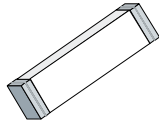


TeleLink Fuse



The *TeleLink* Surface Mount (SM) surge resistant fuse offers circuit protection without requiring a series resistor. When used in conjunction with the *SIDACtor* Transient Voltage Suppressor (TVS), the *TeleLink* SM fuse and the *SIDACtor* TVS provide a complete regulatory-compliant solution for standards such as GR 1089, TIA/EIA-IS-968, UL 60950, and ITU K.20 and K.21 (formerly known as FCC Part 68). No series resistor is required for the F1250T and F1251T to comply with these standards.

Contact factory for enhanced K.20 and K.21 details.

Surge Ratings

<i>TeleLink</i> SM Fuse	I _{pp} 2x10 μs Amps	I _{pp} 10x160 μs Amps	I _{pp} 10x560 μs Amps	I _{pp} 10x1000 μs Amps
F0500T	not rated	75	45	35
F1250T	500	160	115	100
F1251T	500	160	115	100

Interrupting Values

<i>TeleLink</i> SM Fuse	Voltage Rating	Current Rating	I ² t Measured at DC Rated Voltage	Interrupting Rating			
				Voltage, Current	MIN	TYP	MAX
F0500T	250 V	500 mA	1.3 A ² s	600 V, 40 A	1 ms	2 ms	60 ms
F1250T	250 V	1.25 A	22.2 A ² s	600 V, 60 A *	1 ms	2 ms	60 ms
F1251T	250 V	2 A	30 A ² s	600 V, 60 A *	1 ms	2 ms	60 ms

* Interrupt test characterized at 50° to 70° phase angle. Phase angles approximating 90° may result in damage to the body of the fuse.

Notes:

- The *TeleLink* SM fuse is designed to carry 100% of its rated current for four hours and 250% of its rated current for one second minimum and 120 seconds maximum. Typical time is four to 10 seconds. For optimal performance, an operating current of 80% or less is recommended.
- I²t is a non-repetitive RMS surge current rating for a period of 16.7 ms.

Resistance Ratings

<i>TeleLink</i> SM Fuse	Typical Voltage Drop @ Rated Current	DC Cold Resistance	
		MIN	MAX
F0500T	0.471 V	0.420 Ω	0.640 Ω
F1250T	0.205 V	0.107 Ω	0.150 Ω
F1251T	0.110 V	0.050 Ω	0.100 Ω

Notes:

- Typical inductance ≅ 4 μH up to 500 MHz.
- Resistance changes 0.5% for every °C.
- Resistance is measured at 10% rated current.

Qualification Data

The F1250T and F1251T meet the following test conditions per GR 1089 **without** additional series resistance. However, in-circuit test verification is required. Note that considerable heating may occur during Test 4 of the Second Level AC Power Fault Test.

First Level Lightning Surge Test

Test	Surge Voltage Volts	Wave-form μ s	Surge Current Amps	Repetitions Each Polarity
1	± 600	10x1000	100	25
2	± 1000	10x360	100	25
3	± 1000	10x1000	100	25
4	± 2500	2x10	500	10
5	± 1000	10x360	25	5

Second Level Lightning Surge Test

Test	Surge Voltage Volts	Wave-form μ s	Surge Current Amps	Repetitions Each Polarity
1	± 5000	2x10	500	1

First Level AC Power Fault Test

Test	Applied Voltage, 60 Hz V_{RMS}	Short Circuit Current Amps	Duration
1	50	0.33	15 min
2	100	0.17	15 min
3	200, 400, 600	1 at 600 V	60 applications, 1 s each
4	1000	1	60 applications, 1 s each
5	*	*	60 applications, 5 s each
6	600	0.5	30 s each
7	600	2.2	2 s each
8	600	3	1 s each
9	1000	5	0.5 s each

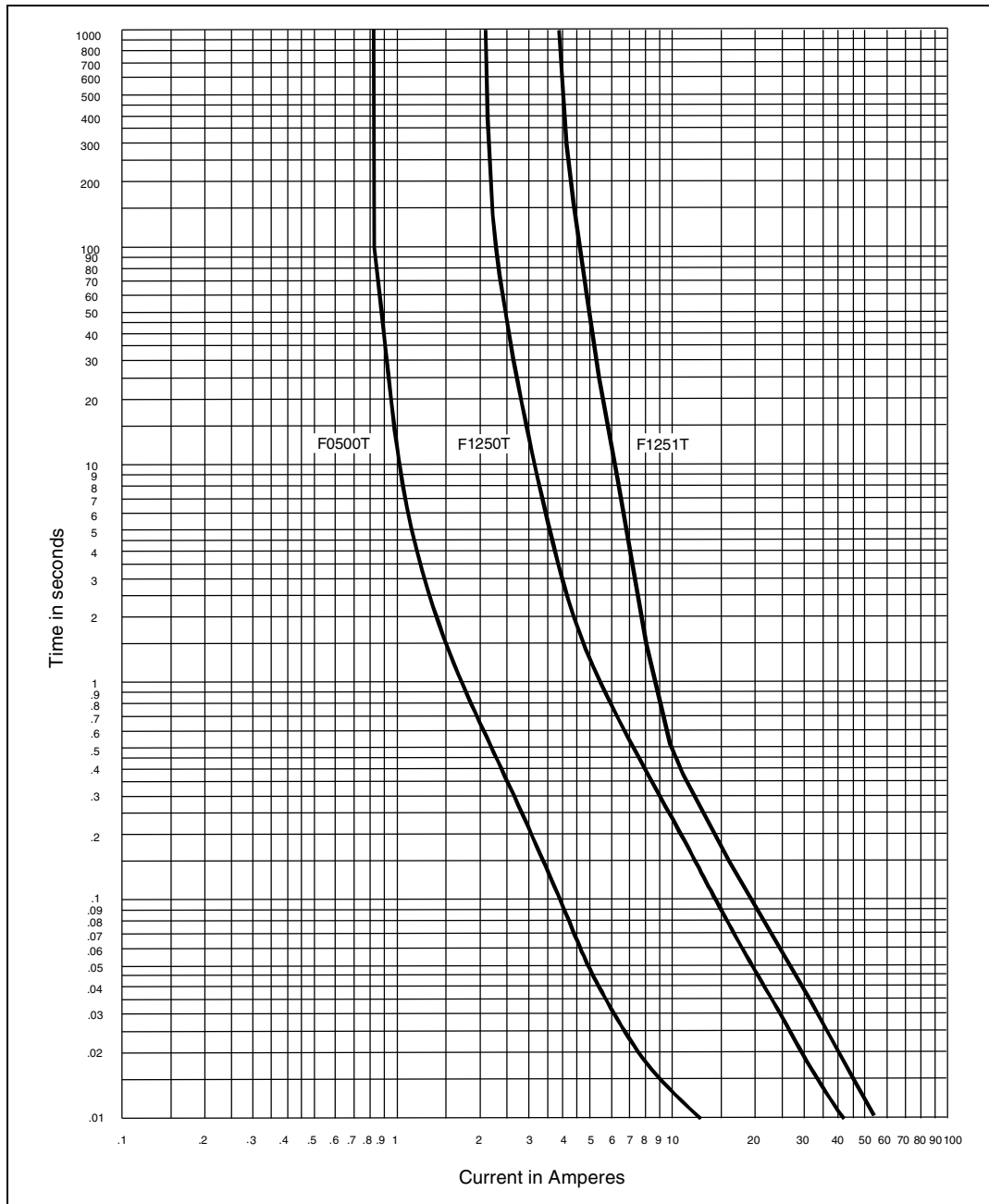
* Test 5 simulates a high impedance induction fault. For specific information, please contact Teccor Electronics.

Second Level AC Power Fault Test for Non-Customer Premises Equipment

Test	Applied Voltage, 60 Hz V_{RMS}	Short Circuit Current Amps	Duration
1	120, 277	30	30 min
2	600	60	5 s
3	600	7	5 s
4	100-600	2.2 at 600 V	30 min

Notes:

- Power fault tests equal or exceed the requirements of UL 60950 3rd edition.
- Test 4 is intended to produce a maximum heating effect. Temperature readings can exceed 150 °C.
- Test 2 may be dependent on the closing angle of the voltage source. Fuse is characterized at 50° to 70°. Closing angles approximating 90° may result in damage to the body of the fuse.
- Use caution when routing internal traces adjacent to the F1250T and F1251T.



Time Current Curve

Temperature Derating Curve

Operating temperature is -55 °C to +125 °C with proper correction factor applied.

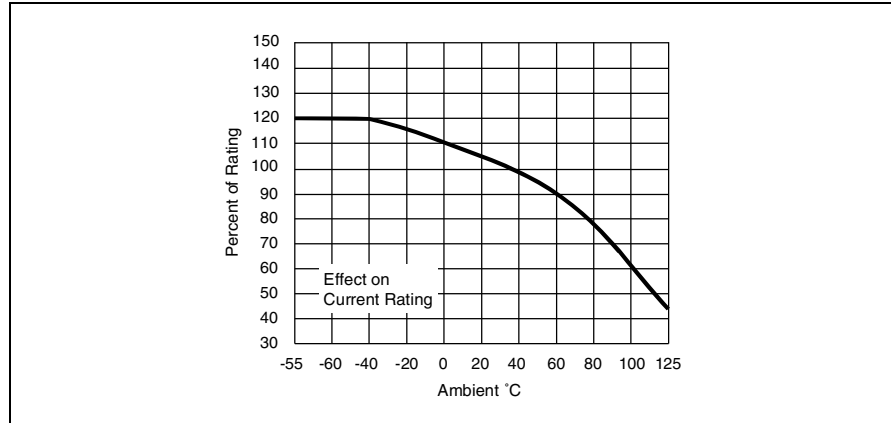


Chart of Correction Factor

Data Sheets

Maximum Temperature Rise

TeleLink Fuse	Temperature Reading
F0500T	≤75 °C (167 °F) *
F1250T	≤75 °C (167 °F) *
F1251T	≤75 °C (167 °F) *

* Higher currents and PCB layout designs can affect this parameter.

Notes:

- Readings are measured at rated current after temperature stabilizes
- The F1250T meets the requirements of UL 248-14. However, board layout, board trace widths, and ambient temperature values can cause higher than expected rises in temperature. During UL testing, the typical recorded heat rise for the F1250T at 2.2 A was 120 °C.

Package Symbolization

Marking	F0500T	F1250T	F1251T	Manufactured in USA	Manufactured in Taiwan
FU	F			U	
FT	F				T
JU		J		U	
JT		J			T
NU			N	U	
NT			N		T