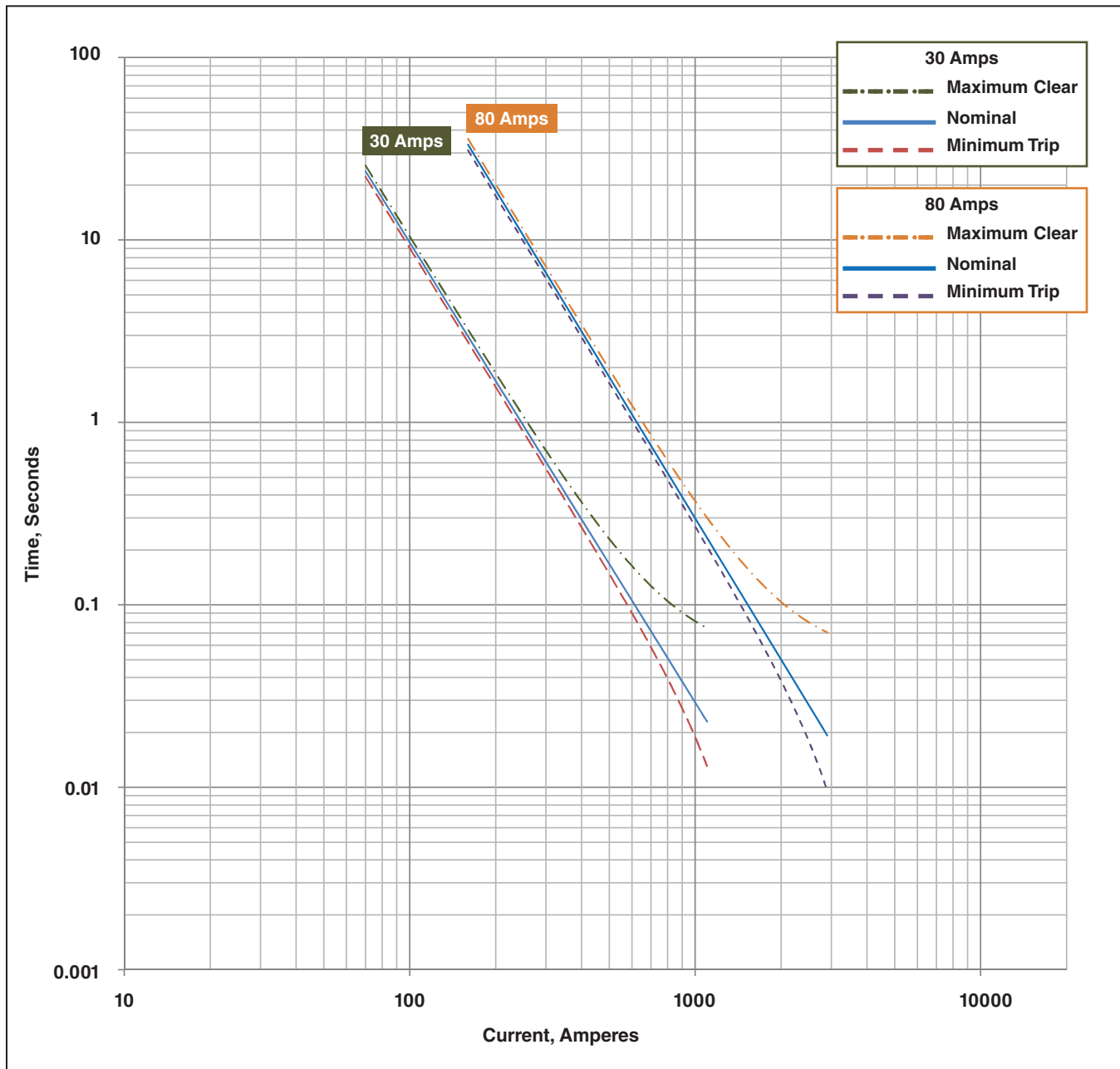


TCC Curve Parameters

Curve	Curve Parameter from 25- and 65-Ampere KSR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 KSR	38.333504	0	2.551936	0	0	48	989
65 KSR	40.192591	0	2.561039	0	0	123	2554

Fuse Link TCC Curves

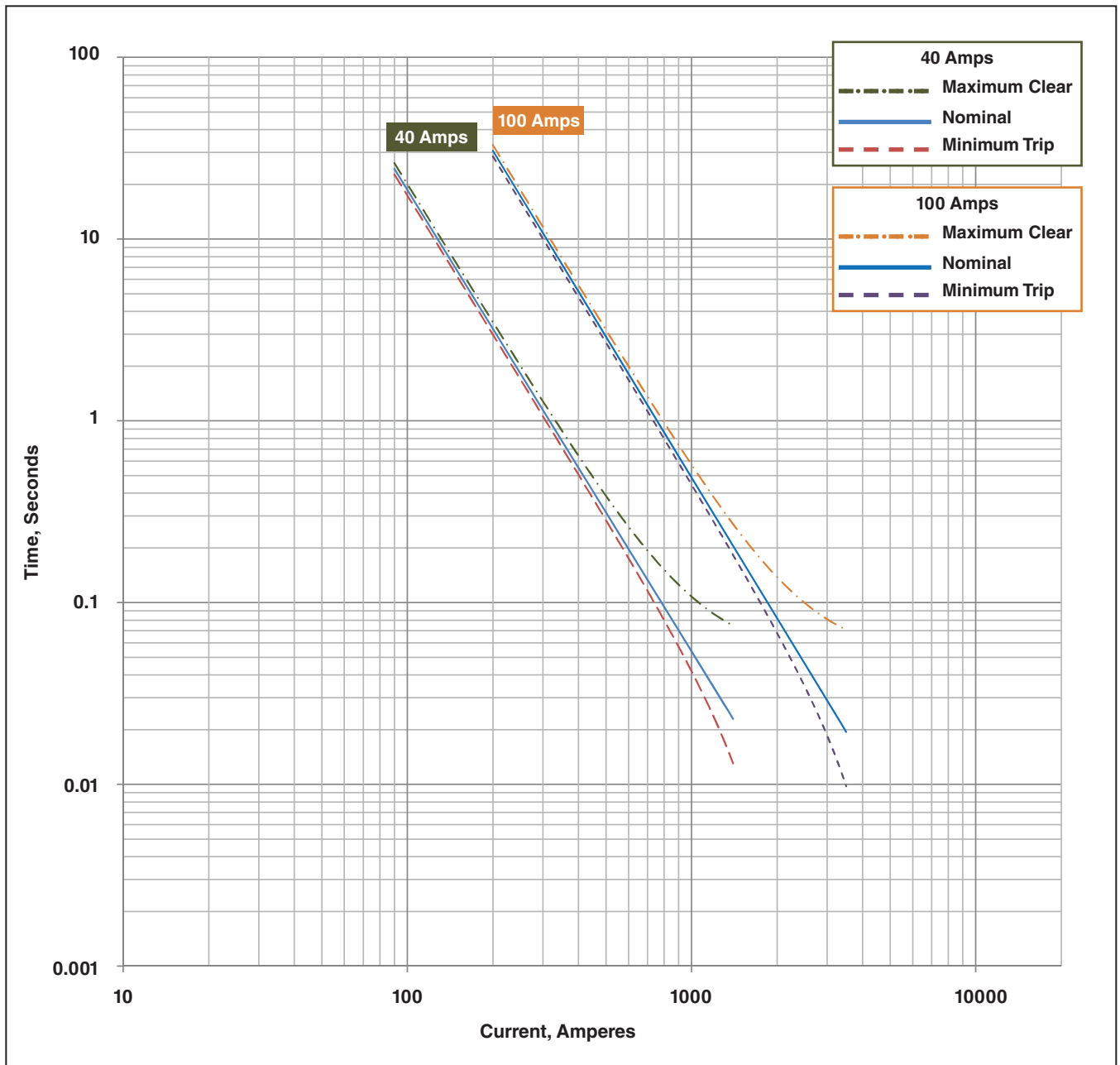
30-, 80-Ampere KSR Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere KSR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 KSR	39.973408	0	2.521187	0	0	57	1239
80 KSR	42.902149	0	2.573525	0	0	145	3043

40-, 100-Ampere KSR Speed Fuse Links TCC Curve

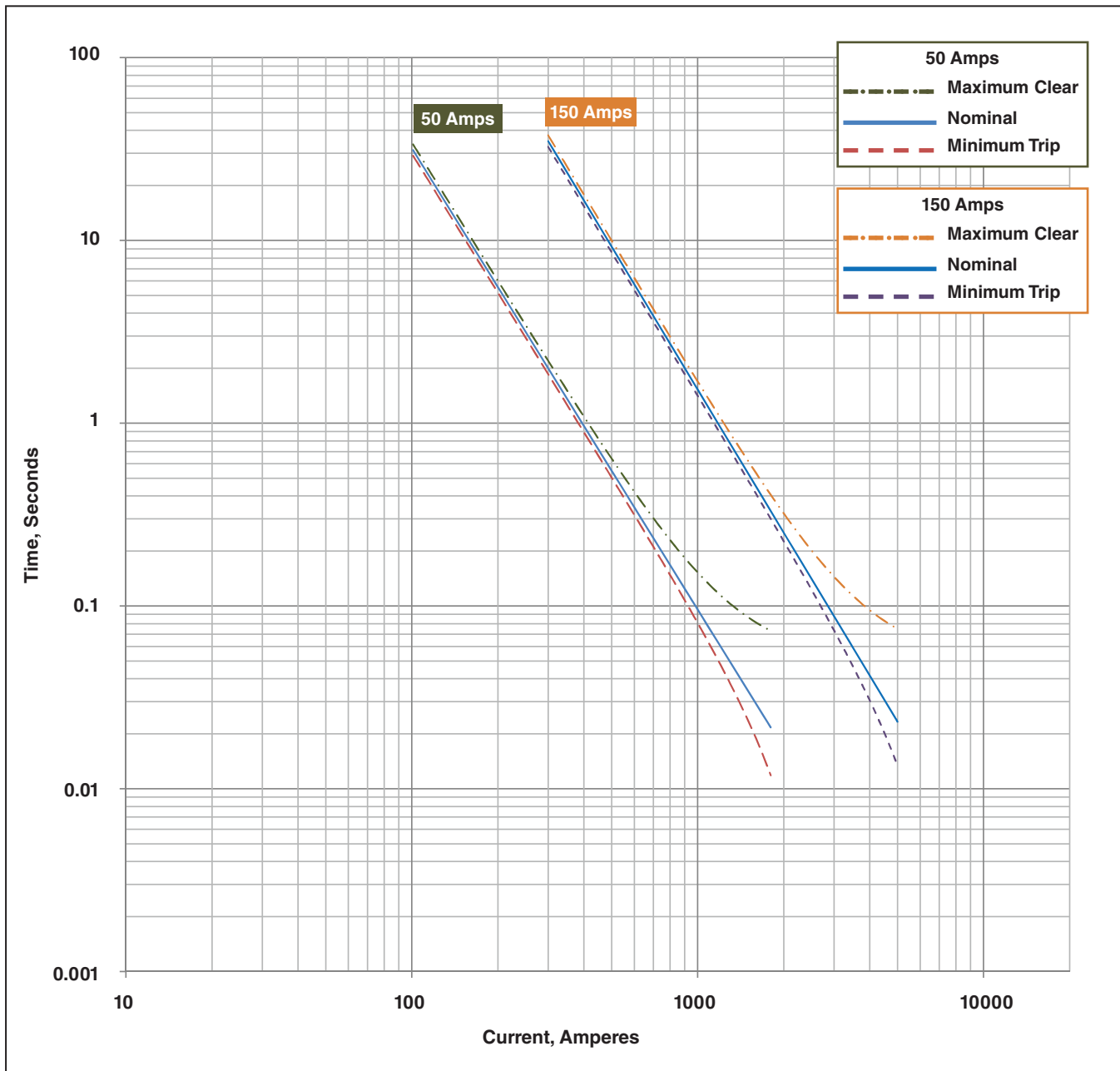


TCC Curve Parameters

Curve	Curve Parameter from 40- and 100-Ampere KSR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 KSR	36.197816	0	2.539106	0	0	77	1575
100 KSR	34.941124	0	2.572514	0	0	190	3686

Fuse Link TCC Curves

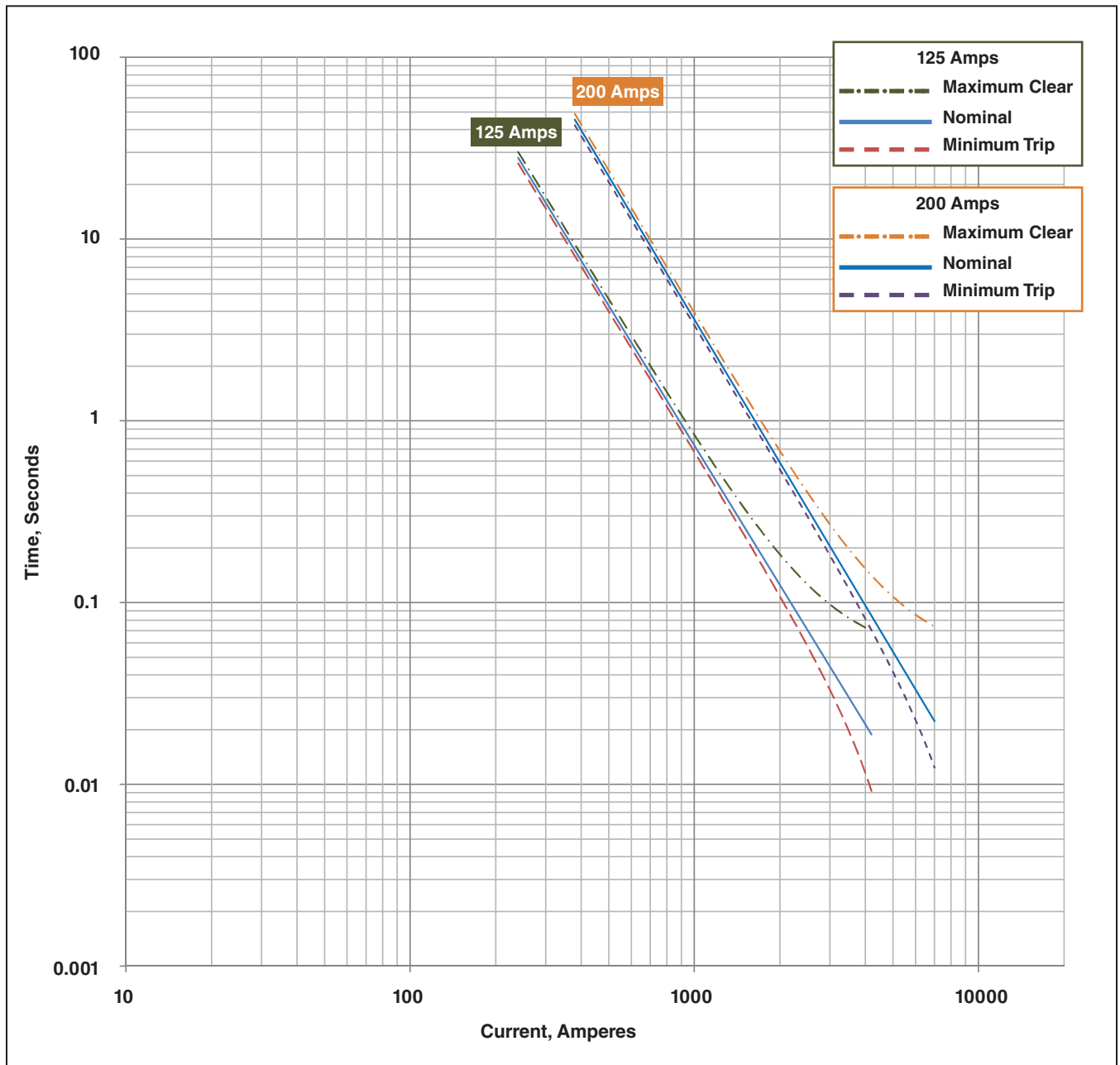
50-, 150-Ampere KSR Speed Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 150-Ampere KSR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 KSR	35.471965	0	2.525029	0	0	96	1981
150 KSR	41.381092	0	2.99281	0	0	281	5643

125-, 200-Ampere KSR Speed Fuse Links TCC Curve

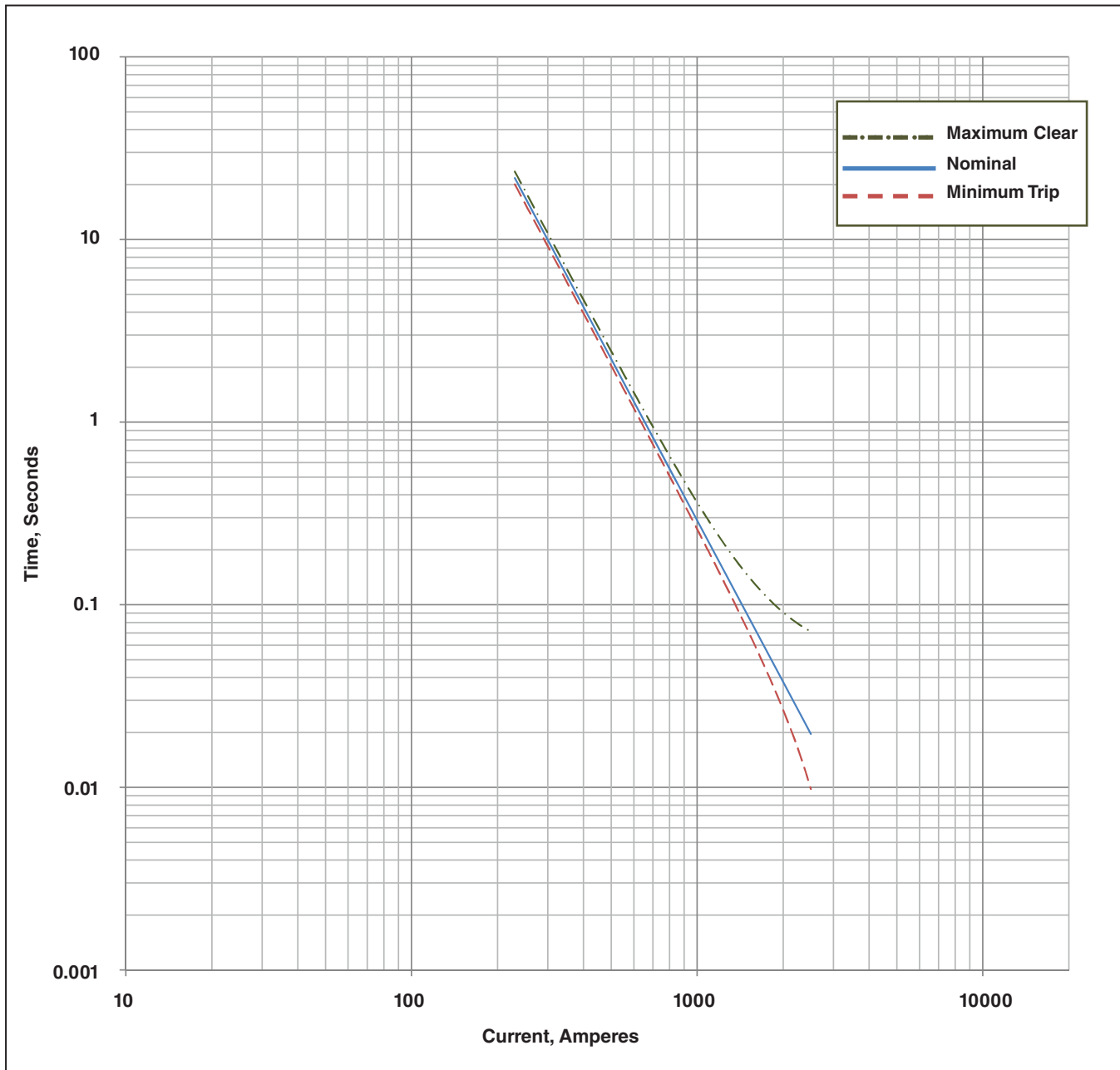


TCC Curve Parameters

Curve	Curve Parameter from 125- and 200-Ampere KSR Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
125 KSR	34.168015	0	2.552233	0	0	222	4371
200 KSR	51.57723	0	2.615784	0	0	362	7760

Fuse Link TCC Curves

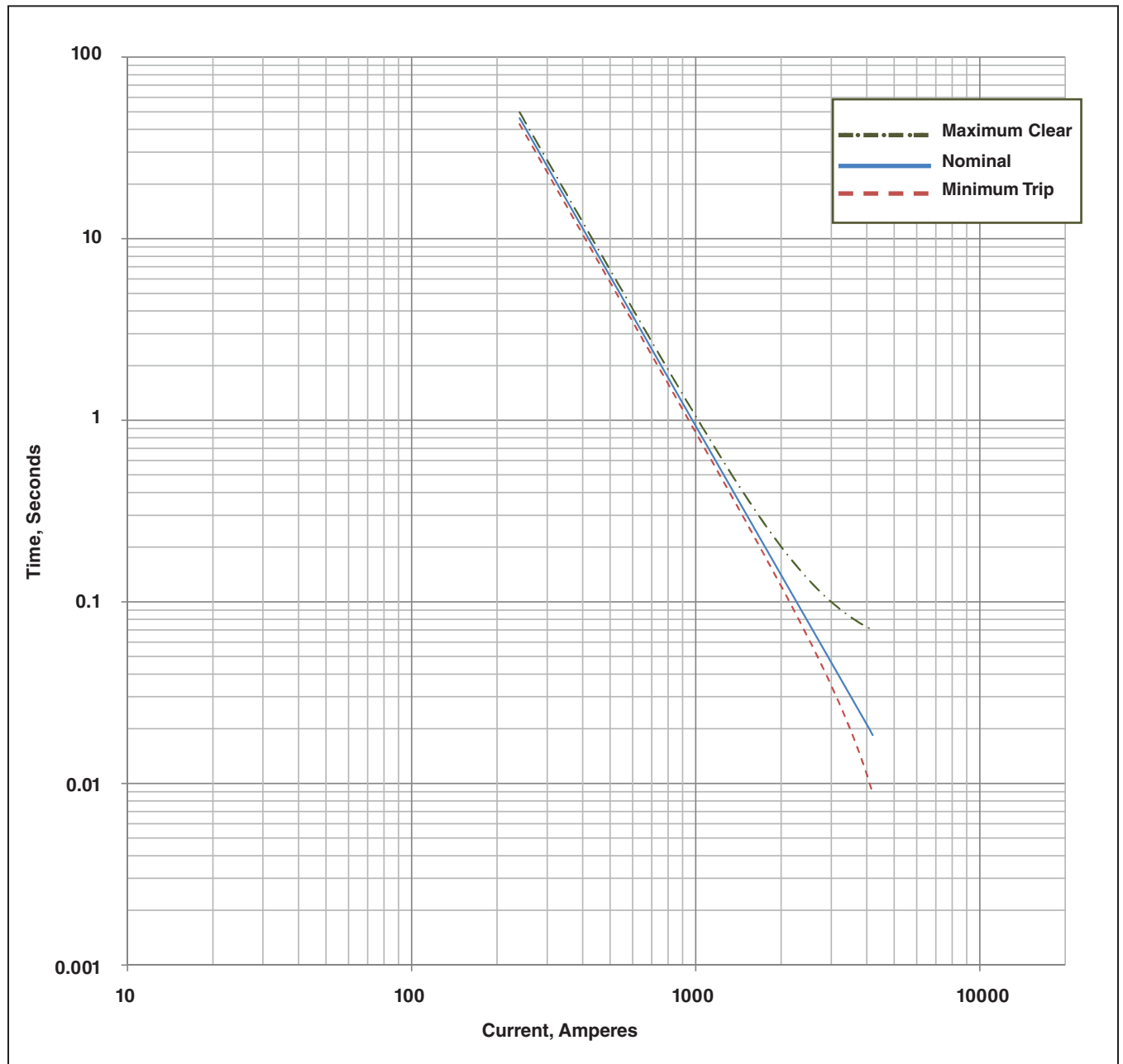
101-Ampere Coordinating Speed Fuse Links TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from 101 Coordinating Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
101 Amps	27.206558	0	2.935081	0	0	213	2624

102-Ampere Coordinating Speed Fuse Links TCC Curve

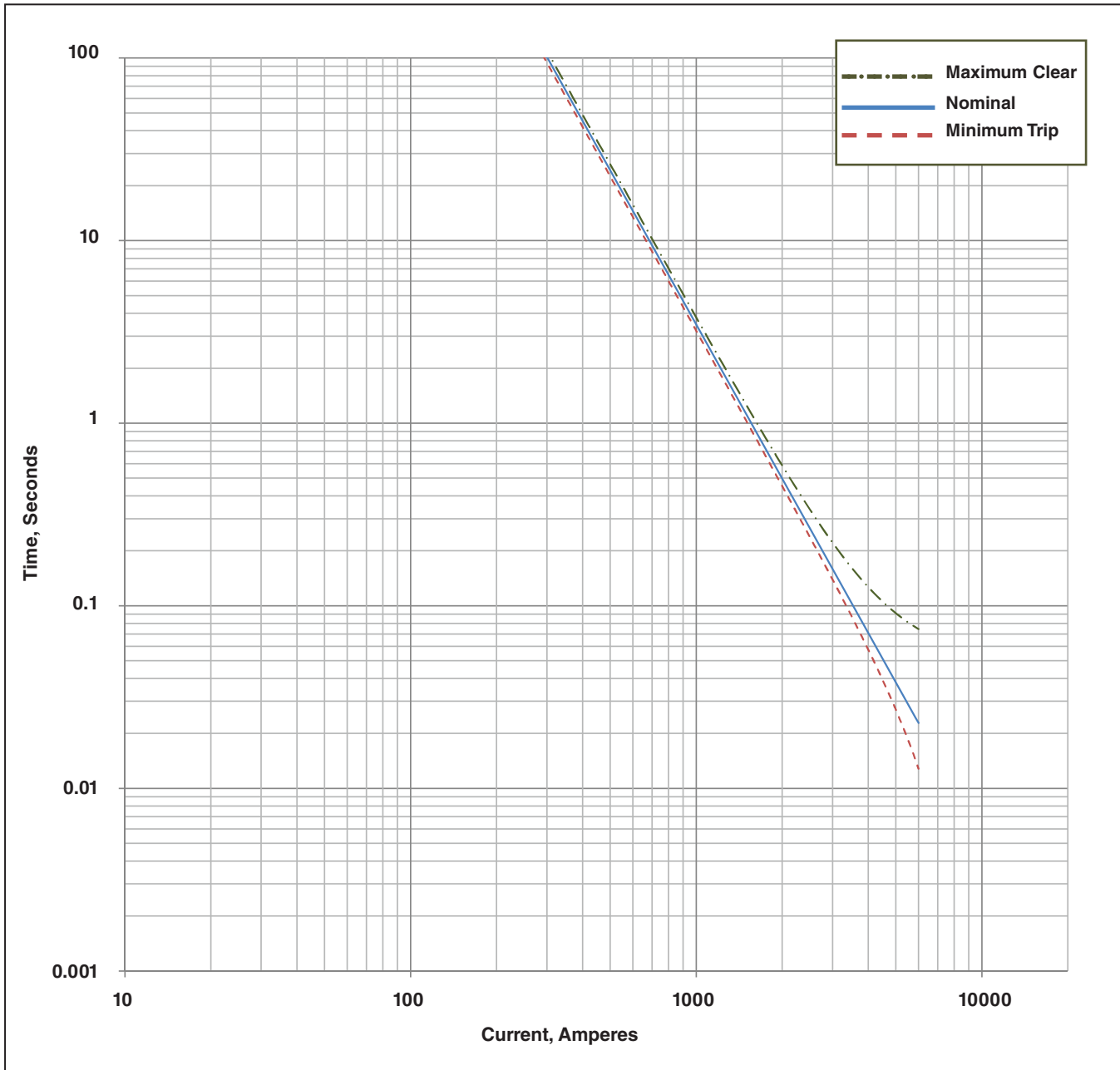


TCC Curve Parameter

Curve	Curve Parameter from 102 Coordinating Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
102 Amps	52.404614	0	2.733296	0	0	229	4328

Fuse Link TCC Curves

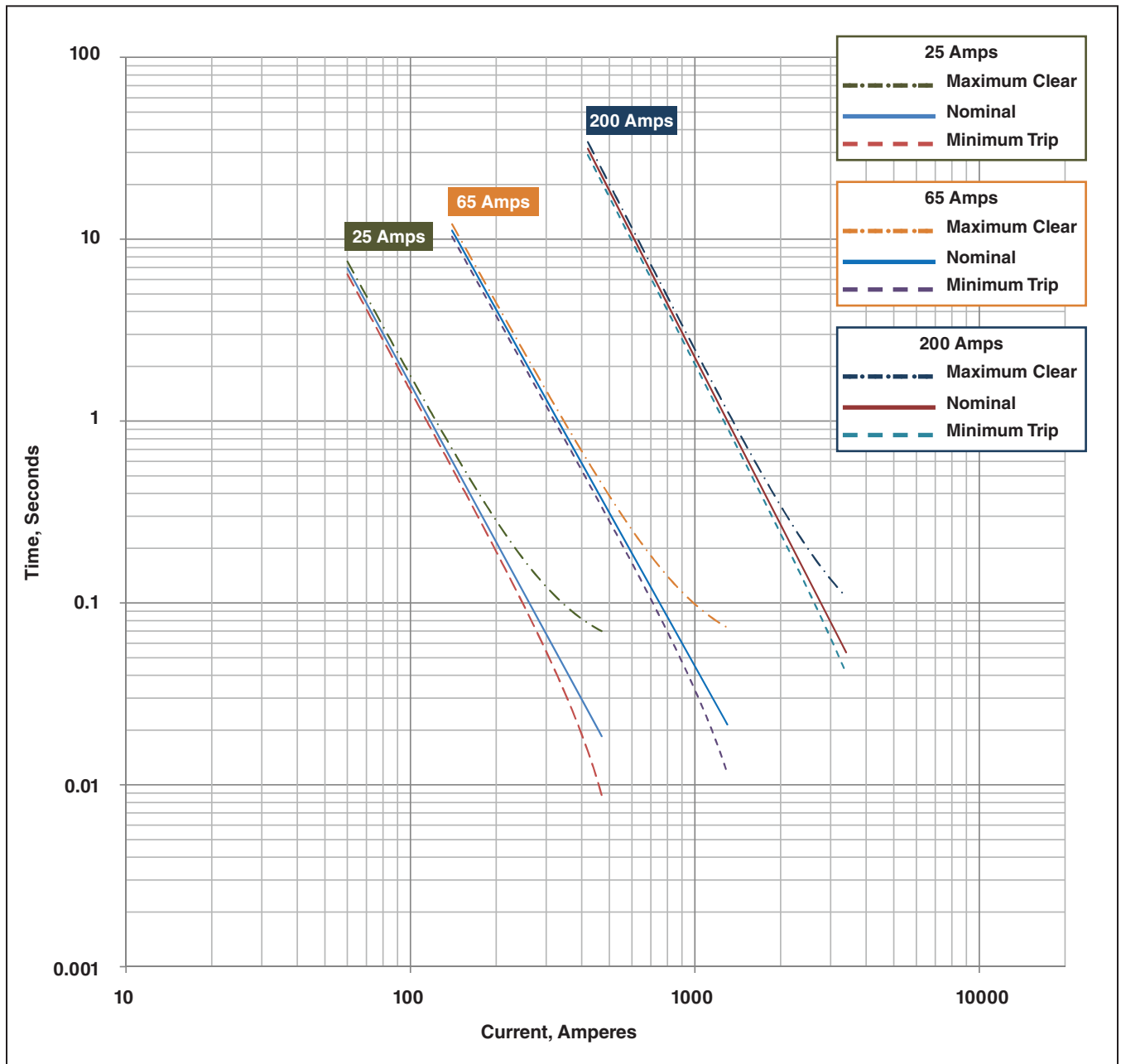
103-Ampere Coordinating Speed Fuse Links TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from 103 Coordinating Speed Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
103 Amps	131	0	2.804551	0	0	274	6666

25-, 65-, 200-Ampere N Kearney Type 200 Fuse Links TCC Curve

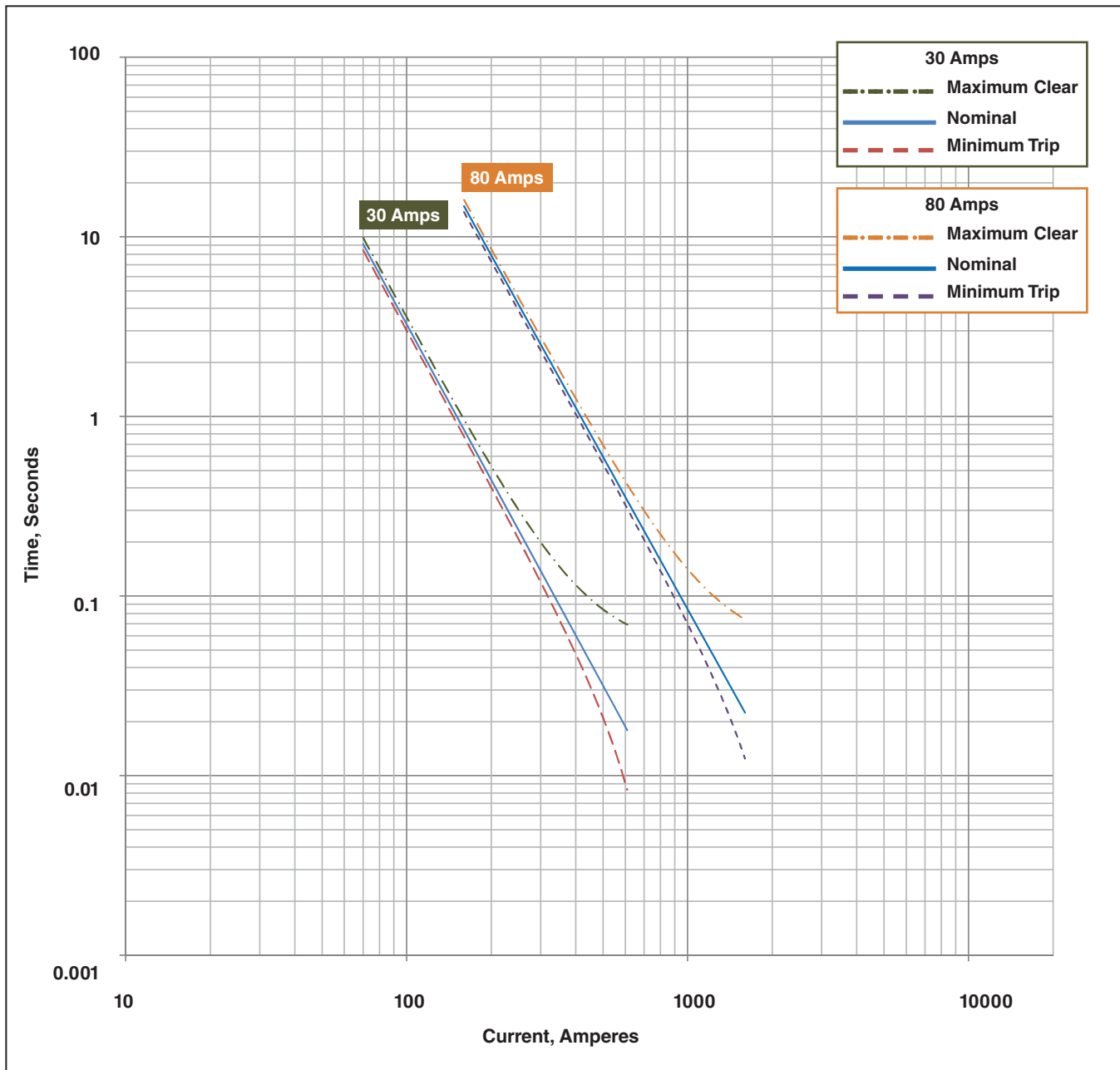


TCC Curve Parameters

Curve	Curve Parameters from 25-, 65-, and 200-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 Amps	15.892578	0	2.879654	0	0	45	484
65 Amps	16.427686	0	2.806145	0	0	122	1413
200 Amps	34.69219	0	3.05046	0	0	407	3581

Fuse Link TCC Curves

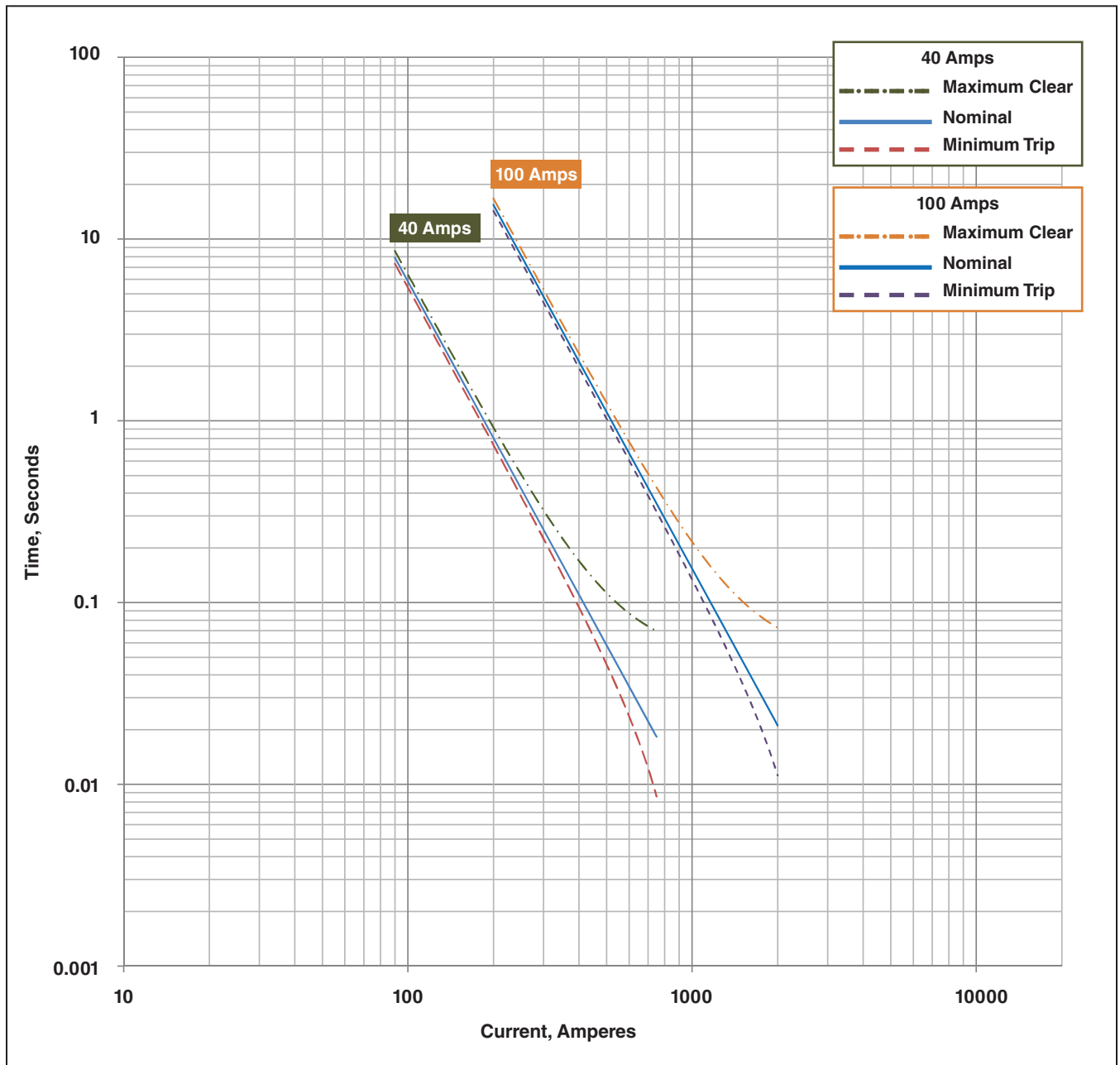
30-, 80-Ampere N Kearney Type 200 Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 Amps	17.303592	0	2.878435	0	0	56	612
80 Amps	19.184181	0	2.820138	0	0	146	1765

40-, 100-Ampere N Kearney Type 200 Fuse Links TCC Curve

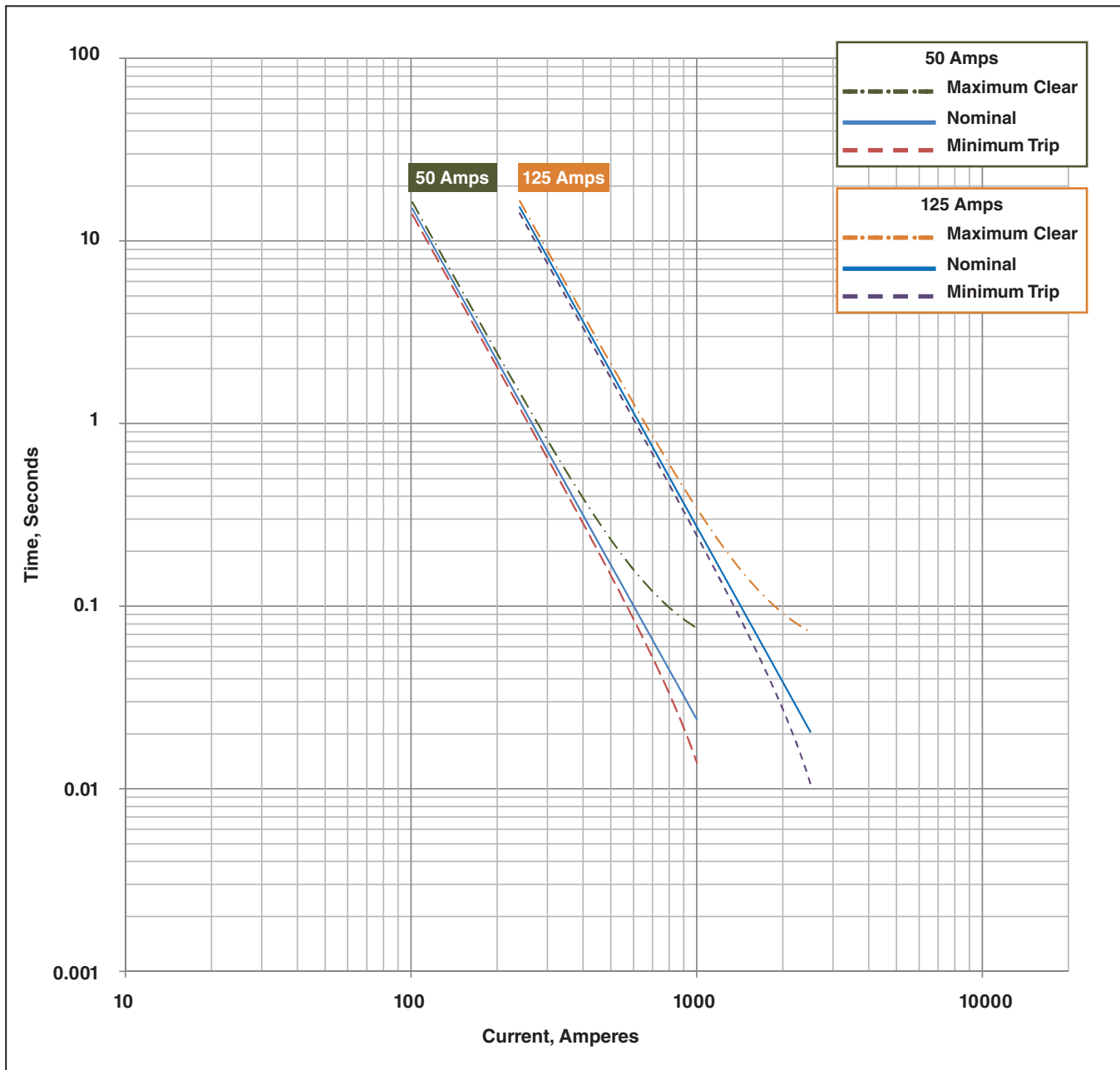


TCC Curve Parameters

Curve	Curve Parameter from 40- and 100-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 Amps	14.992841	0	2.863555	0	0	72	796
100 Amps	18.72076	0	2.864809	0	0	187	2156

Fuse Link TCC Curves

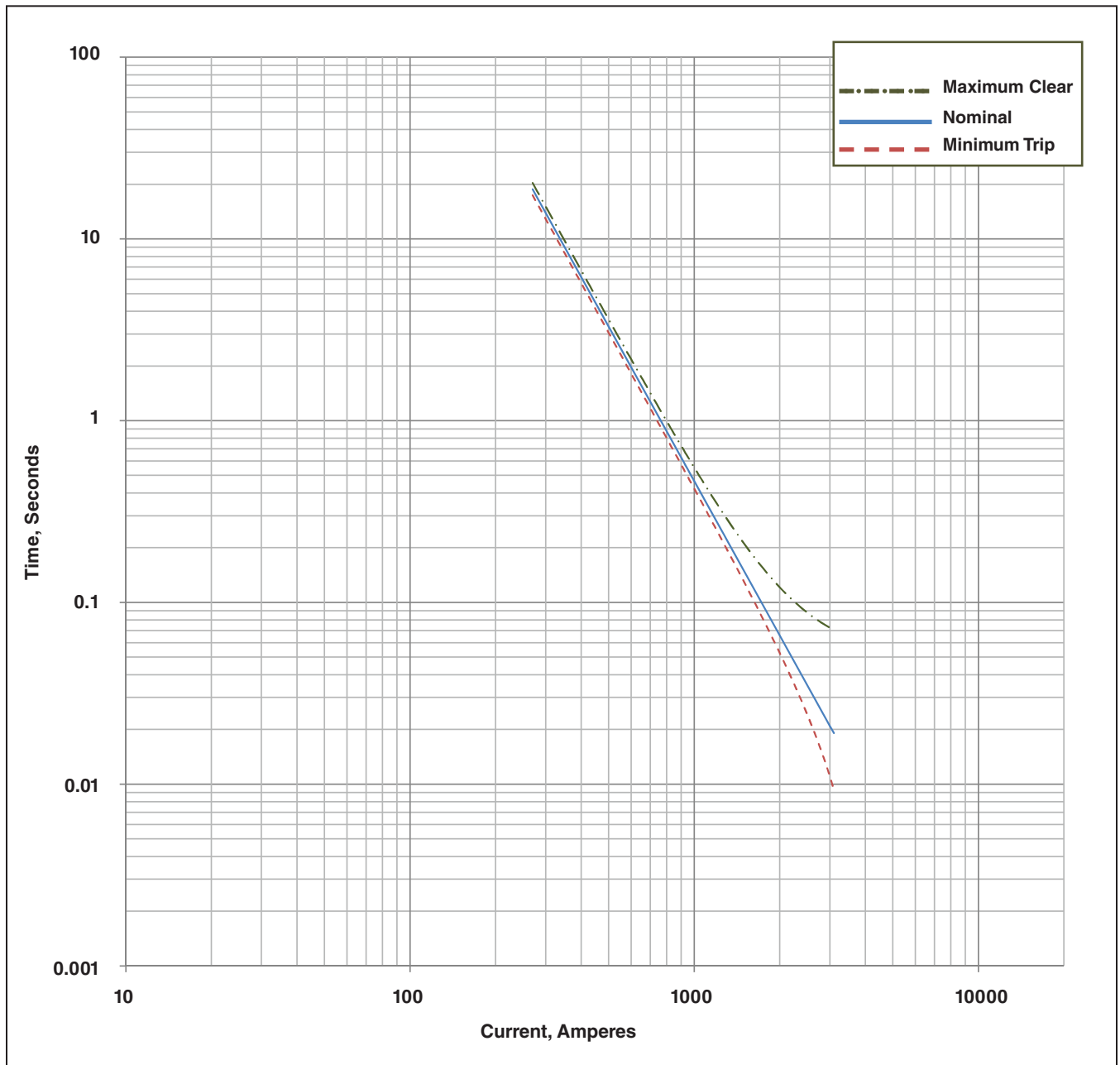
50-, 125-Ampere N Kearney Type 200 Fuse Links TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 125-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 Amps	17.888283	0	2.809343	0	0	95	1131
125 Amps	19.071978	0	2.823186	0	0	222	2671

150-Ampere N Kearney Type 200 Fuse Links TCC Curve

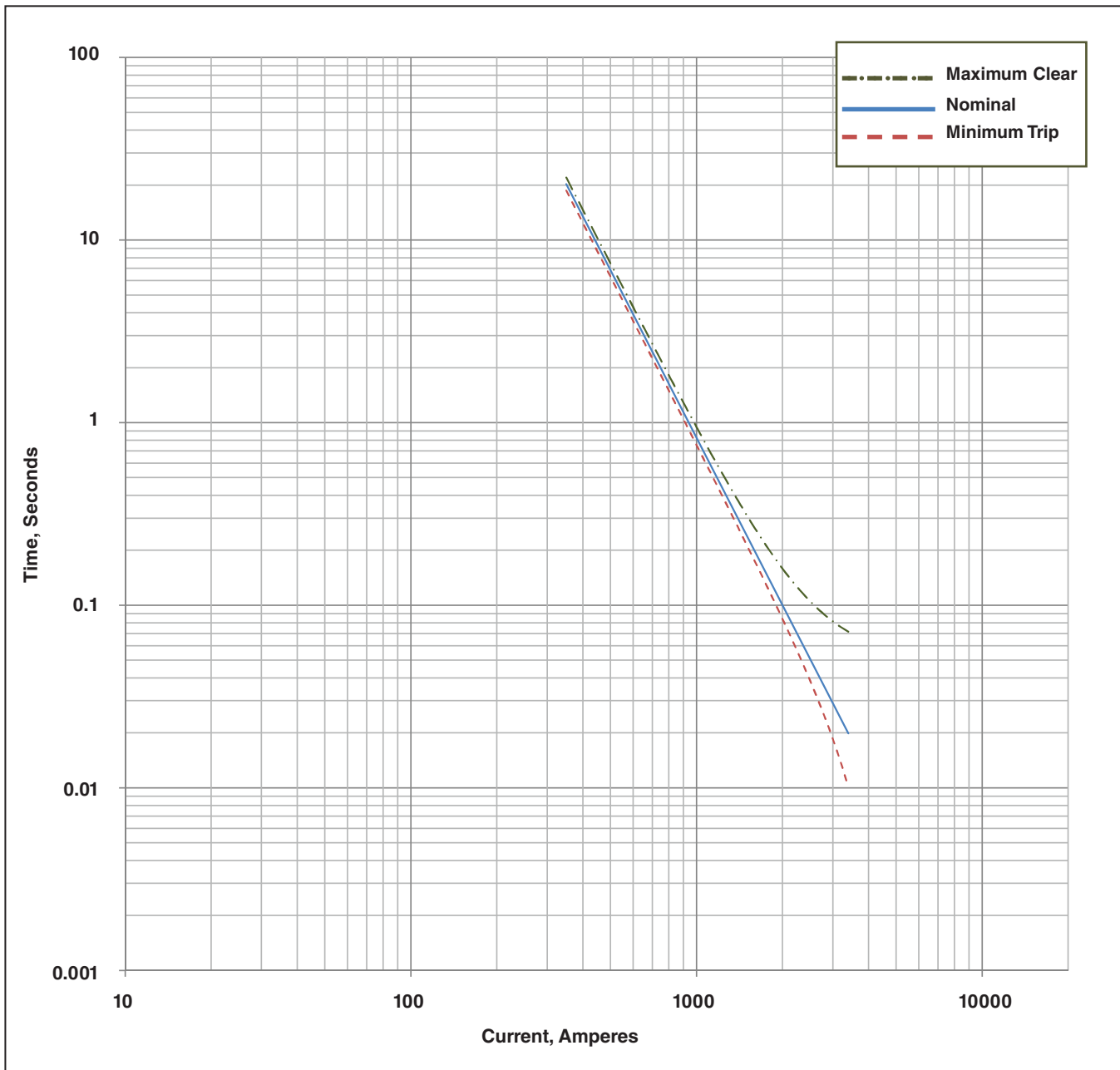


TCC Curve Parameter

Curve	Curve Parameter from 150-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
150 Amps	21.089018	0	2.822885	0	0	256	3230

Fuse Link TCC Curves

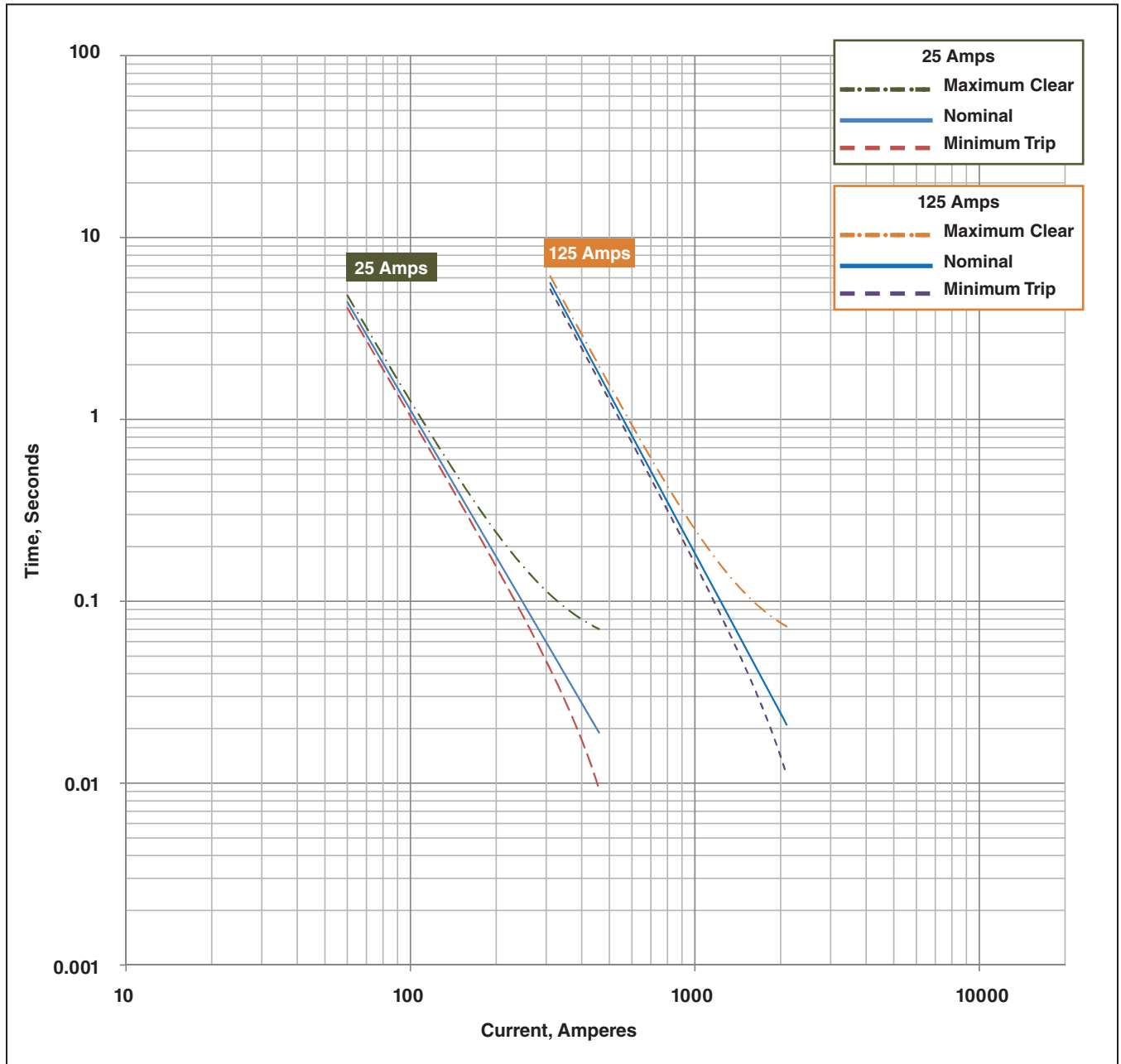
175-Ampere N Kearney Type 200 Fuse Links TCC Curve



TCC Curve Parameter

Curve	Curve Parameter from 175-Ampere N Kearney Type 200 Fuse Link.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
175 Amps	23.743535	0	3.045018	0	0	332	3581

25-, 125-Ampere E Standard Speed SMU Fuse Unit TCC Curve

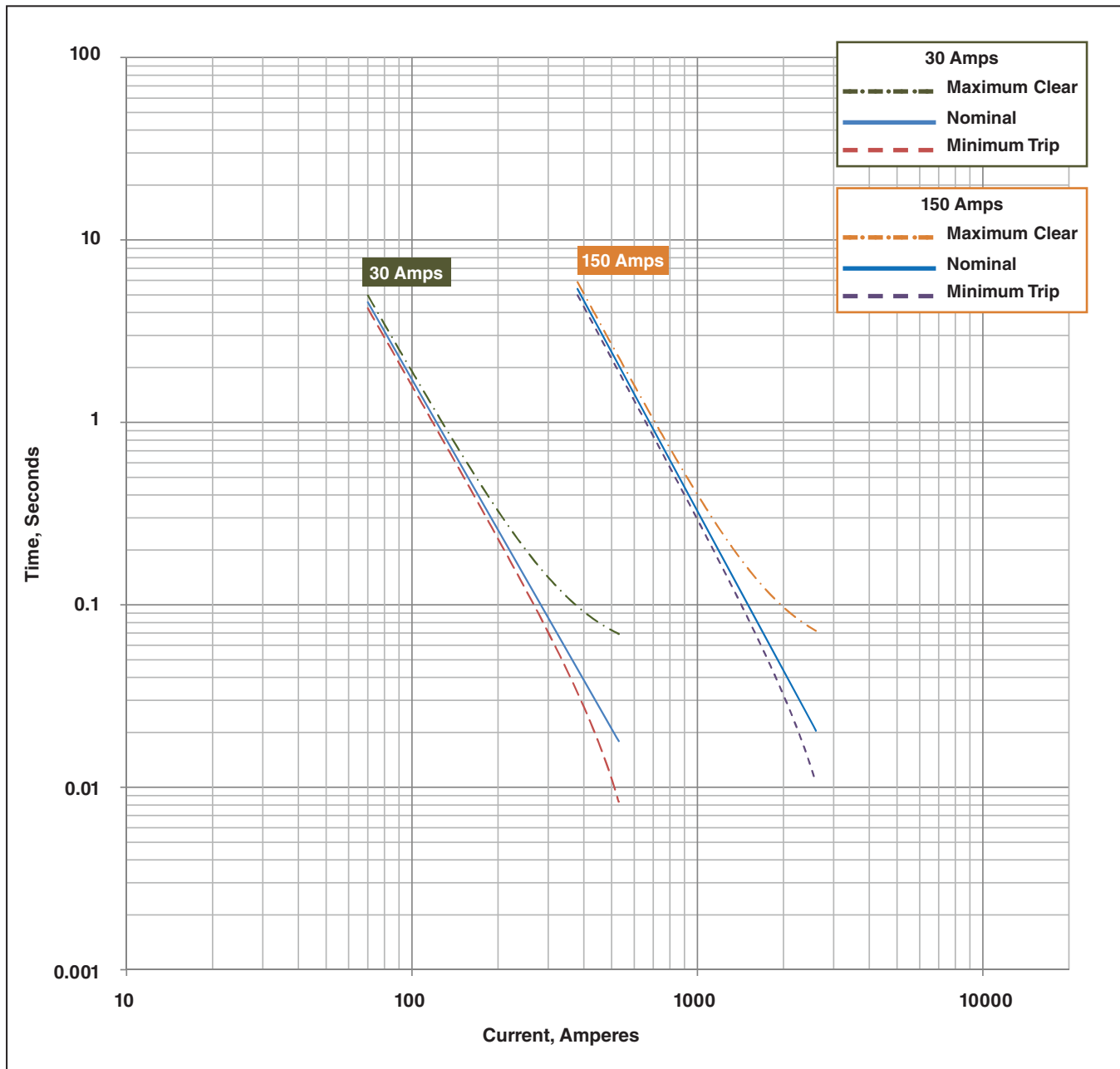


TCC Curve Parameters

Curve	Curve Parameter from 25- and 125-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 Amps	6.988709	0	2.720551	0	0	51	466
125 Amps	5.95686	0	2.782441	0	0	277	2275

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

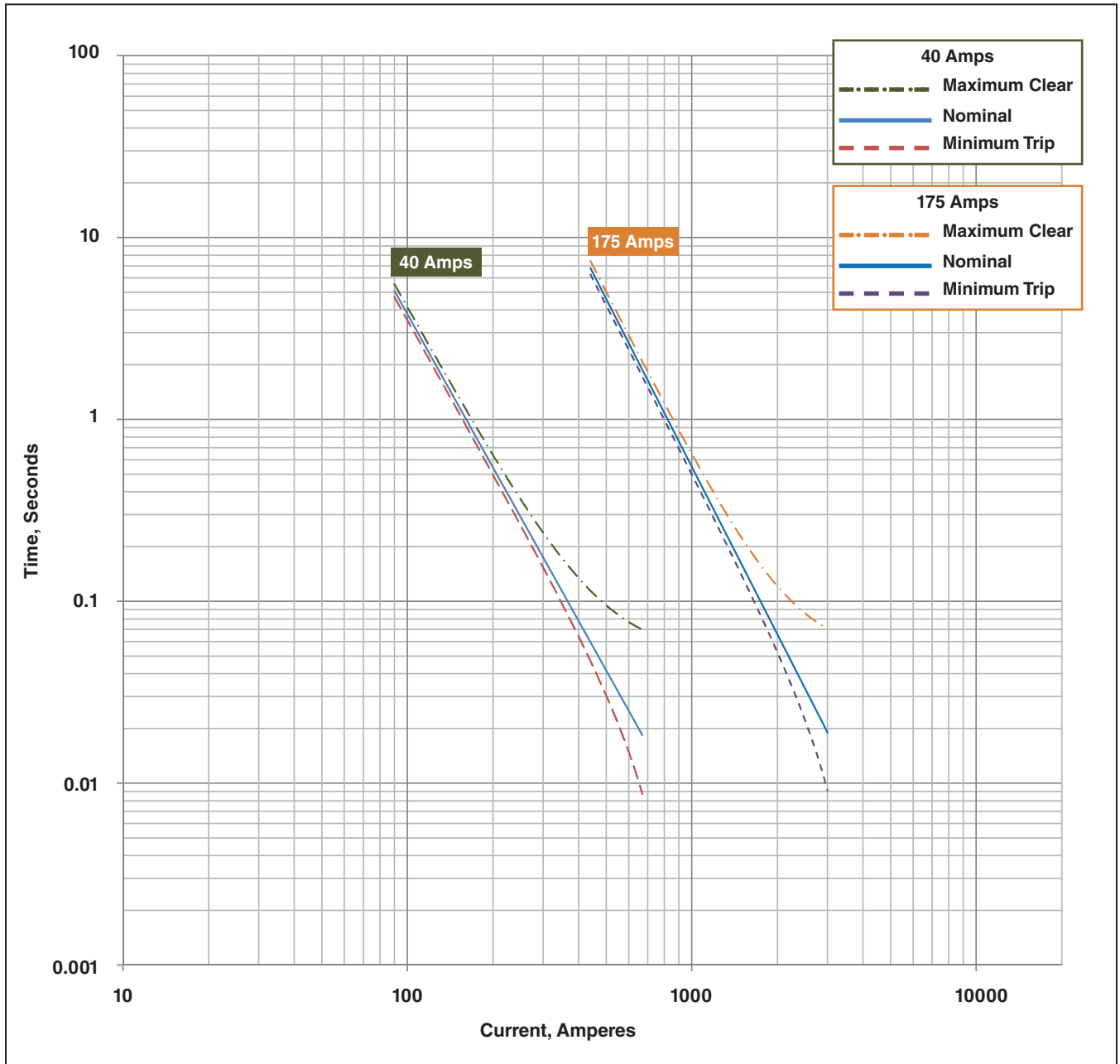
30-, 150-Ampere E Standard Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 150-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 E	7.461223	0	2.732751	0	0	60	556
150 E	5.982397	0	2.777848	0	0	334	2757

40-, 175-Ampere E Standard Speed SMU Fuse Unit TCC Curve

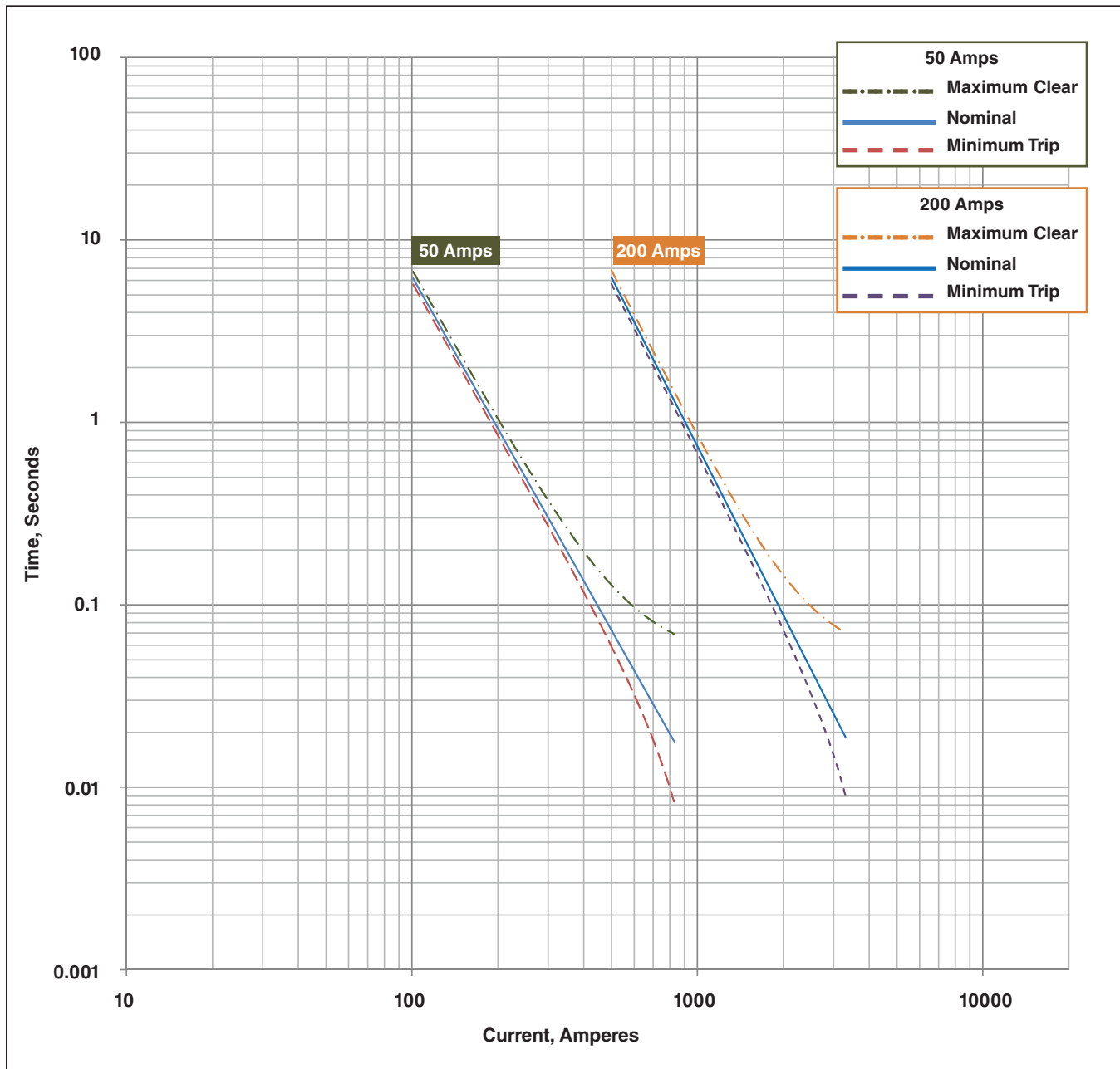


TCC Curve Parameters

Curve	Curve Parameter from 40- and 175-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 E	6.063573	0	2.746433	0	0	81	683
175 E	5.992114	0	2.853176	0	0	382	2984

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

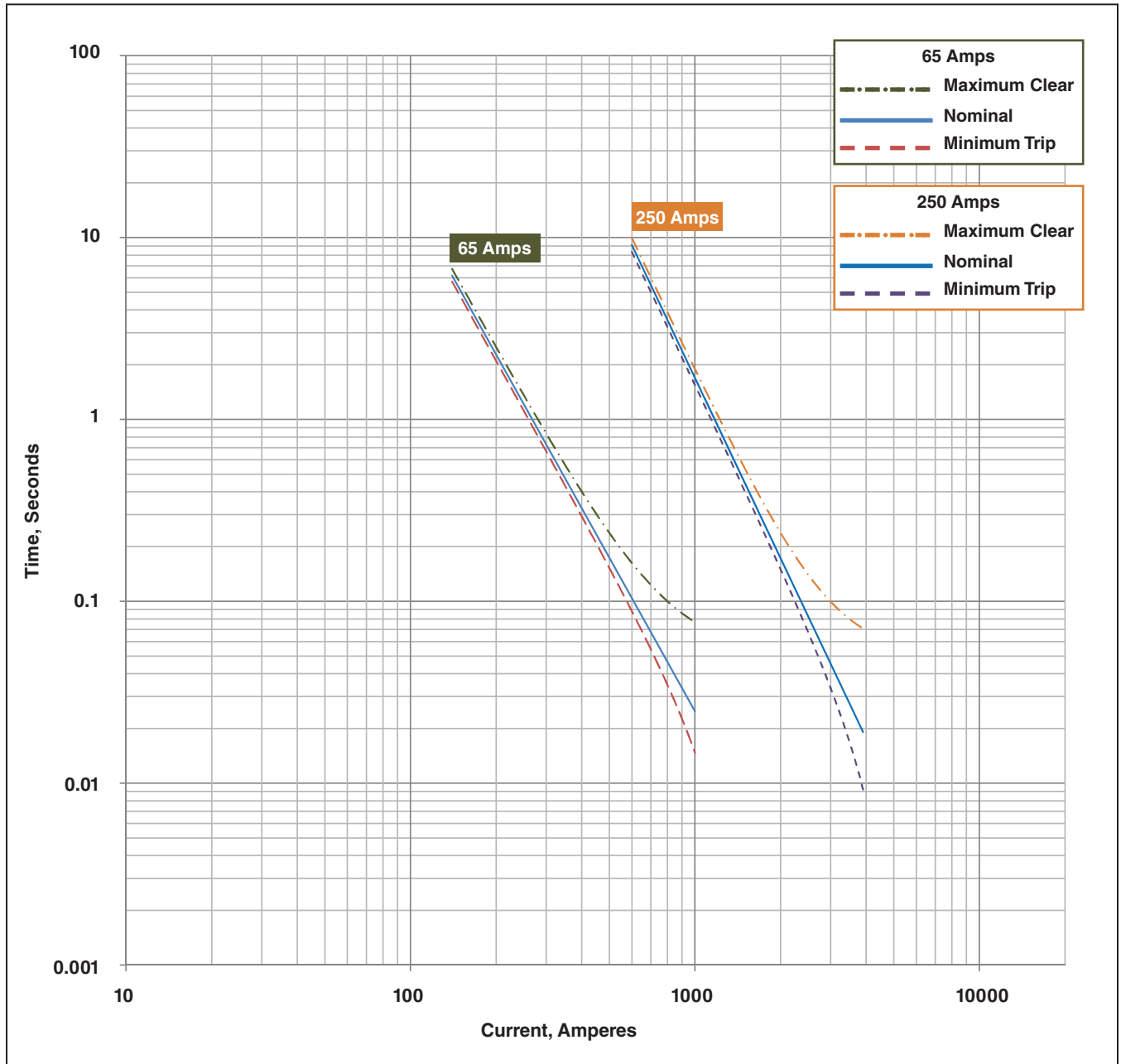
50-, 200-Ampere E Standard Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 200-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 E	7.161692	0	2.880725	0	0	101	823
200 E	5.571308	0	2.888257	0	0	438	3254

65-, 250-Ampere E Standard Speed SMU Fuse Unit TCC Curve

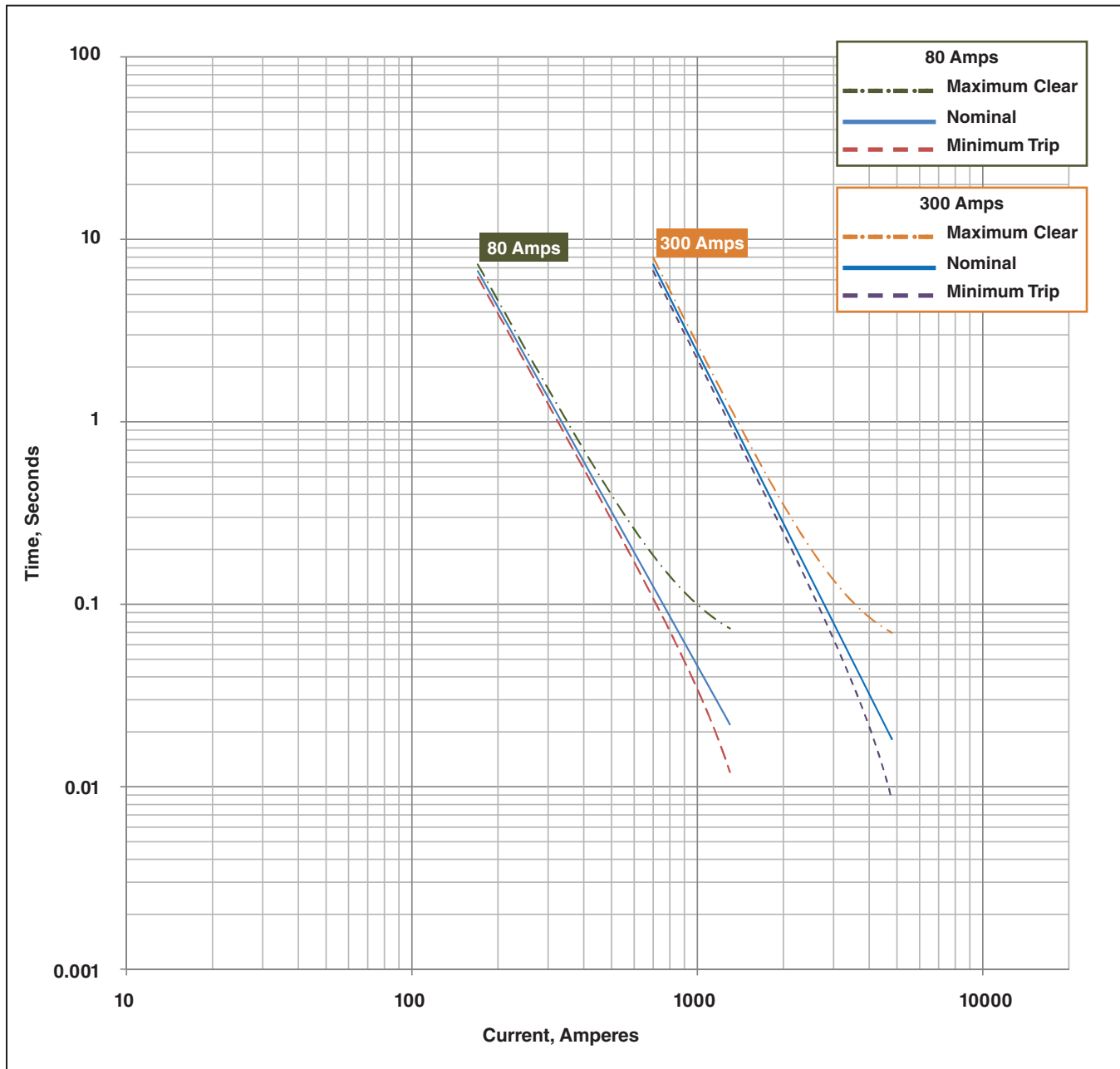


TCC Curve Parameters

Curve	Curve Parameter from 65- and 250-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
65 E	7.613329	0	2.828345	0	0	131	1134
250 E	6.170671	0	2.94792	0	0	545	4025

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

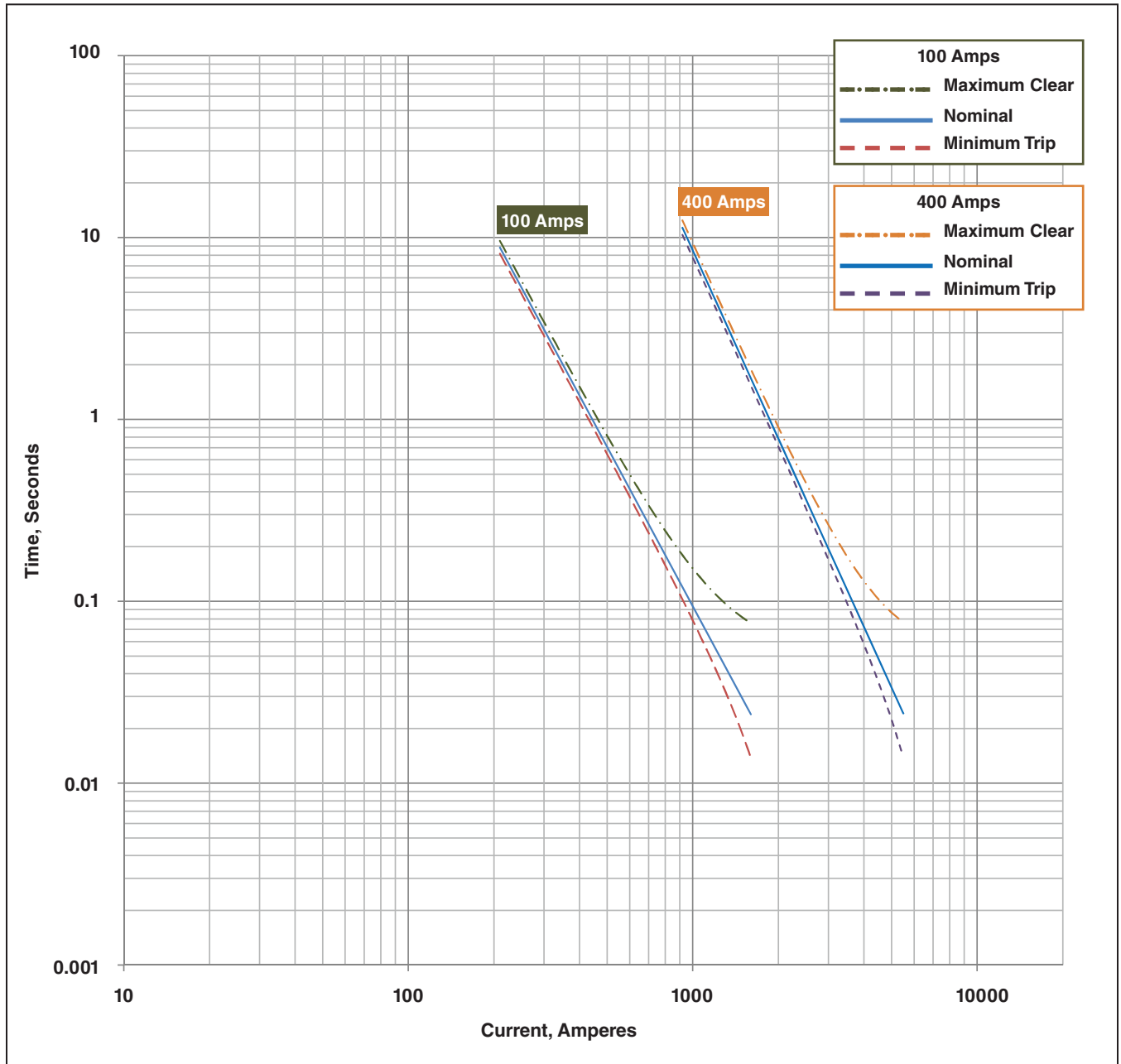
80-, 300-Ampere E Standard Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 80- and 300-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
80 E	7.160968	0	2.843639	0	0	163	1365
300 E	6.778202	0	2.927412	0	0	657	5081

100-, 400-Ampere Standard Speed SMU Fuse Unit TCC Curve

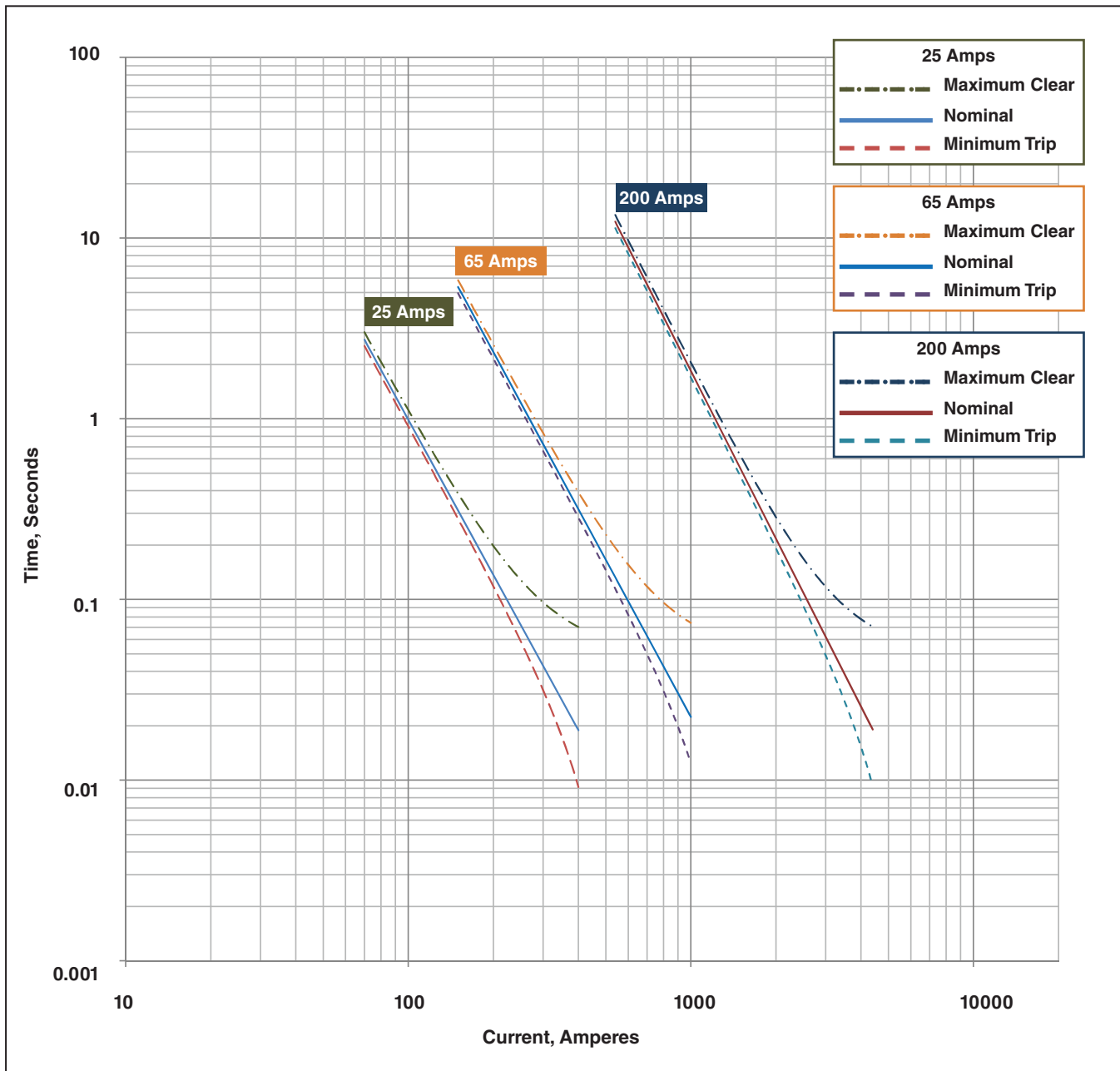


TCC Curve Parameters

Curve	Curve Parameter from 100- and 400-Ampere E Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
100 E	6.654602	0	2.785024	0	0	202	1723
400 E	2.721441	0	2.995564	0	0	871	6076

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

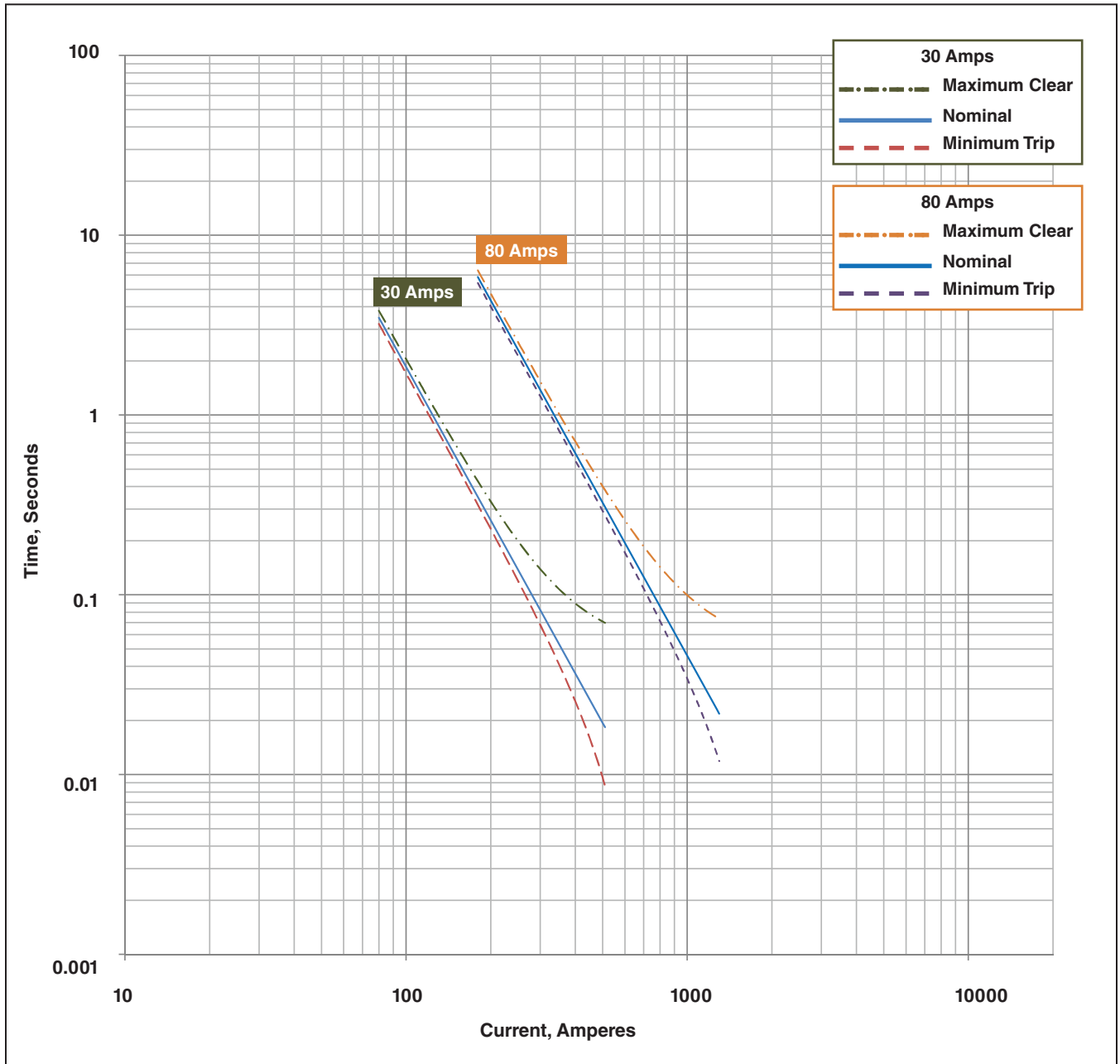
25-, 65-, 200-Ampere K Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 25-, 65-, and 200-Ampere K Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 K	5.745274	0	2.85536	0	0	54	415
65 K	7.761727	0	2.888201	0	0	132	1100
200 K	13.5154	0	3.084839	0	0	524	4566

30-, 80-Ampere K Speed SMU Fuse Unit TCC Curve

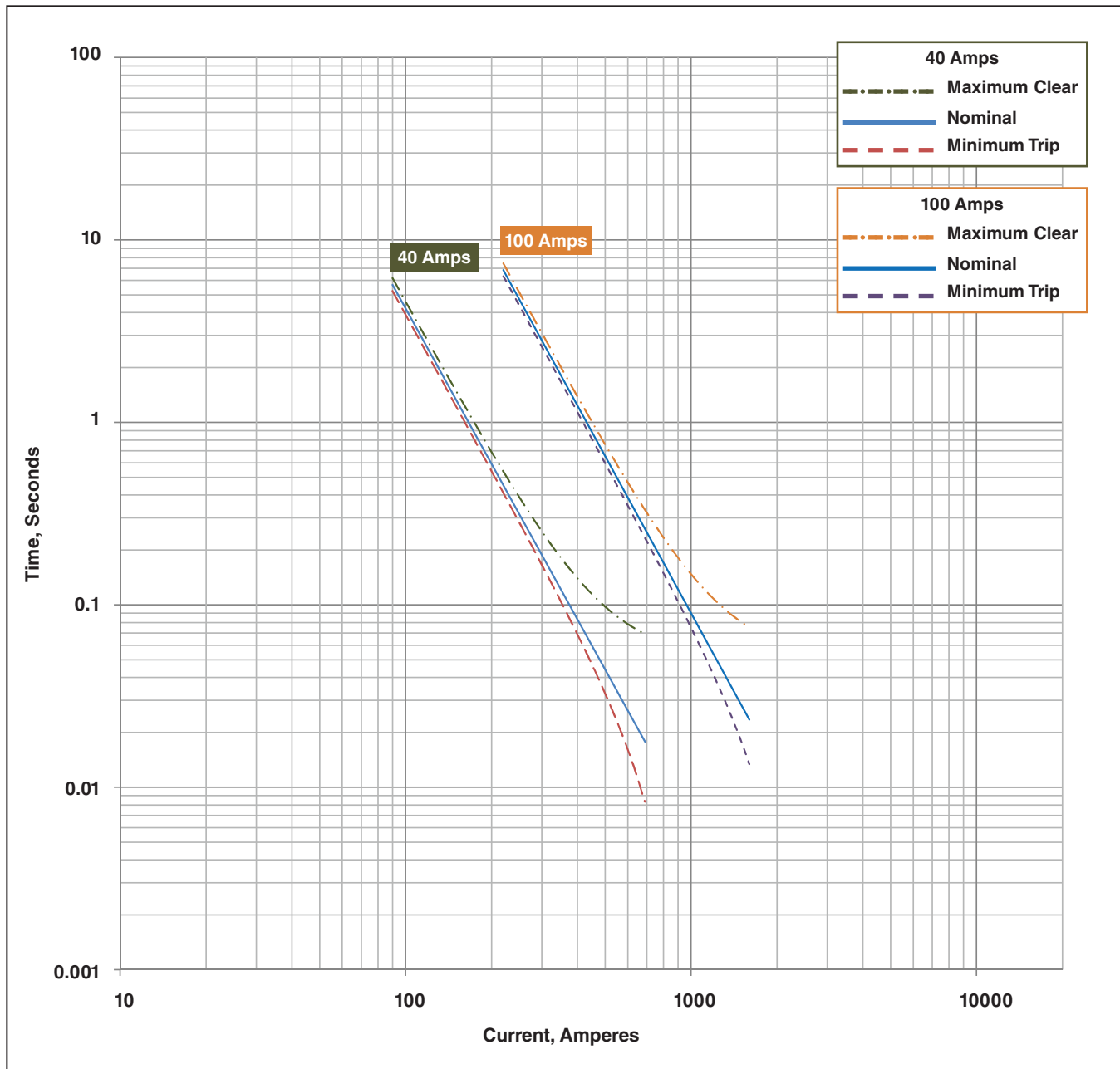


TCC Curve Parameters

Curve	Curve Parameter from 30- and 80-Ampere K Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 K	5.743831	0	2.830937	0	0	67	524
80 K	7.364928	0	2.828551	0	0	166	1420

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

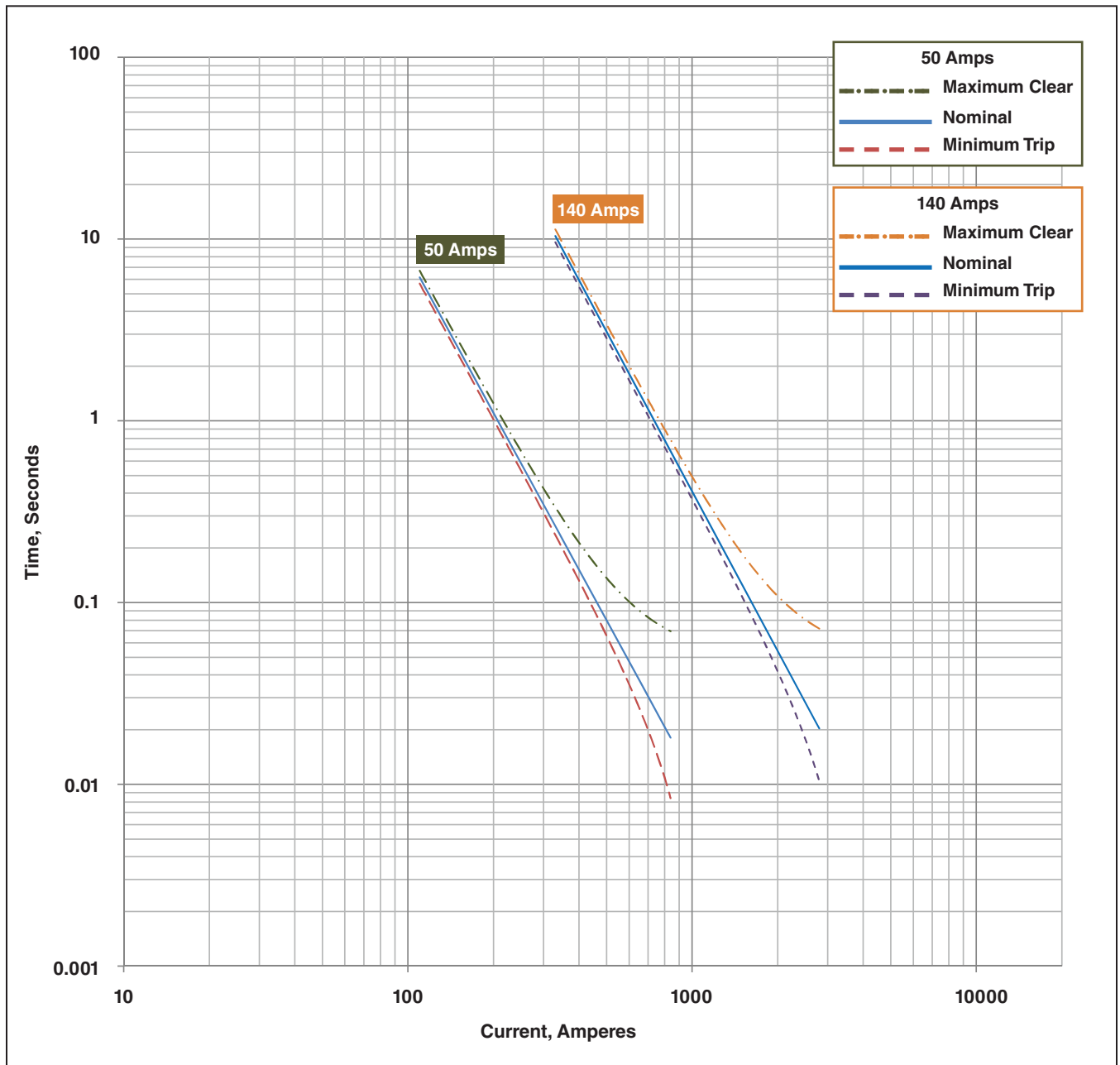
40-, 100-Ampere K Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 40- and 100-Ampere K Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 K	7.928945	0	2.831198	0	0	80	701
100 K	8.61155	0	2.86023	0	0	203	1791

50-, 140-Ampere K Speed SMU Fuse Unit TCC Curve

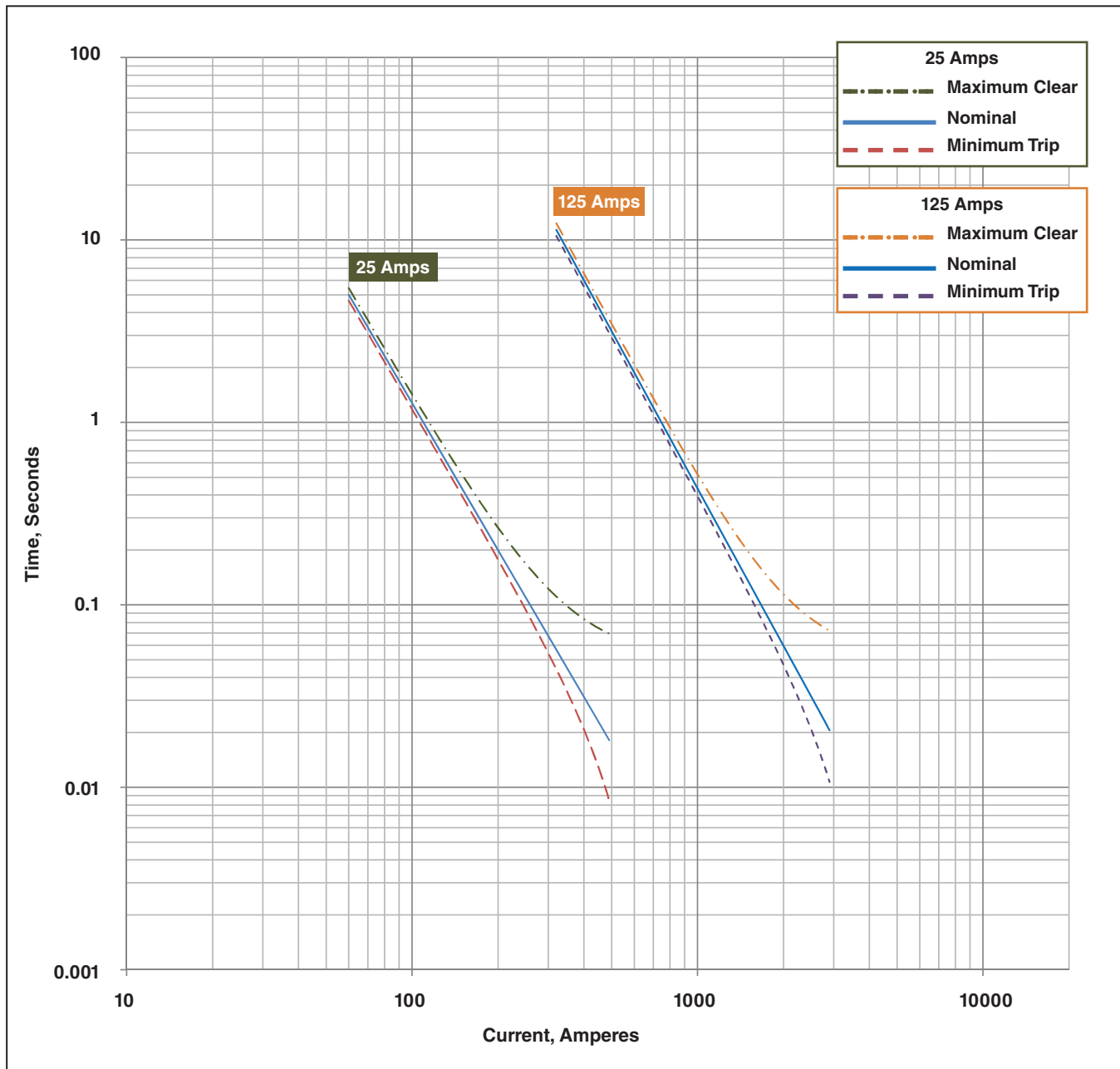


TCC Curve Parameters

Curve	Curve Parameter from 50- and 140-Ampere K Standard Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 K	6.312798	0	2.867856	0	0	109	858
140 K	11.373396	0	2.917389	0	0	320	2976

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

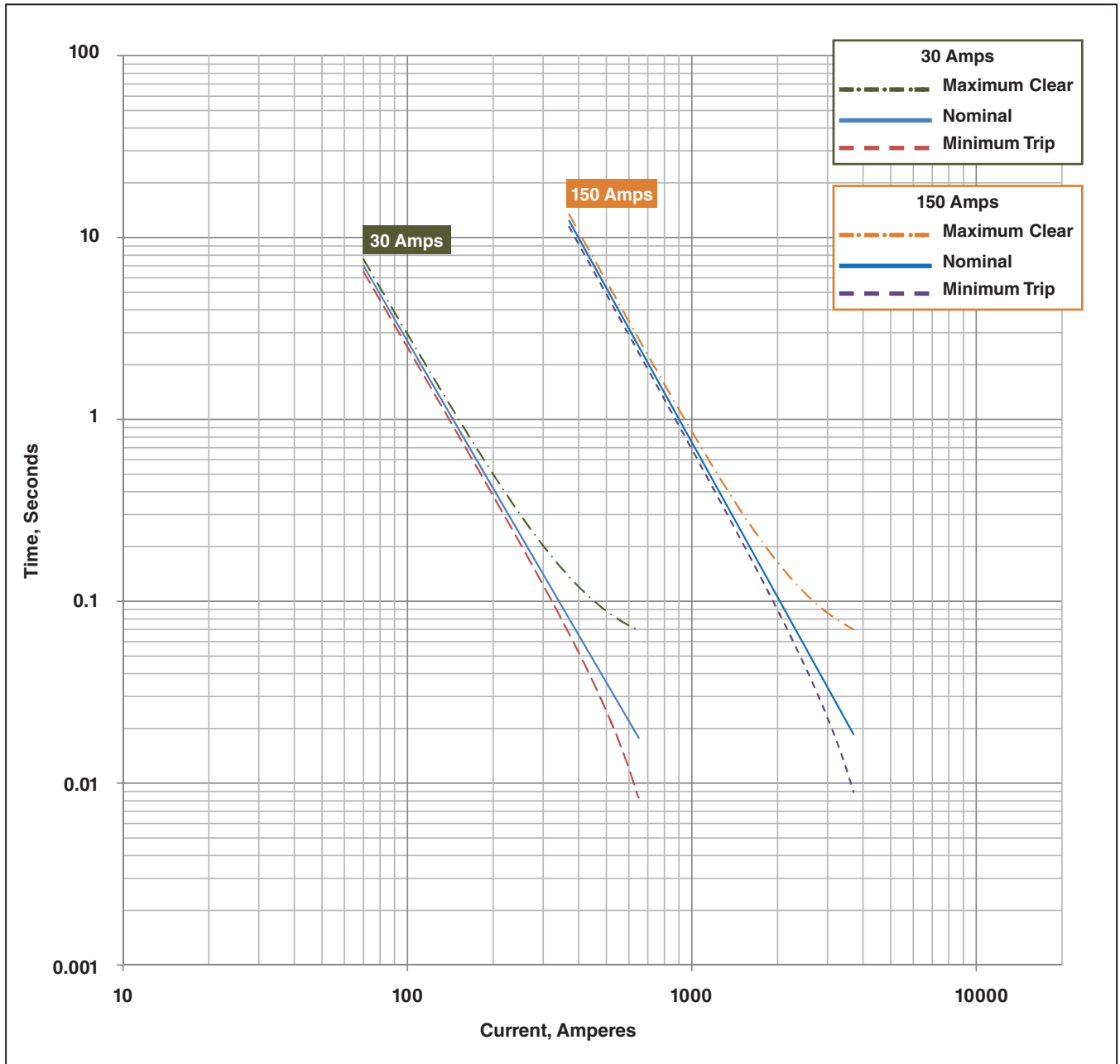
25-, 125-Ampere E Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 25- and 125-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 E	8.165621	0	2.676899	0	0	50	502
125 E	13.552748	0	2.865714	0	0	301	3098

30-, 150-Ampere E Slow Speed SMU Fuse Unit TCC Curve

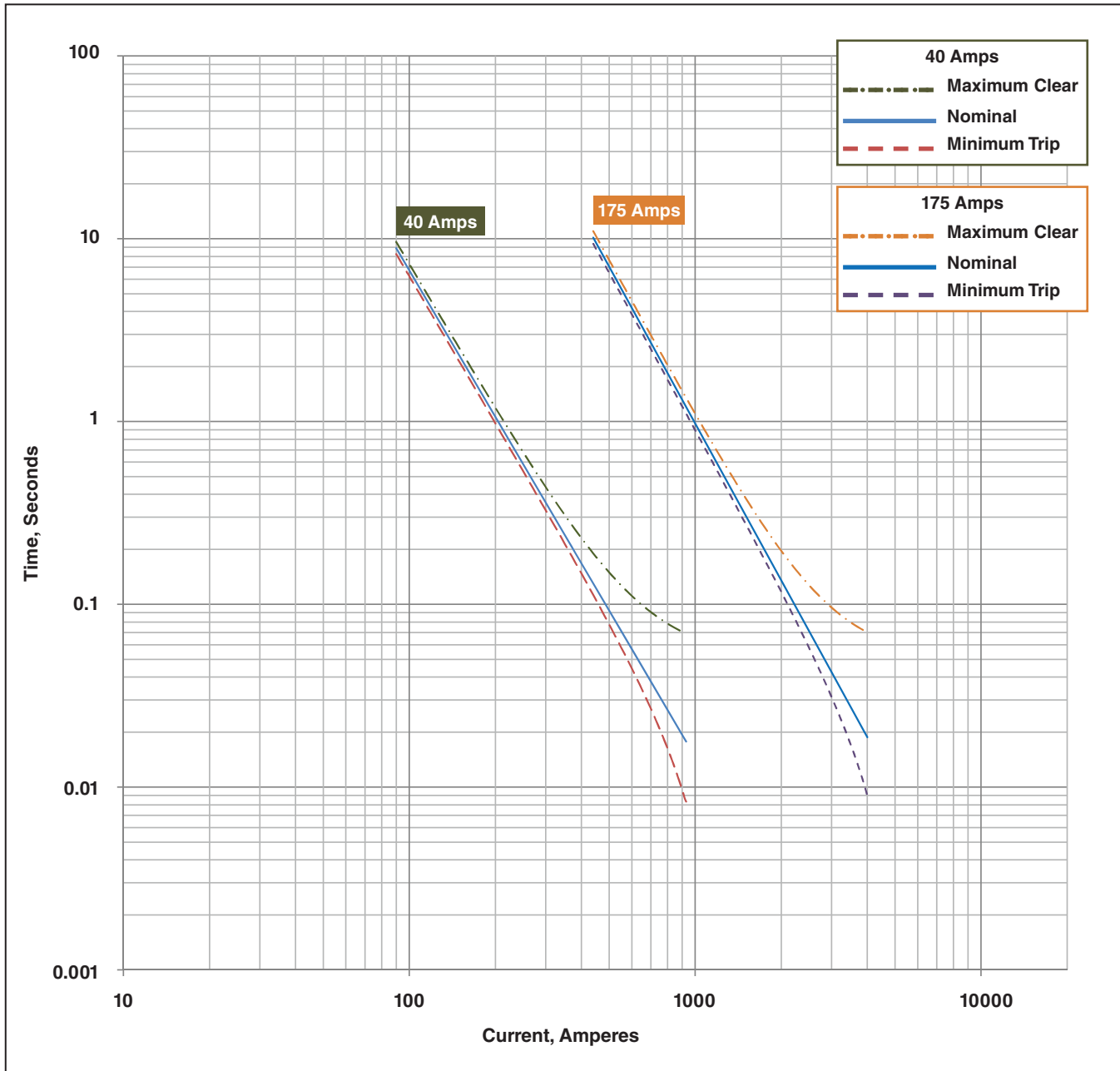


TCC Curve Parameters

Curve	Curve Parameter from 30- and 150-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 E	10.582975	0	2.683098	0	0	60	660
150 E	13.372794	0	2.823049	0	0	360	3820

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

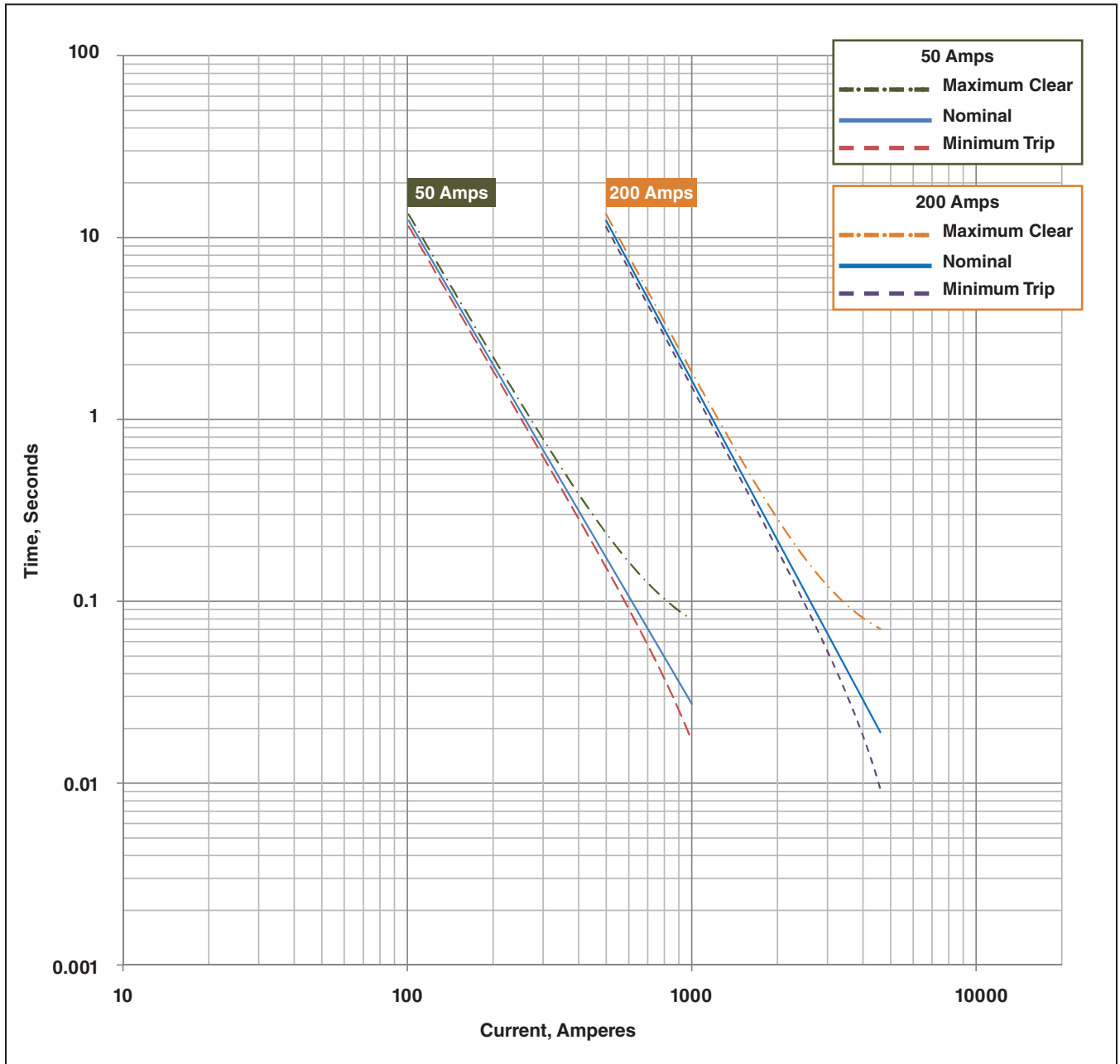
40-, 175-Ampere E Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 40- and 175-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 E	12.156648	0	2.661805	0	0	80	945
175 E	11.497874	0	2.85123	0	0	421	4139

50-, 200-Ampere E Slow Speed SMU Fuse Unit TCC Curve

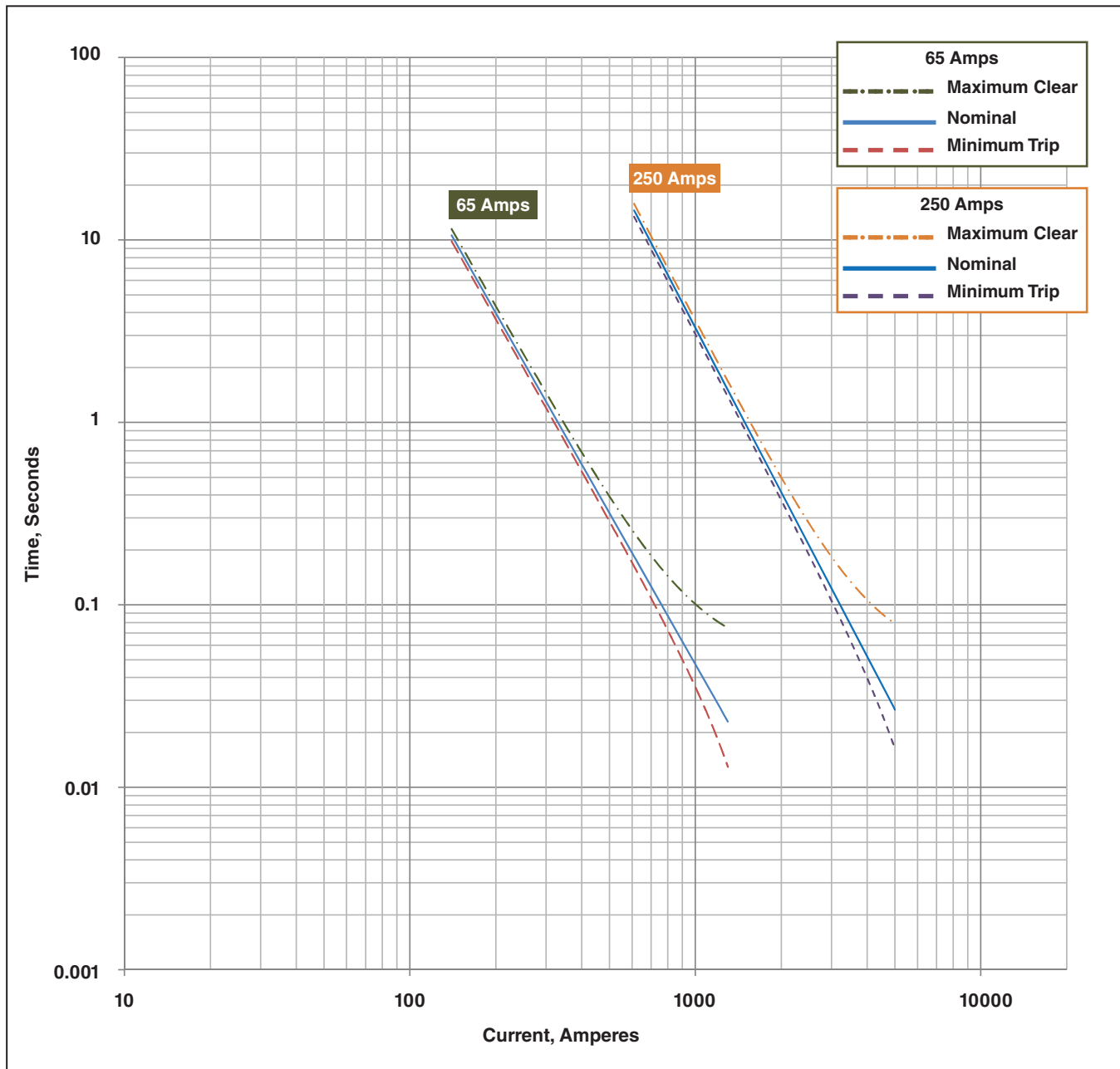


TCC Curve Parameters

Curve	Curve Parameter from 50- and 200-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 E	12.40553	0	2.669516	0	0	100	1194
200 E	13.380102	0	2.918594	0	0	487	4784

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

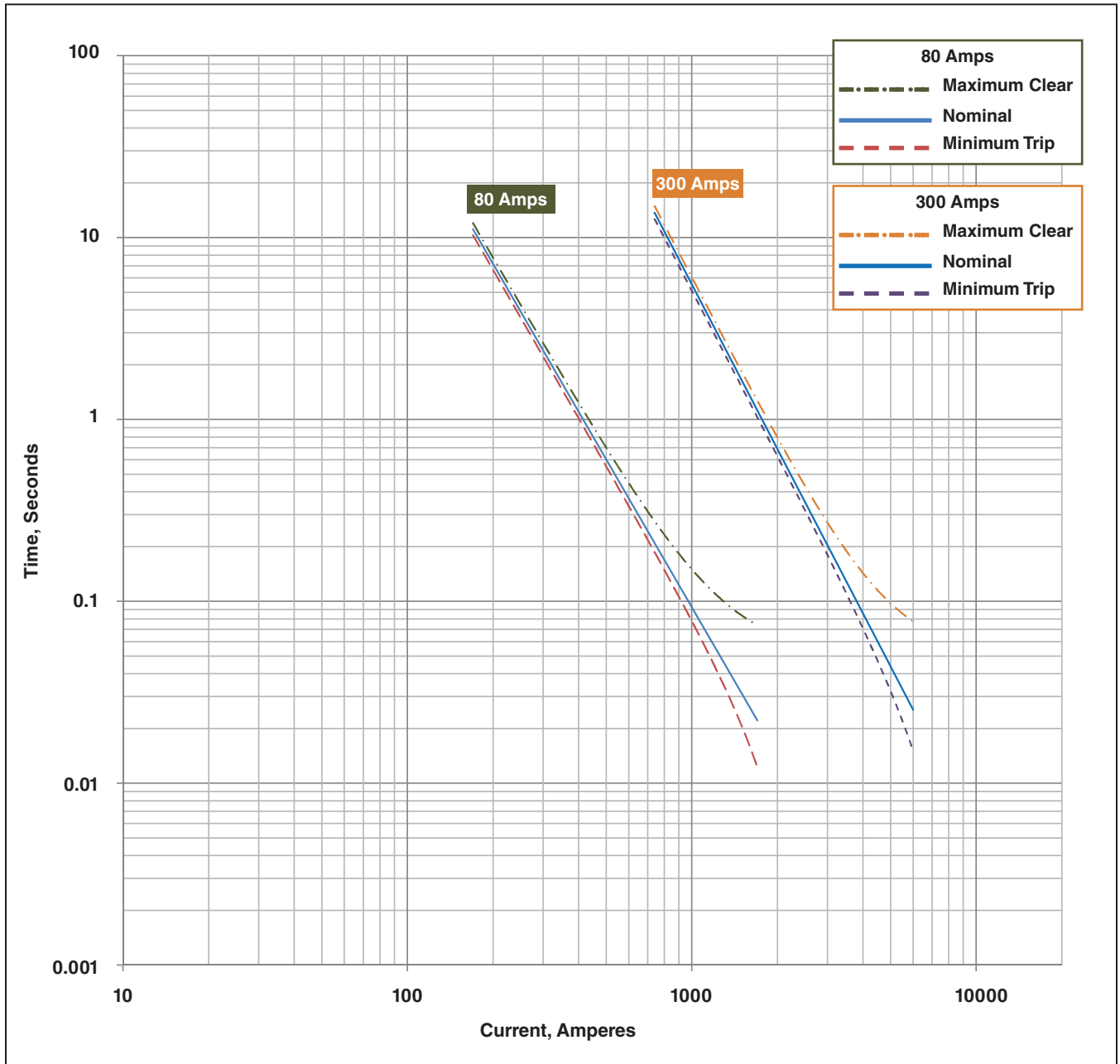
65-, 250-Ampere E Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 65- and 250-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
65 E	13.016874	0	2.744263	0	0	130	1449
250 E	15.573941	0	2.995332	0	0	596	5809

80-, 300-Ampere E Slow Speed SMU Fuse Unit TCC Curve

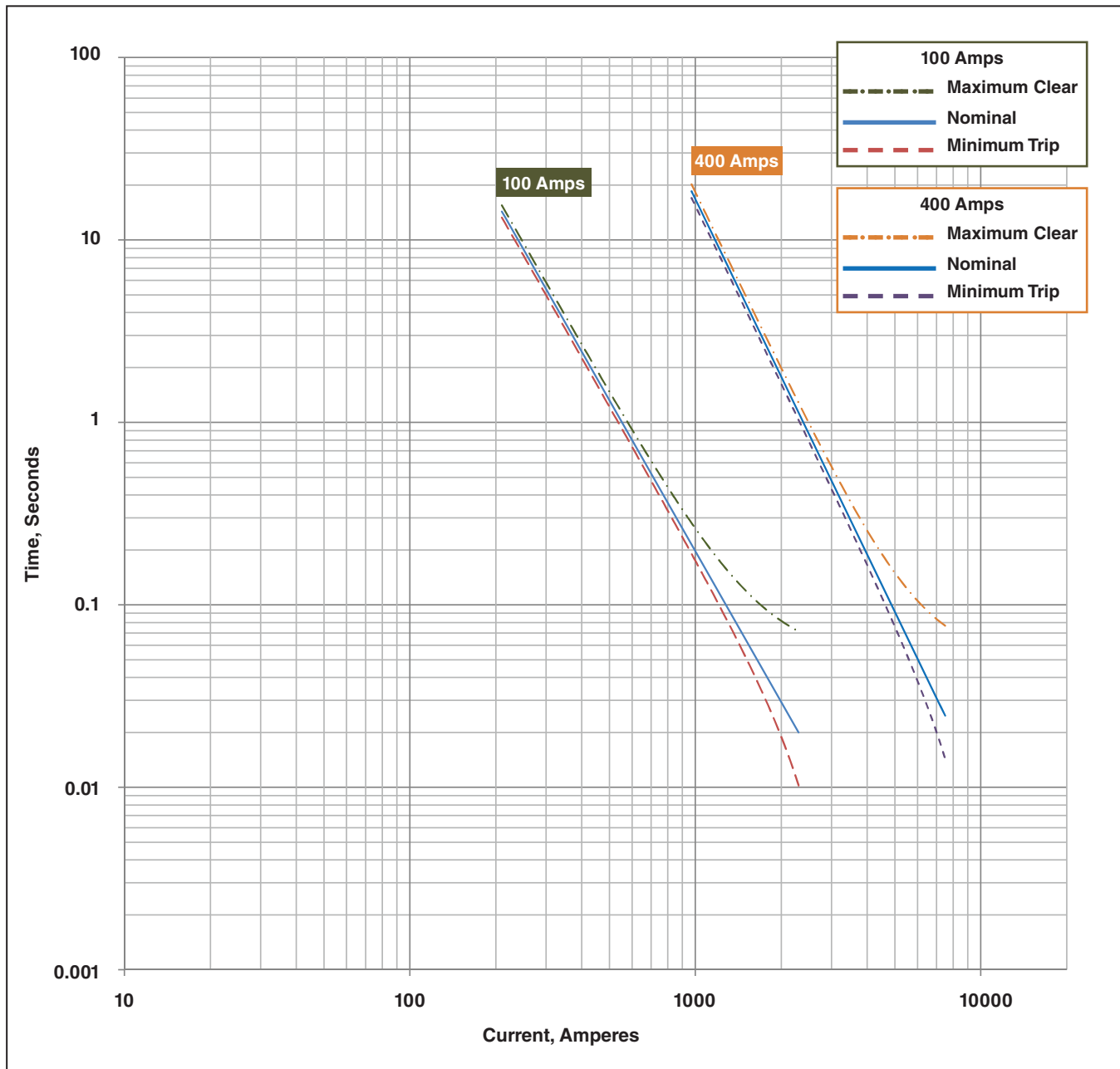


TCC Curve Parameters

Curve	Curve Parameter from 80- and 300-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
80 E	13.541171	0	2.700445	0	0	158	1875
300 E	14.494304	0	3.00685	0	0	726	6849

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

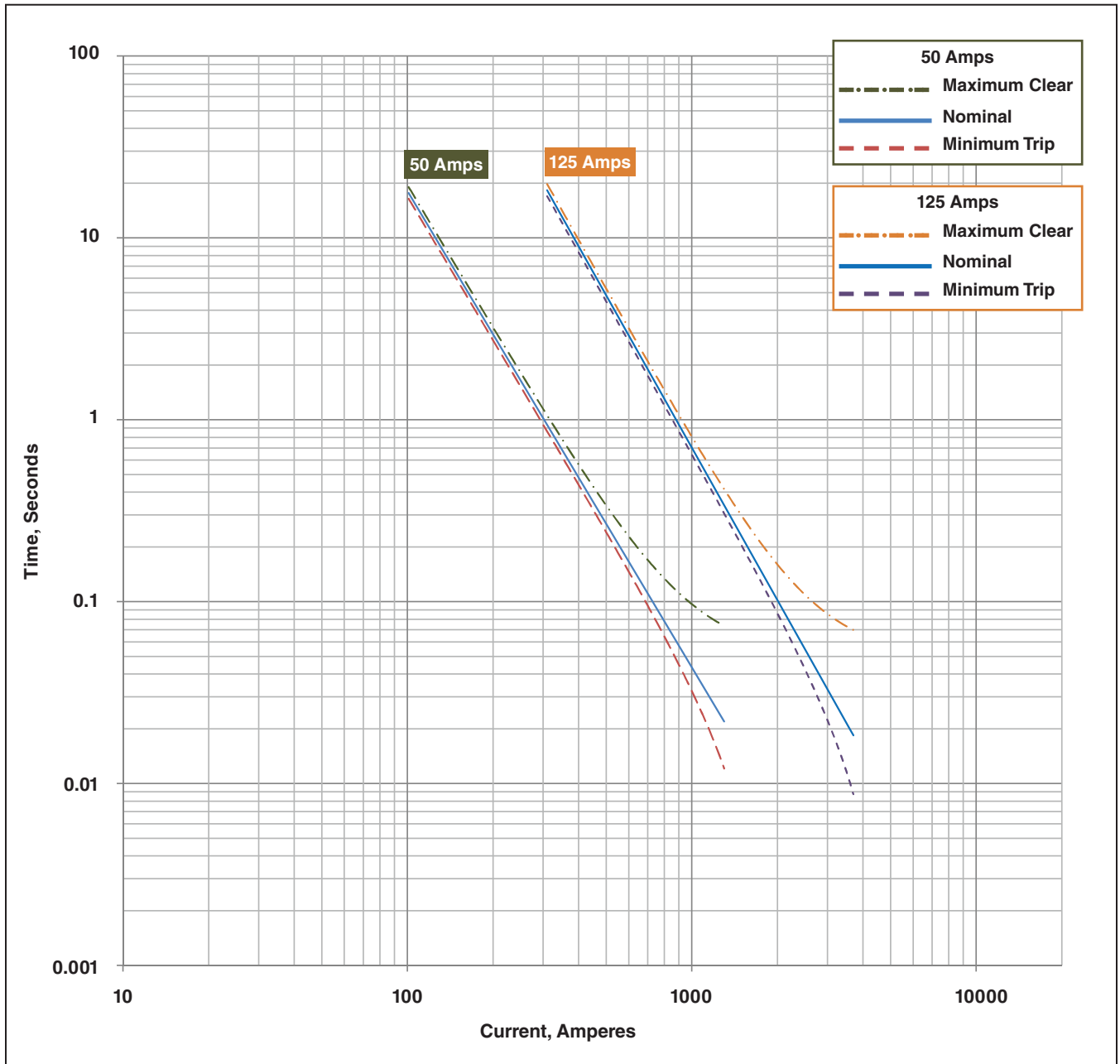
100-, 400-Ampere E Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 100- and 400-Ampere E Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
100 E	17.310137	0	2.746561	0	0	196	2440
400 E	19.310976	0	3.236118	0	0	957	8415

50-, 125-Ampere E Very Slow Speed SMU Fuse Unit TCC Curve

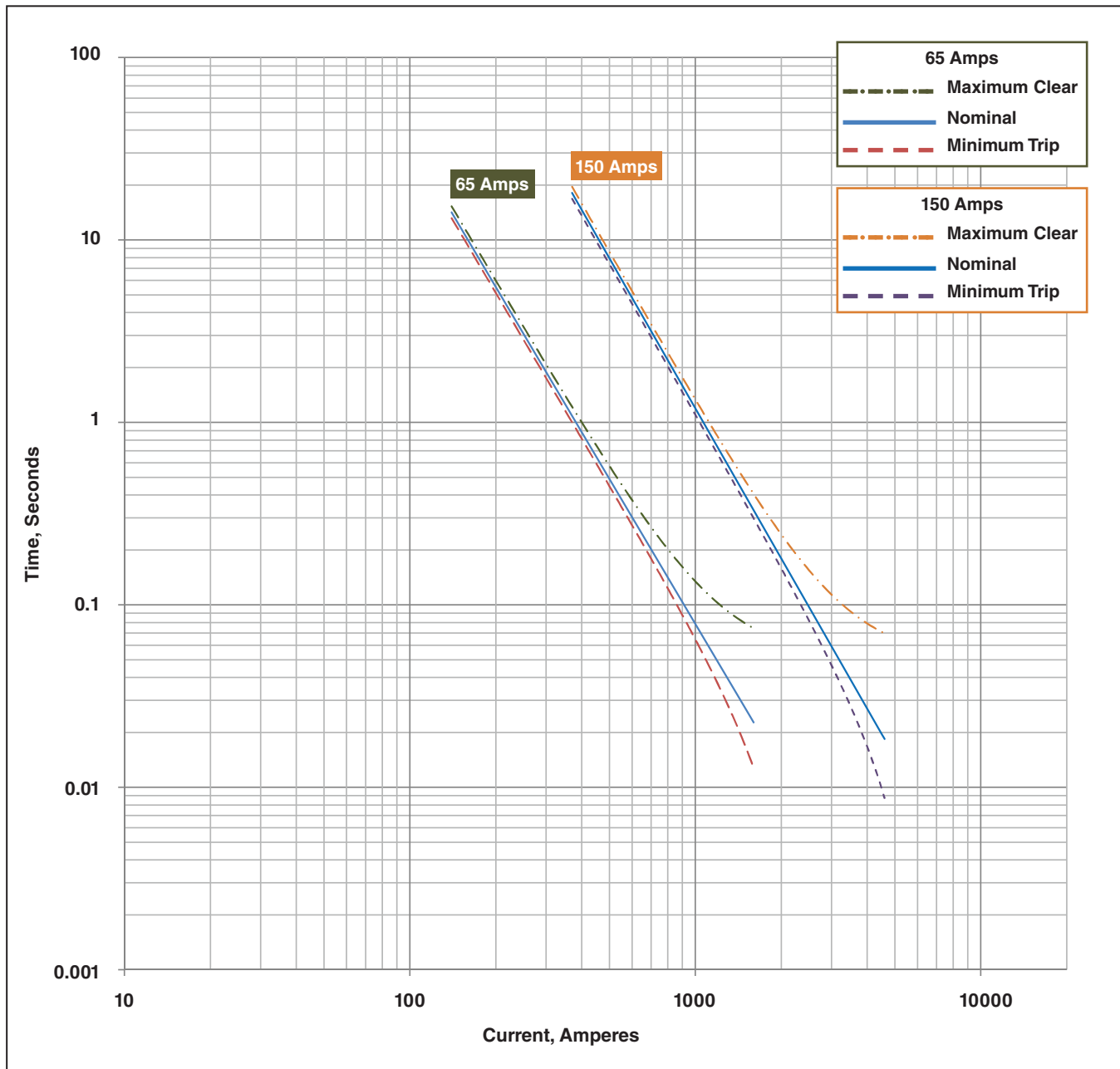


TCC Curve Parameters

Curve	Curve Parameter from 50- and 100-Ampere E Very Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 E	18.613108	0	2.618767	0	0	99	1433
125 E	20.414438	0	2.783425	0	0	298	3807

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

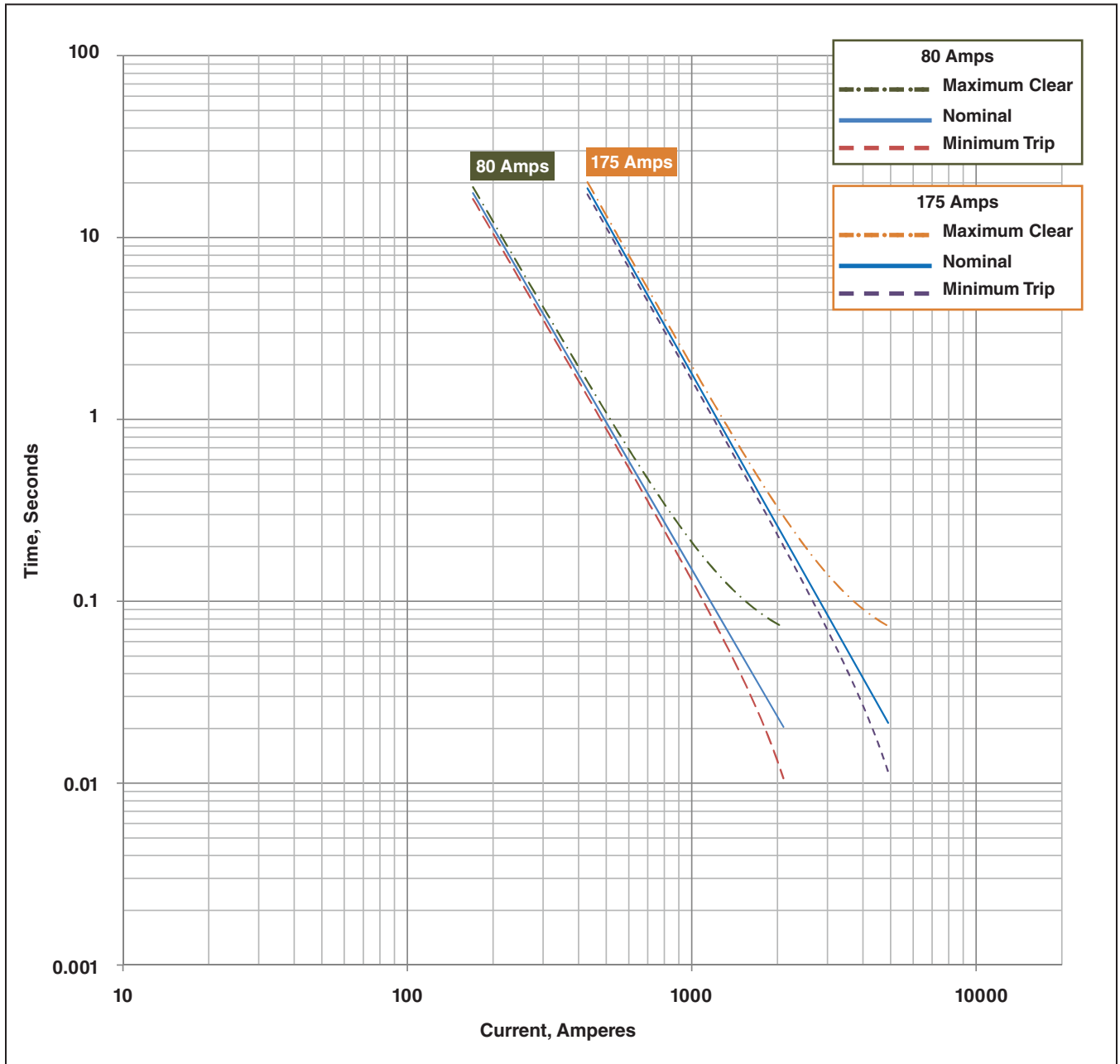
65-, 150-Ampere E Very Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 65- and 150-Ampere E Very Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
65 E	18.338183	0	2.642847	0	0	127	1784
150 E	19.82697	0	2.734936	0	0	358	4734

80-, 175-Ampere E Very Slow Speed SMU Fuse Unit TCC Curve

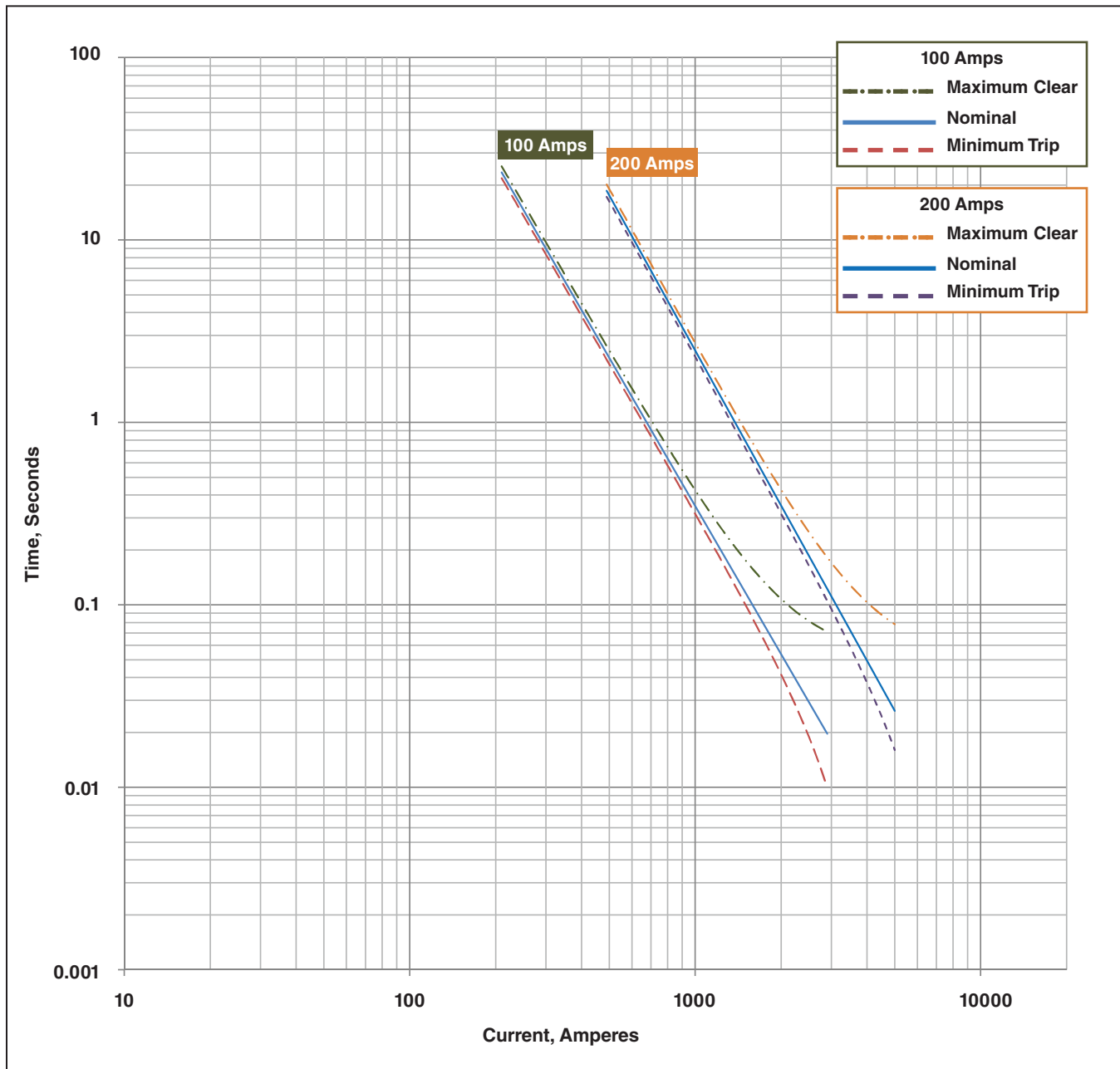


TCC Curve Parameters

Curve	Curve Parameter from 80- and 175-Ampere E Very Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
80 E	22.129461	0	2.688459	0	0	156	2247
175 E	20.596709	0	2.78151	0	0	415	5328

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

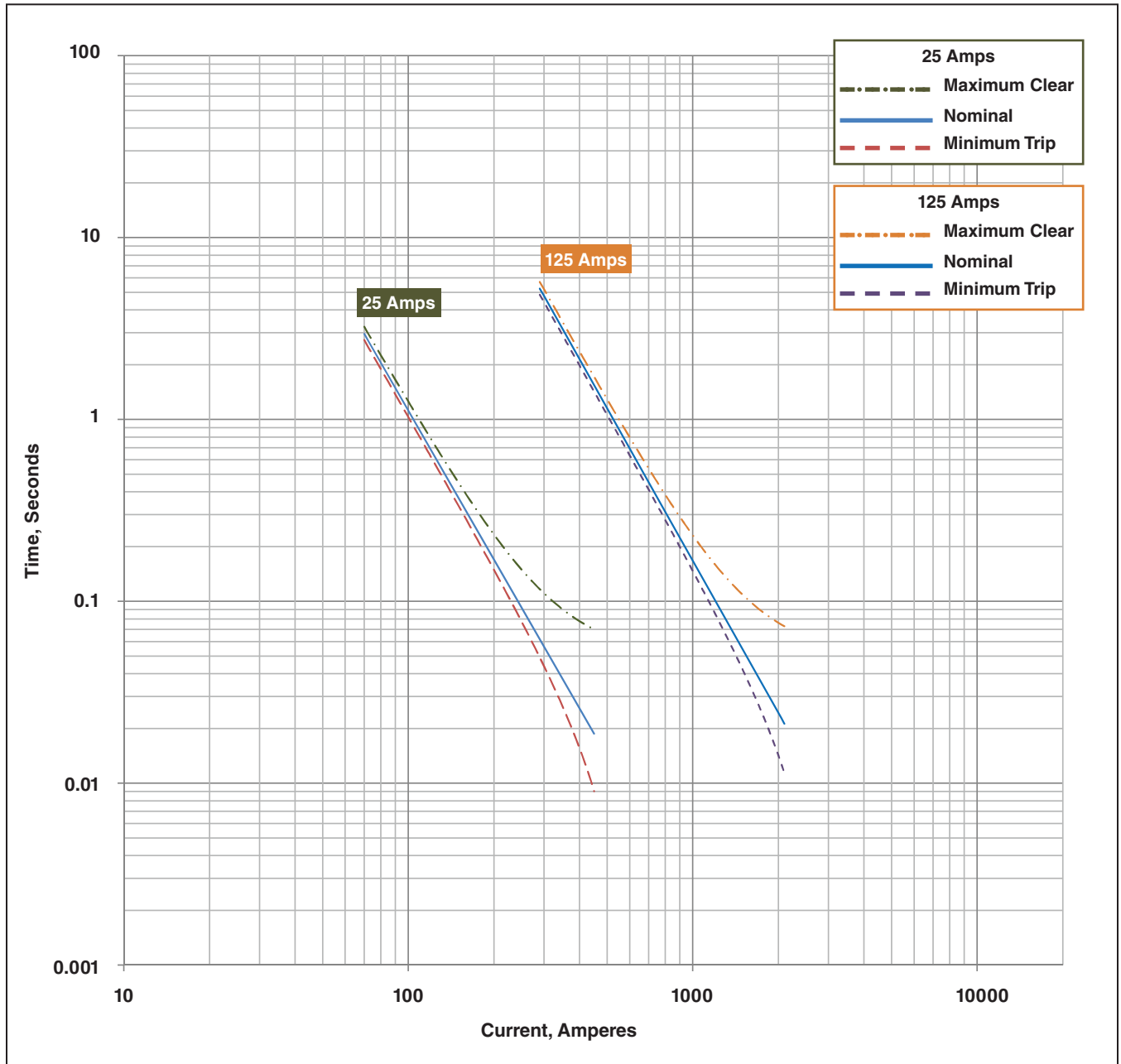
100-, 200-Ampere E Very Slow Speed SMU Fuse Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 100- and 200-Ampere E Very Slow Speed SMU Fuse Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
100 E	28.676625	0	2.698293	0	0	195	3062
200 E	19.730944	0	2.825711	0	0	480	5832

25-, 125-Ampere E Standard Speed SM Refill Unit TCC Curve

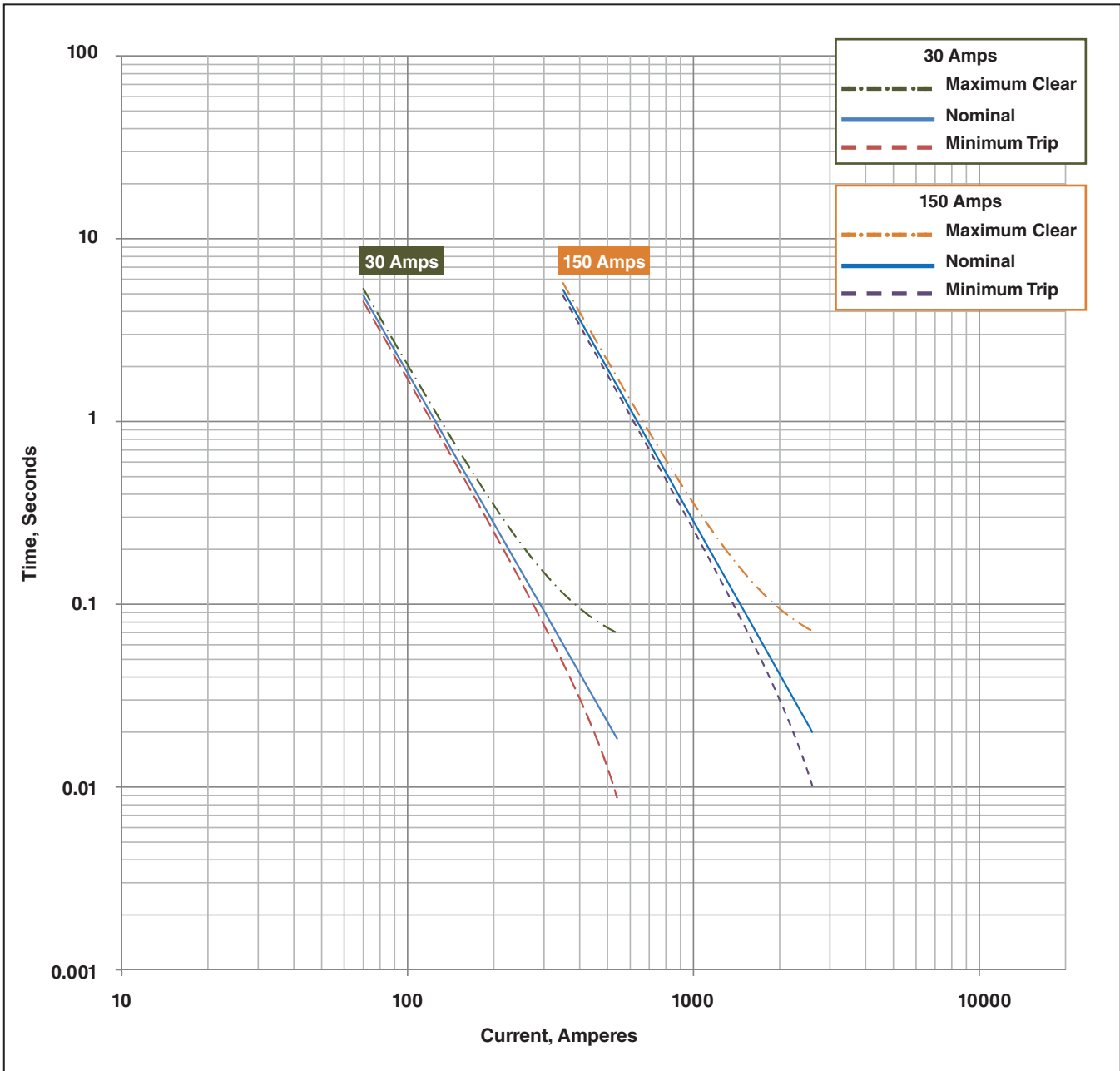


TCC Curve Parameters

Curve	Curve Parameter from 25- and 125-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 E	7.594993	0	2.67647	0	0	49	479
125 E	6.695756	0	2.922203	0	0	292	2257

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

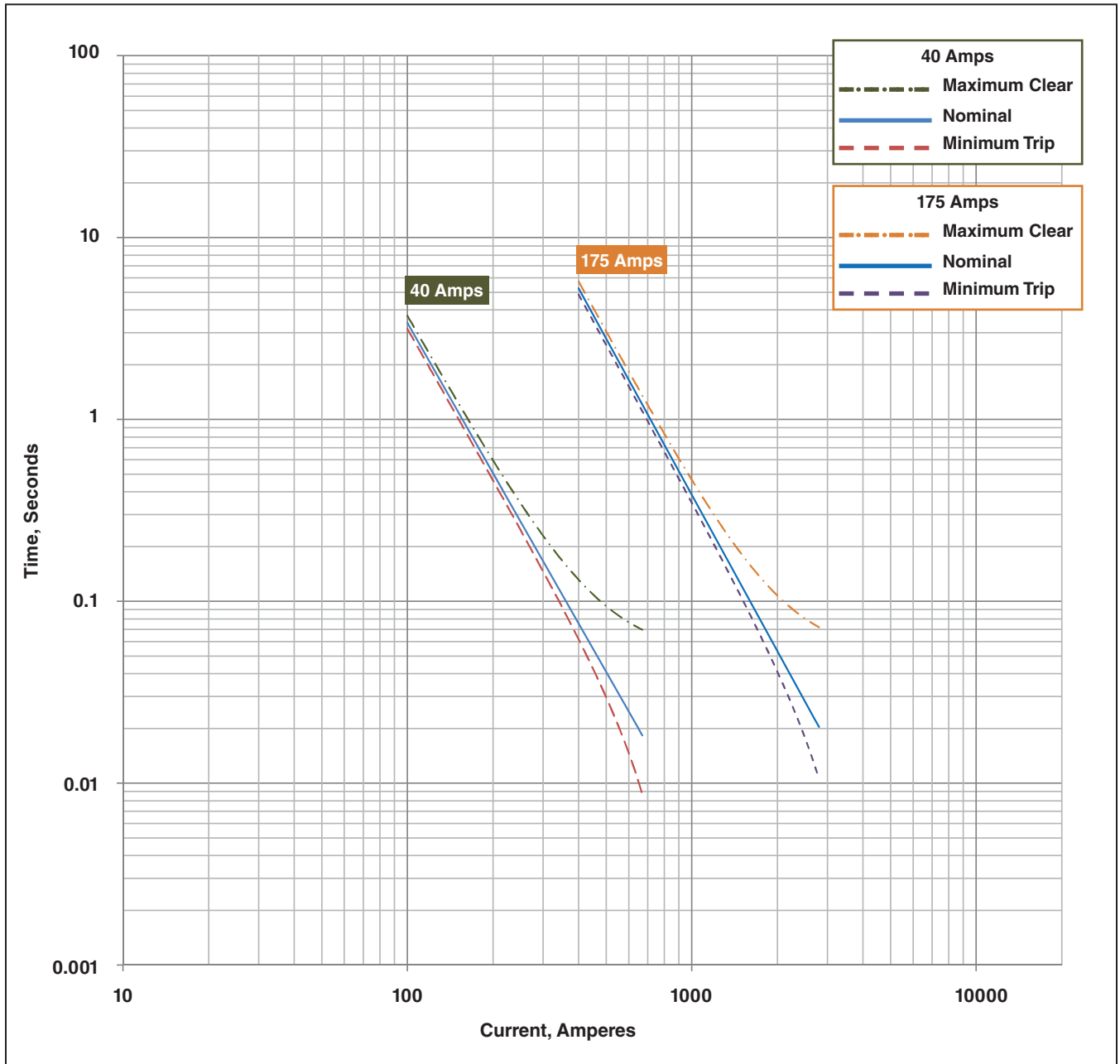
30-, 150-Ampere E Standard Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 30- and 150-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 E	6.951634	0	2.73687	0	0	60	540
150 E	6.208233	0	2.900042	0	0	362	2769

40-, 175-Ampere E Standard Speed SM Refill Unit TCC Curve

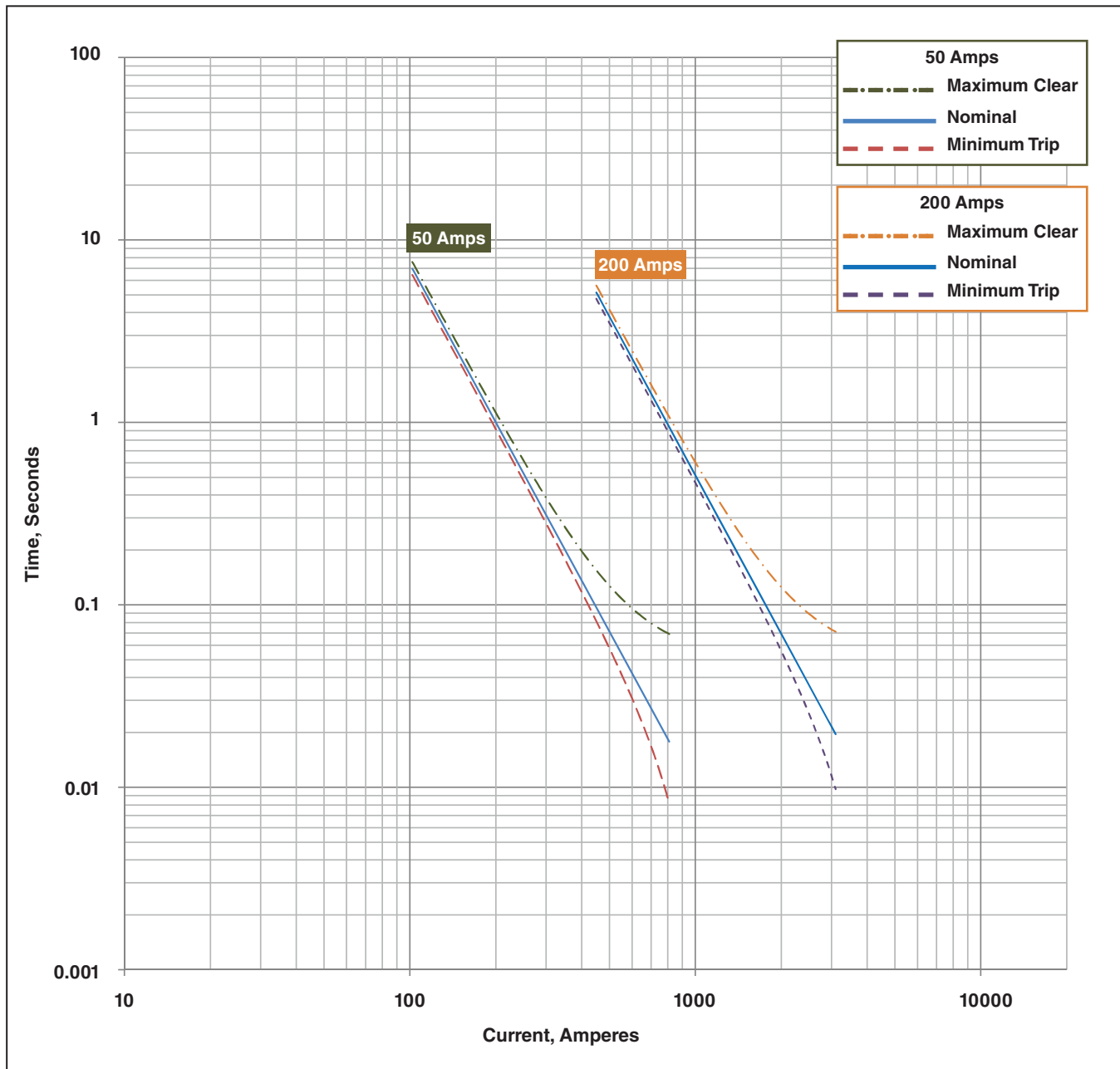


TCC Curve Parameters

Curve	Curve Parameter from 40- and 175-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 E	7.087267	0	2.801784	0	0	80	689
175 E	7.738023	0	3.064863	0	0	422	3109

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

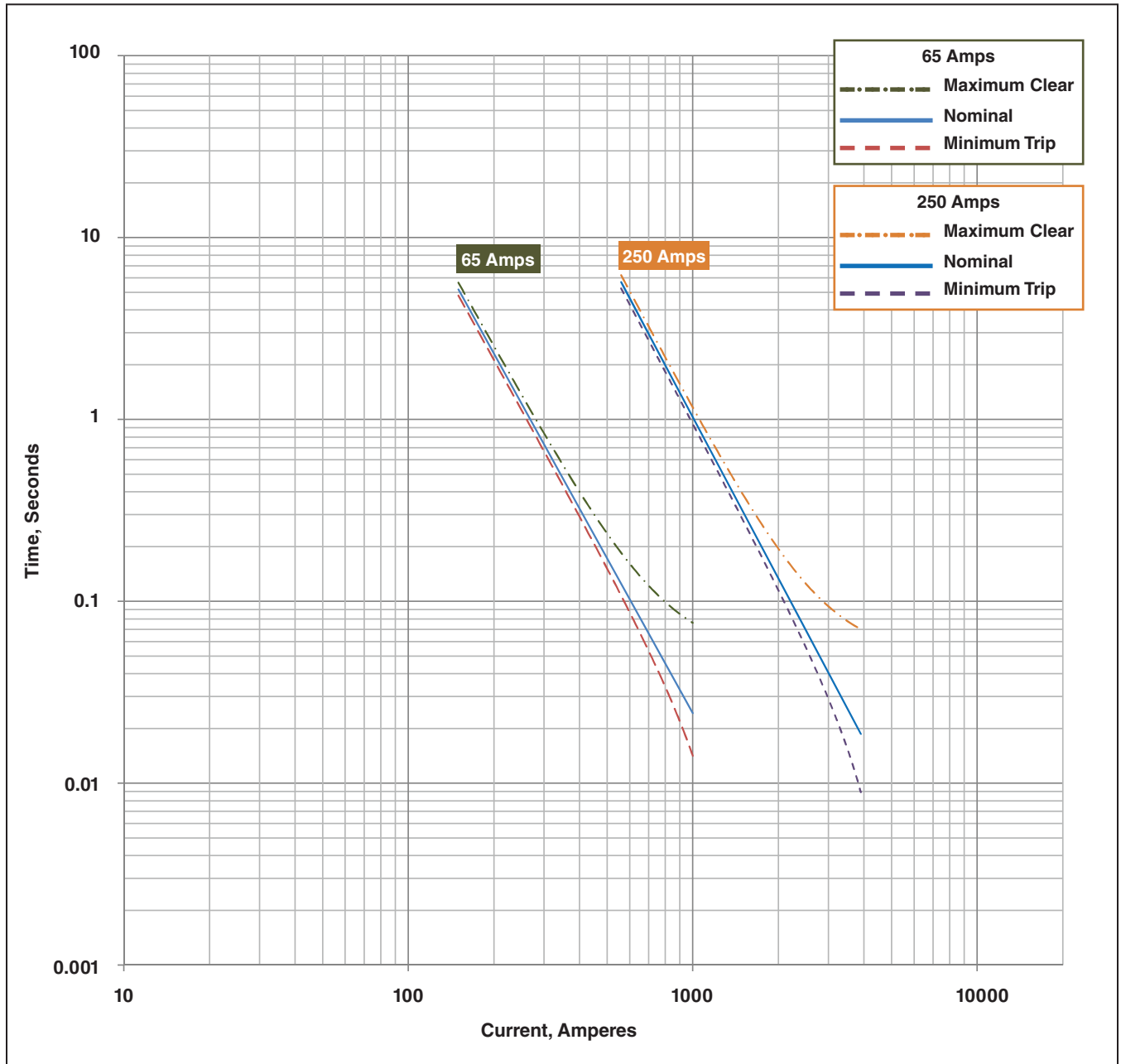
50-, 200-Ampere E Standard Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 50- and 200-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 E	7.161692	0	2.880725	0	0	101	823
200 E	5.571308	0	2.888257	0	0	438	3254

65-, 250-Ampere E Standard Speed SM Refill Unit TCC Curve

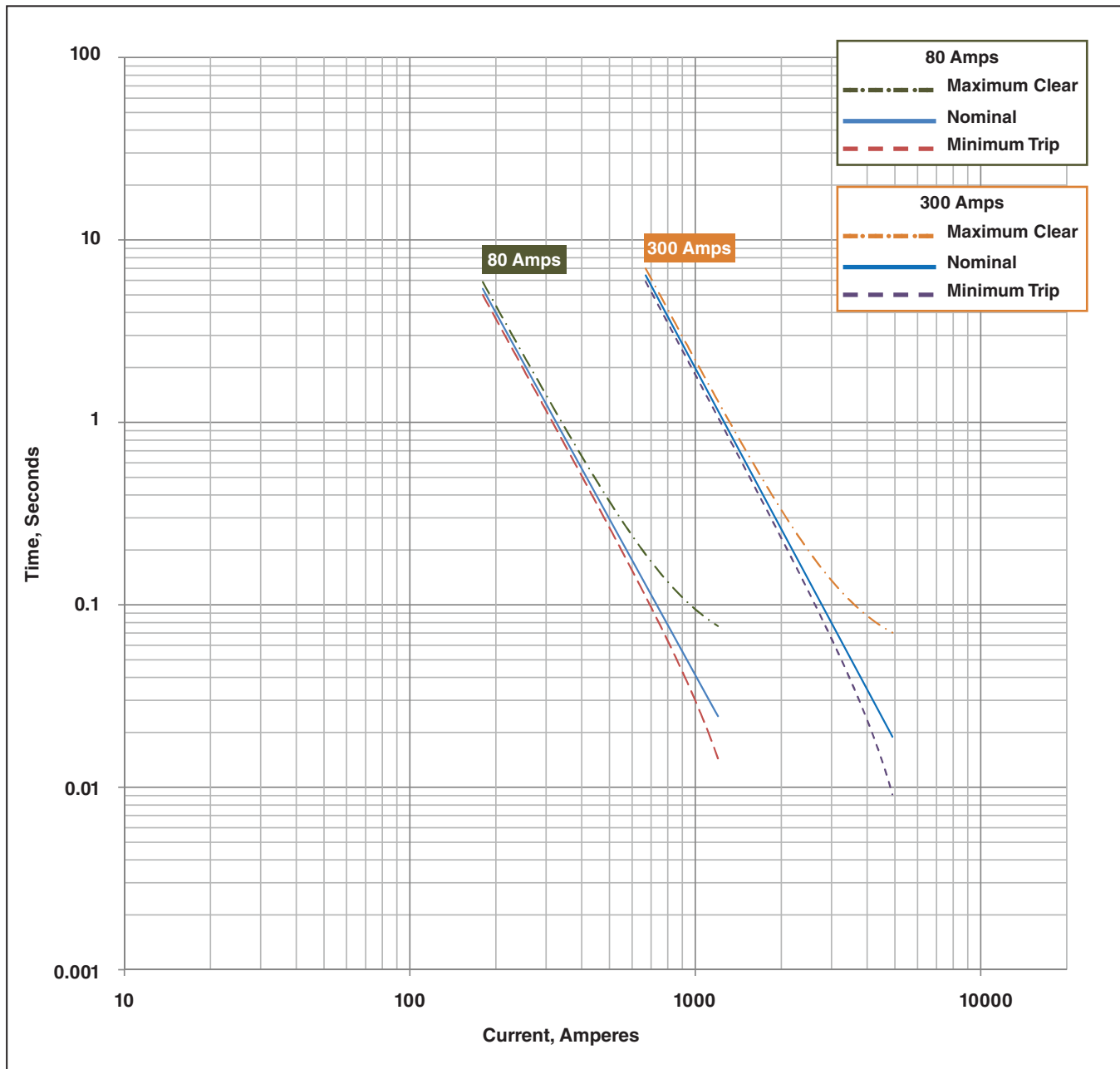


TCC Curve Parameters

Curve	Curve Parameter from 65- and 250-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
65 E	7.613329	0	2.828345	0	0	131	1134
250 E	6.170671	0	2.94792	0	0	545	4025

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

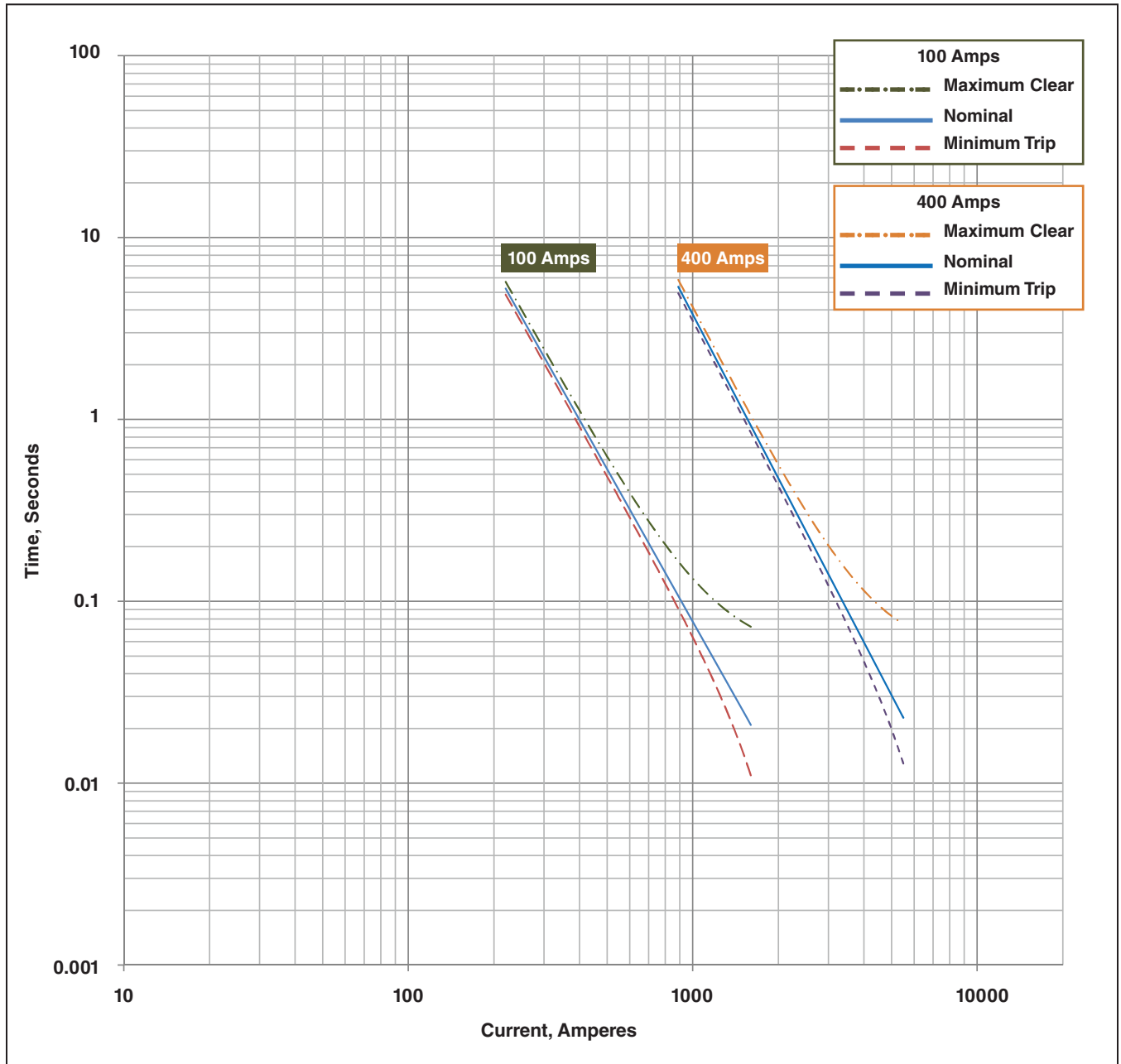
80-, 300-Ampere E Standard Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 80- and 300-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
80 E	7.160968	0	2.843639	0	0	163	1365
300 E	6.778202	0	2.927412	0	0	657	5081

100-, 400-Ampere E Standard Speed SM Refill Unit TCC Curve

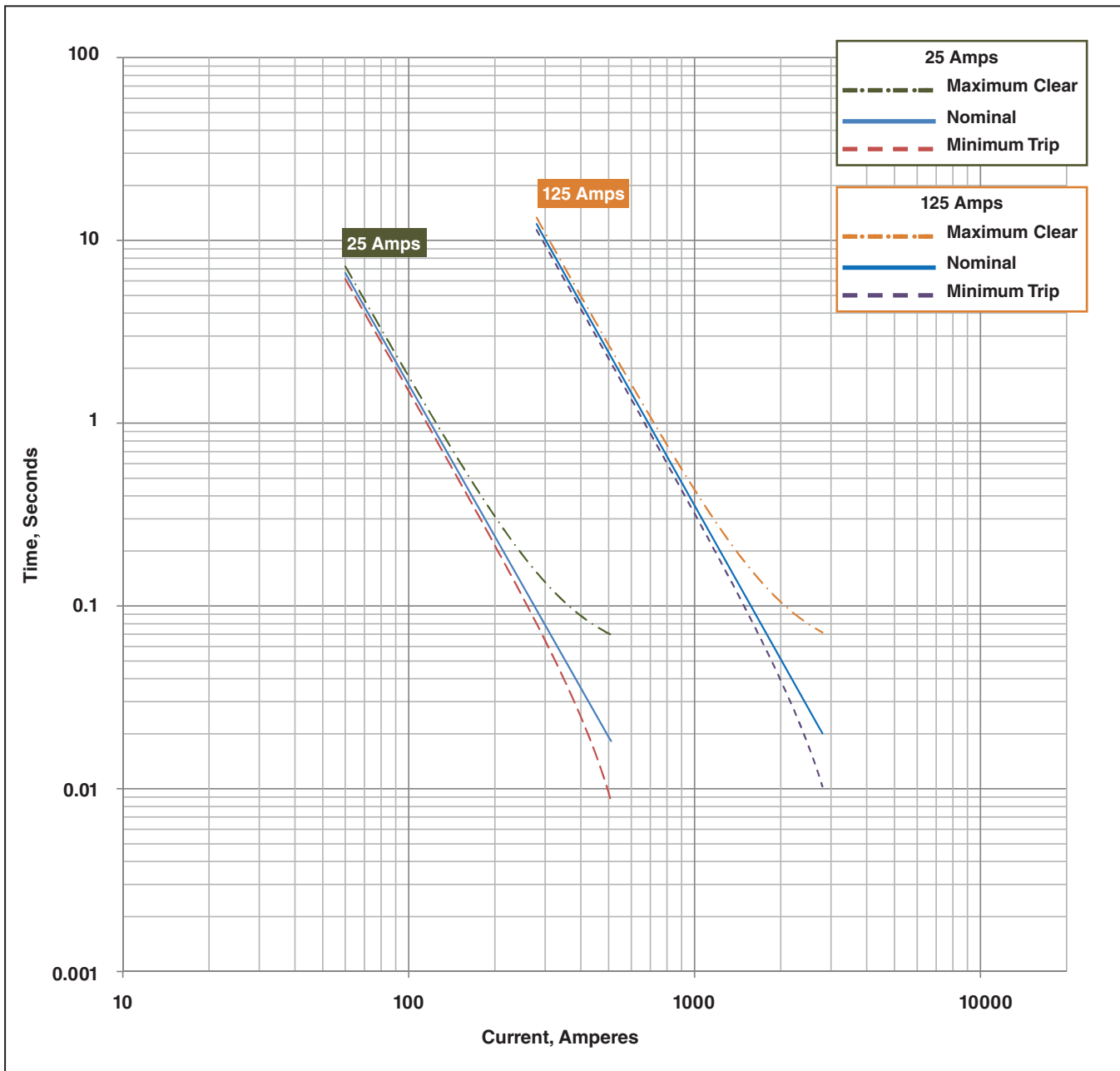


TCC Curve Parameters

Curve	Curve Parameter from 100- and 400-Ampere E Standard Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
100 E	10.951726	0	2.910926	0	0	195	1795
400 E	12.159117	0	3.438364	0	0	901	6094

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

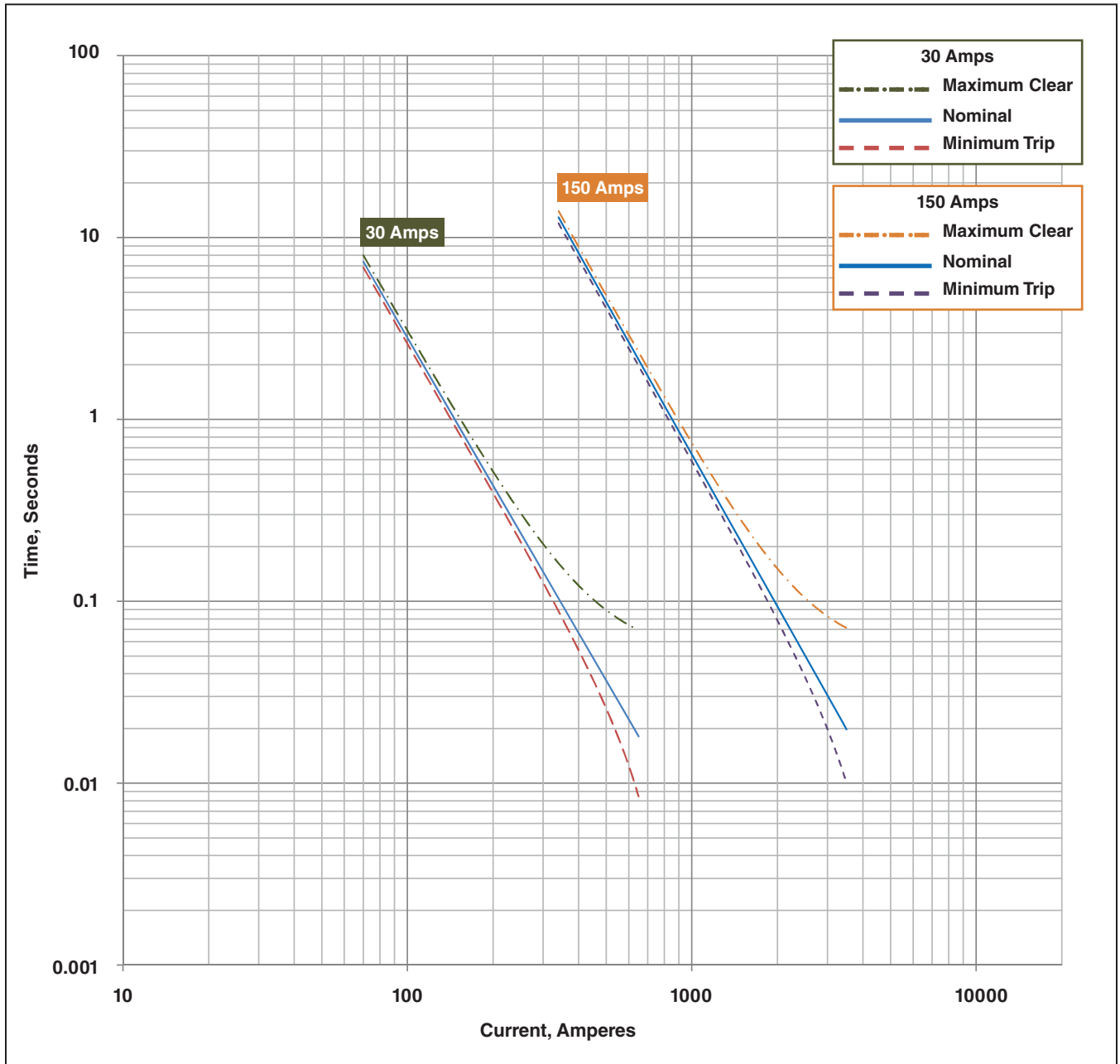
25-, 125-Ampere E Slow Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 25- and 125-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
25 E	8.165621	0	2.676899	0	0	50	502
125 E	13.552748	0	2.865714	0	0	301	3098

30-, 150-Ampere E Slow Speed SM Refill Unit TCC Curve

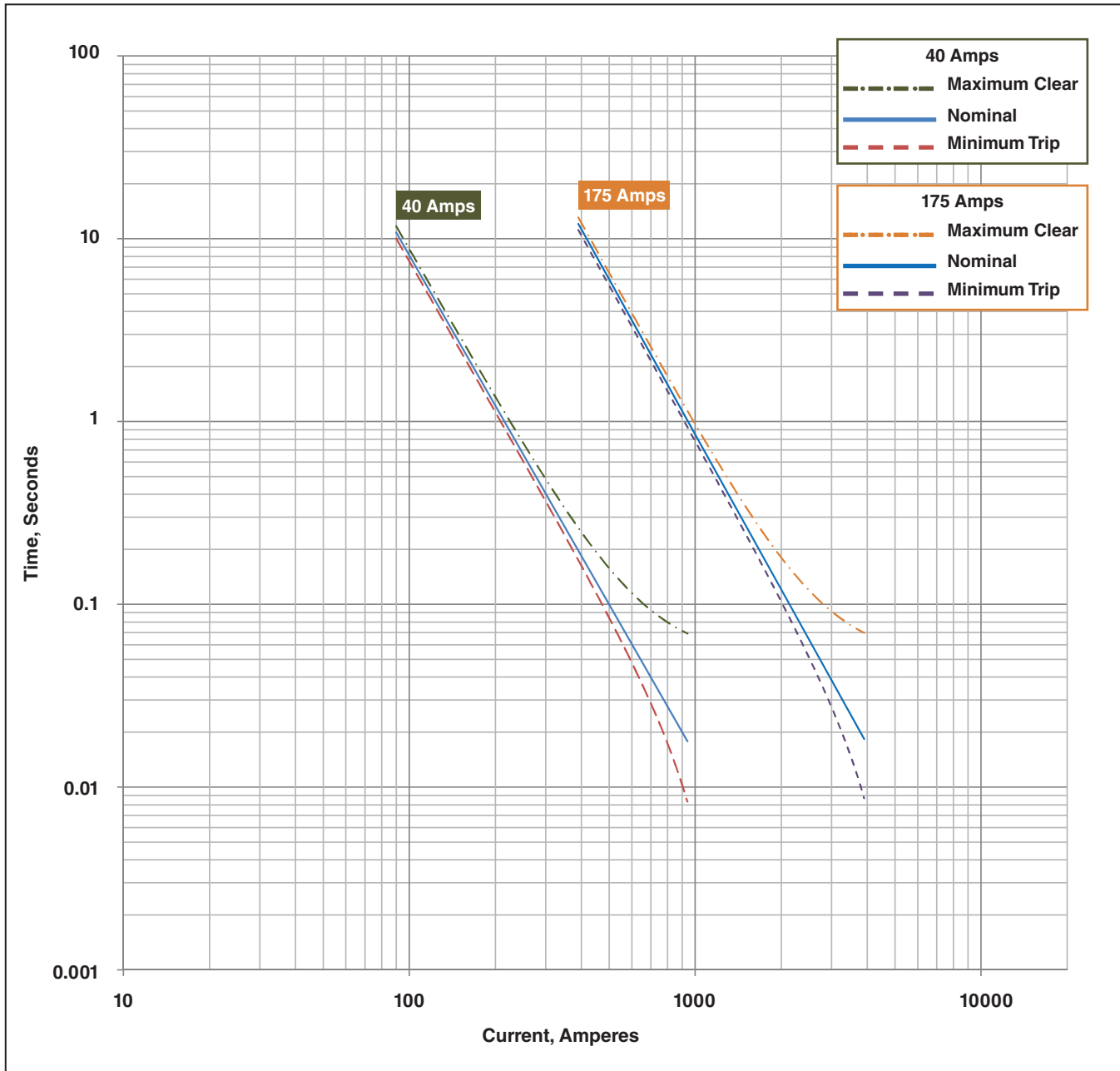


TCC Curve Parameters

Curve	Curve Parameter from 30- and 150-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
30 E	10.582975	0	2.683098	0	0	60	660
150 E	13.372794	0	2.823049	0	0	360	3820

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

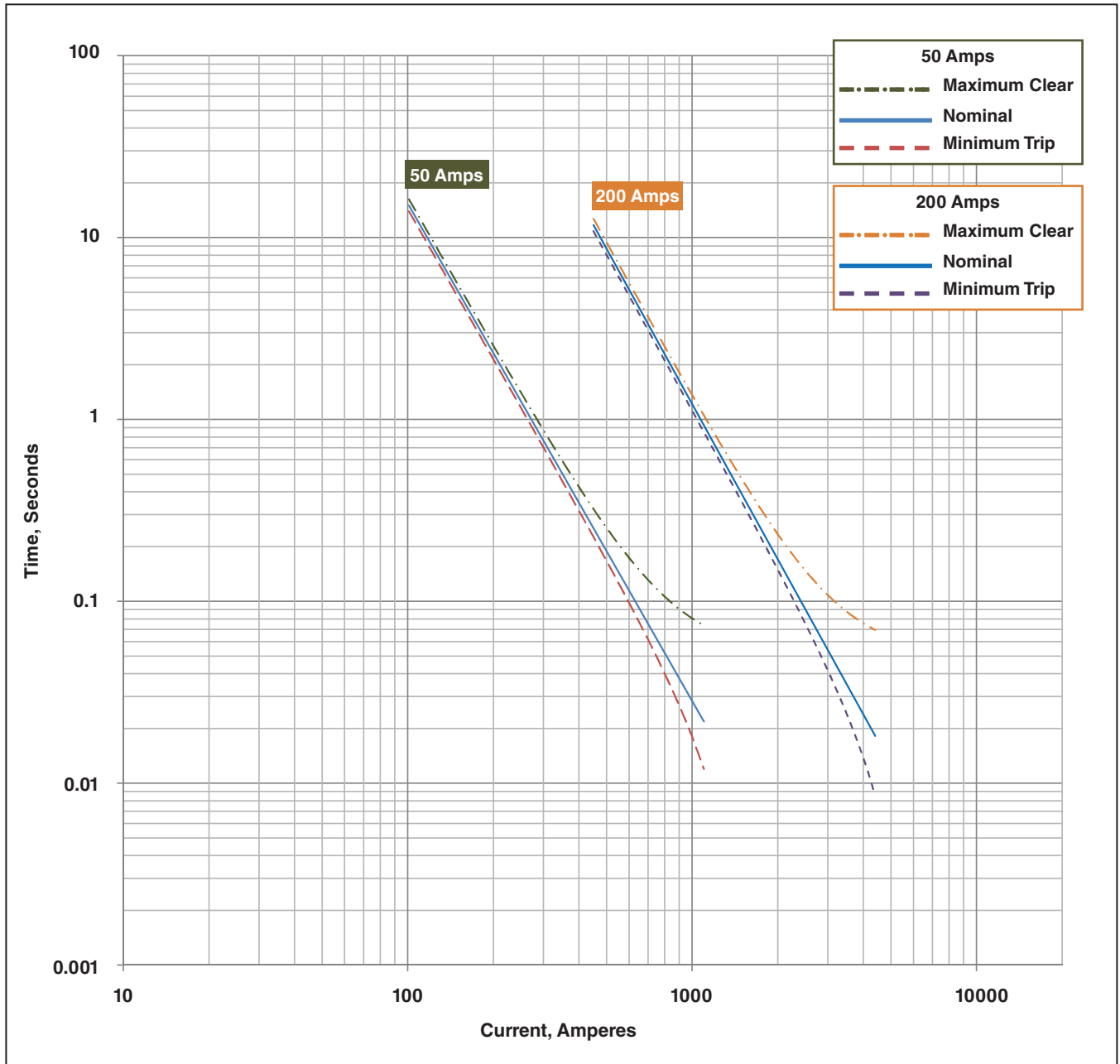
40-, 175-Ampere E Slow Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 40- and 175-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
40 E	12.156648	0	2.661805	0	0	80	945
175 E	11.497874	0	2.85123	0	0	421	4139

50-, 200-Ampere E Slow Speed SM Refill Unit TCC Curve

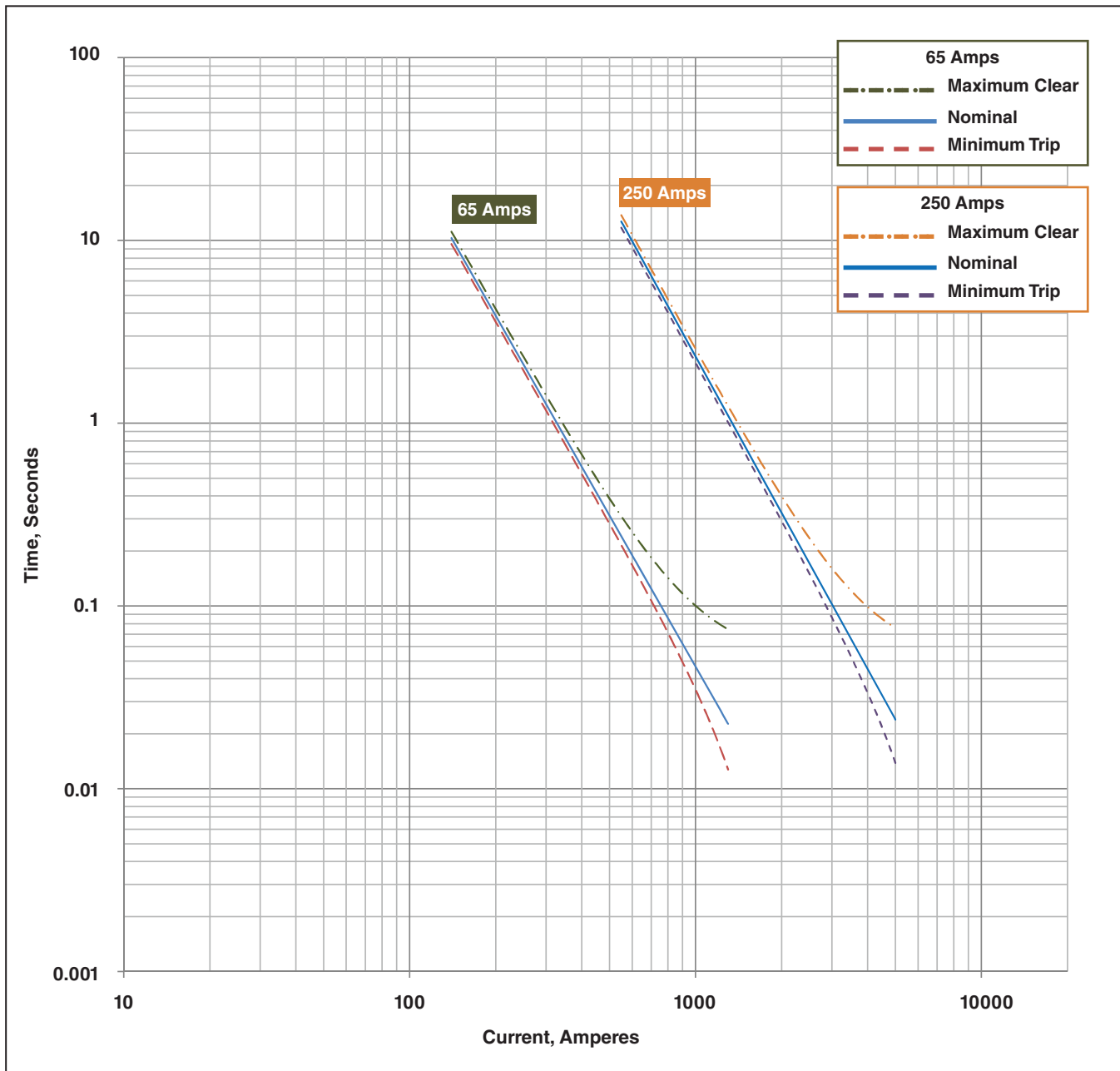


TCC Curve Parameters

Curve	Curve Parameter from 50- and 200-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
50 E	12.750553	0	2.669516	0	0	100	1194
200 E	13.380102	0	2.918594	0	0	487	4784

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

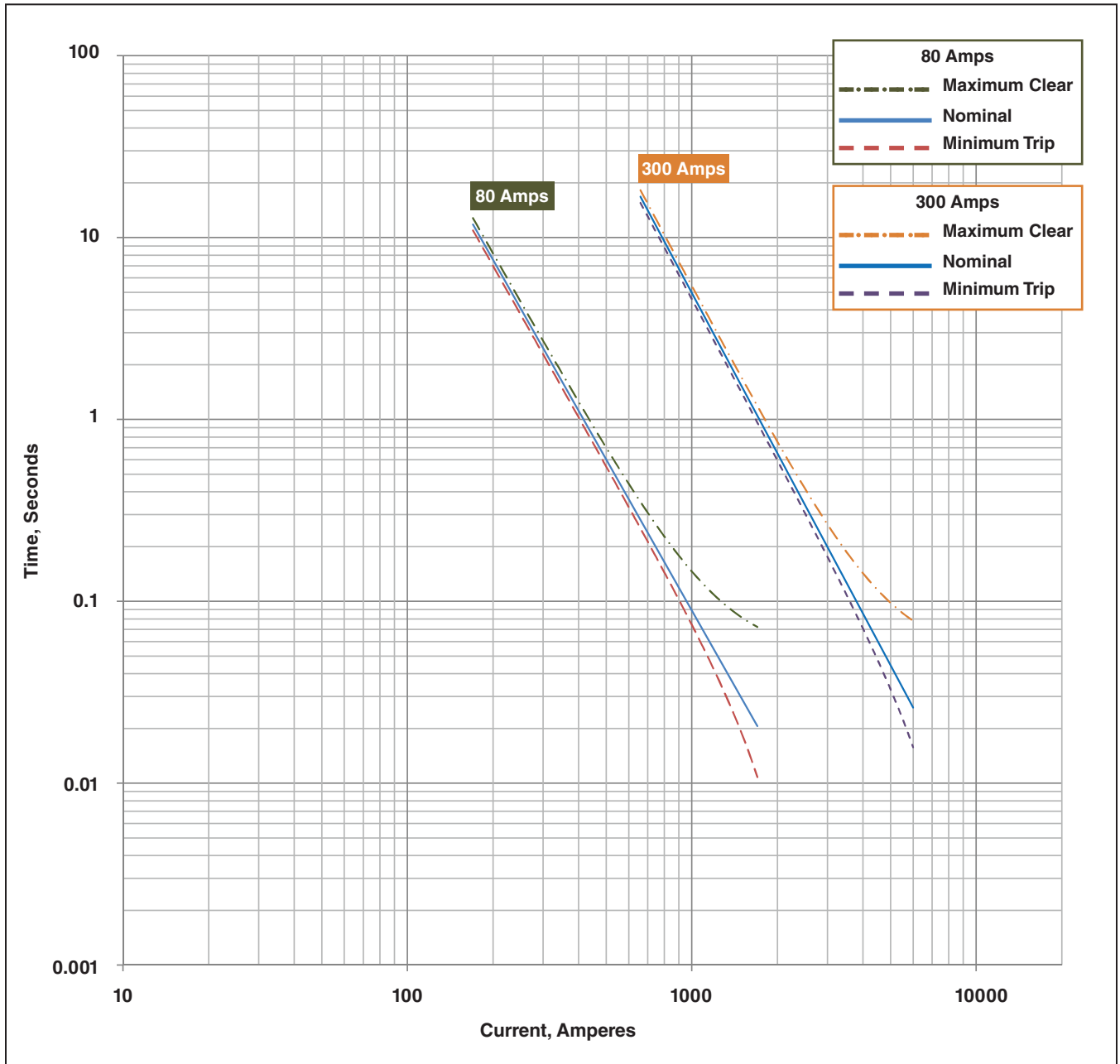
65-, 250-Ampere E Slow Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 65- and 250-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
65 E	13.016874	0	2.754263	0	0	130	1449
250 E	15.573941	0	2.995332	0	0	596	5809

80-, 300-Ampere E Slow Speed SM Refill Unit TCC Curve

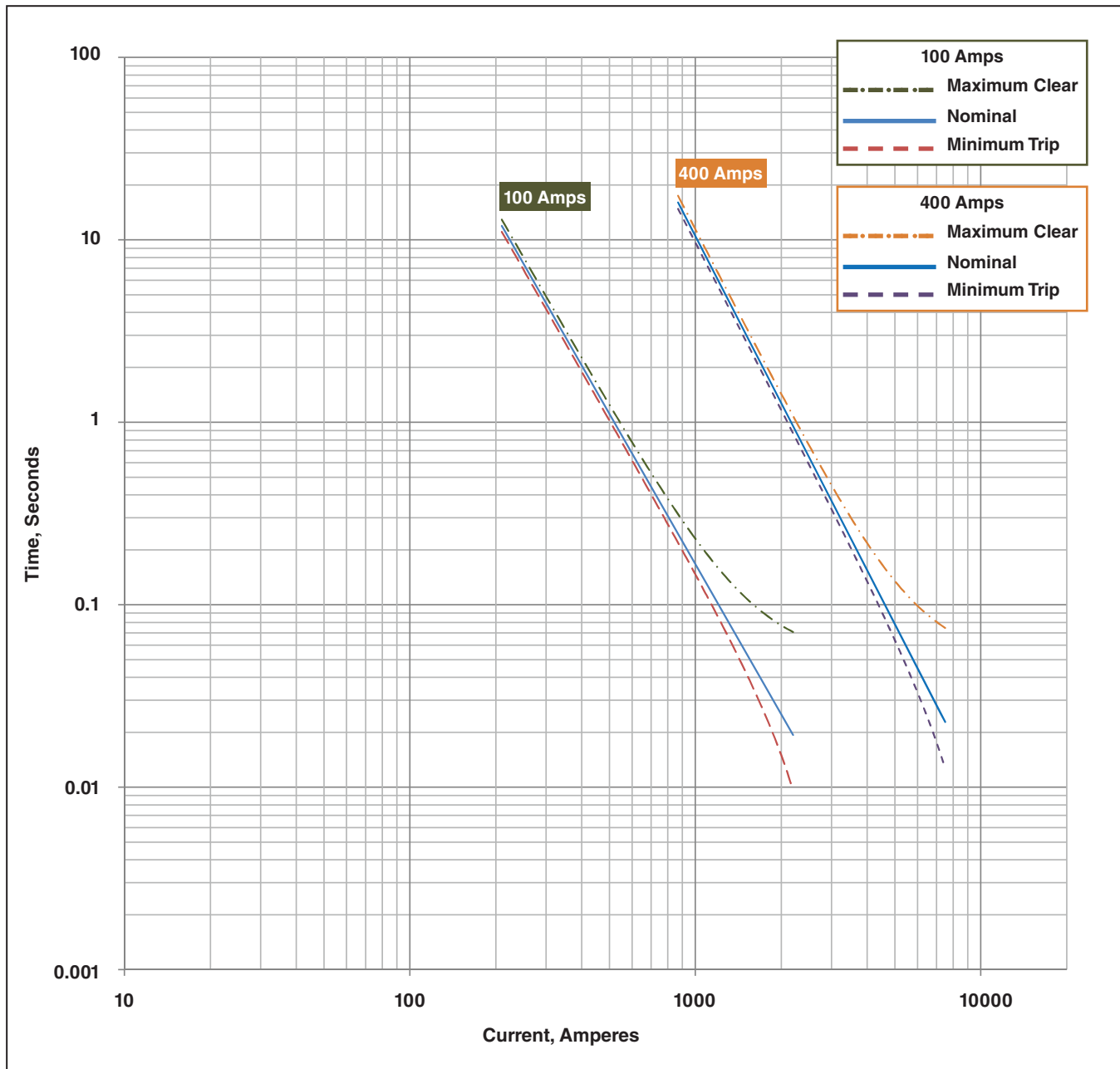


TCC Curve Parameters

Curve	Curve Parameter from 80- and 300-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
80 E	14.71793	0	2.758413	0	0	157	1823
300 E	18.209114	0	2.93071	0	0	642	6940

Intelligent Fuse Saving (IFS) Distribution Power Fuse TCC Curves

100-, 400-Ampere E Slow Speed SM Refill Unit TCC Curve



TCC Curve Parameters

Curve	Curve Parameter from 100- and 400-Ampere E Slow Speed SM Refill Unit.xdat						
	A	B	p	C	K	Minimum Pick-Up	Cut-Off
100 E	14.410075	0	2.73511	0	0	196	2306
400 E	16.742425	0	3.04426	0	0	858	8256

