Bussmann

10x38mm Photovoltaic fuses — 1000Vdc, 1-30A



Description

A range 10x38mm, 1000Vdc PV fuses for the protection and isolation of photovoltaic strings. The fuses are specifically designed for use in PV systems with extreme ambient temperature, high cycling and low fault current conditions (reverse current, multi-array fault) string arrays.

Available with four mounting styles for application flexibility.

Basic fuse size

- 10x38mm

Catalog symbols and mounting style

- 1-20A* — PV-(amp)A10F (cylindrical)
  - — PV-(amp)A10-T (bolt mounting)
  - — PV-(amp)A10-1P (single PCB tab)
  - — PV-(amp)A10-2P (dual PCB tab)
  - — PV-(amp)10F-CT (in-line with crimp terminals)
- 25-30A** — PV10M-(amp) (cylindrical)

* Ceramic tube construction.
** Melamine tube construction.

Ratings

- Volts: - 1000Vdc
- Amps: - 1-30A
- Interrupting Rating: - 50kA (1-20A)
  - 20kA (25-30A)
- Time Constant: - 1-3ms

Operating class

- gPV and UL PV fuse links

PV Fuse coordination

- With thin film cells and 4", 5" and 6" crystalline silicon cells

Agency information

- UL Listed to 2579*, Guide JFGA, File E335324
- IEC 60269-6 (gPV)
- CSA File 53787, Class 1422-30 (1-15A), 20-30A Pending
- CCC (1-20A) (25-30A pending)
- RoHS Compliant

* Except crimp terminal version that is UL Recognized to UL 2579, Guide JFGA2, File E335324.

Packaging (carton quantity)

- PV-(amp)A10F, PV-(amp)A10T, PV-(amp)A10-_P and PV10M-(amp): 10
- PV-(amp)10F-CT & PV10M-(amp)-CT inline: 180

Features

- Meets UL and IEC photovoltaic standards for global acceptance
- Low watts loss performance for energy efficiency
- Low temperature rise performance for more precise sizing
- In-line crimp terminal version is easy to apply in wire harness construction

Typical applications

- Combiner boxes
- Inverters
- PV Wire harnesses

Recommended fuse holders & fuseclips

Part Number	Description & Date Sheet/Brochure #
CHPV1IU	1-Pole modular fuse holder with indication # 3185
CHPV1U	1-Pole modular fuse holder without indication # 3185
CHPV2IU	2-Pole modular fuse holder with indication # 3185
CHPV2U	2-Pole modular fuse holder without indication # 3185
1A3400-_	PCB Fuseclips # 2131
HPV-DV-_A	Inline fuse holder assembly # 2157

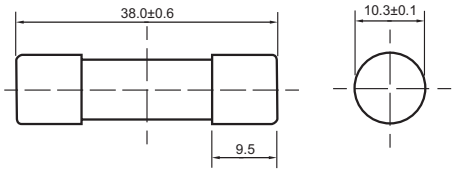
Specifications

Catalog Numbers / Configurations					Current Rating (Amps)	Voltage Rating (Vdc)	Energy Integrals I^2t (A^2s)		Watts Loss (W)	
Cylindrical Ferrule	Bolt Fixing	PCB Fixing Single Pin	PCB Fixing Double Pin	In-line with Crimp Terminal			Pre-Arcing	Total @ 1000V	$0.8I_n$	I_n
PV-1A10F	PV-1A10-T	PV-1A10-1P	PV-1A10-2P	PV-1A10F-CT	1	1000	0.15	0.4	0.8	1.5
PV-2A10F	PV-2A10-T	PV-2A10-1P	PV-2A10-2P	PV-2A10F-CT	2	1000	1.2	3.4	0.6	1.0
PV-3A10F	PV-3A10-T	PV-3A10-1P	PV-3A10-2P	PV-3A10F-CT	3	1000	4	11	0.8	1.3
PV-3-5A10F	PV-3-5A10-T	PV-3-5A10-1P	PV-3-5A10-2P	PV-3-5A10F-CT	3.5	1000	6.6	18	0.9	1.4
PV-4A10F	PV-4A10-T	PV-4A10-1P	PV-4A10-2P	PV-4A10F-CT	4	1000	9.5	26	1.0	1.5
PV-5A10F	PV-5A10-T	PV-5A10-1P	PV-5A10-2P	PV-5A10F-CT	5	1000	19	50	1.0	1.6
PV-6A10F	PV-6A10-T	PV-6A10-1P	PV-6A10-2P	PV-6A10F-CT	6	1000	30	90	1.1	1.8
PV-8A10F	PV-8A10-T	PV-8A10-1P	PV-8A10-2P	PV-8A10F-CT	8	1000	3	32	1.2	2.1
PV-10A10F	PV-10A10-T	PV-10A10-1P	PV-10A10-2P	PV-10A10F-CT	10	1000	7	70	1.2	2.3
PV-12A10F	PV-12A10-T	PV-12A10-1P	PV-12A10-2P	PV-12A10F-CT	12	1000	12	120	1.5	2.7
PV-15A10F	PV-15A10-T	PV-15A10-1P	PV-15A10-2P	PV-15A10F-CT	15	1000	22	220	1.7	2.9
PV-20A10F	PV-20A10-T	PV-20A10-1P	PV-20A10-2P	PV-20A10F-CT	20	1000	34	350	2.1	3.6
PV10M-25	—	—	—	—	25	1000	325	1860*	1.65	2.91
PV10M-30	—	—	—	—	30	1000	536	3360*	1.65	3.31

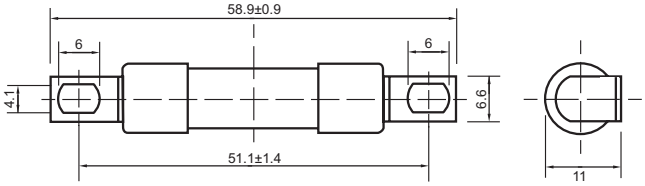
* Total I^2t @ 20kA IR.

Dimensions/configurations - mm

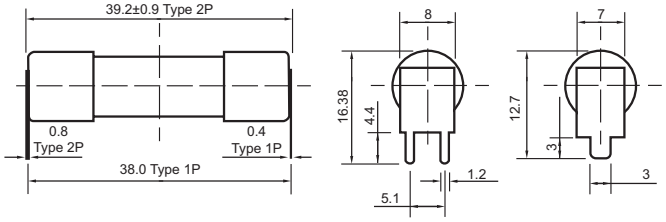
Cylindrical PV-(amp)A10F, PV10M-(amp)



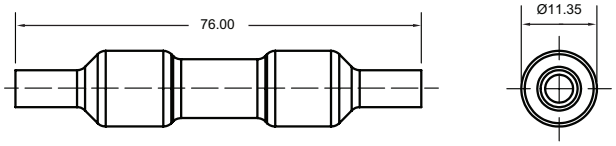
Cylindrical with bolt fixings PV-(amp)A10-T



Cylindrical with PCB tabs PV-(amp)A10-1P (single pin), PV-(amp)A10-2P (double pin)



In-line with crimp terminals PV-(amp)A10F-CT (1-20A)



The in-line crimp terminal version can be electrically insulated with customer supplied overmolding or approved heat-shrink.

Operating temperature range

- -40°C to 90°C

Wire range and type

- Single conductor, 12-10AWG 75°C/90°C Cu stranded PV

Overmolding temperature parameters

- 233°C for 180 sec Max

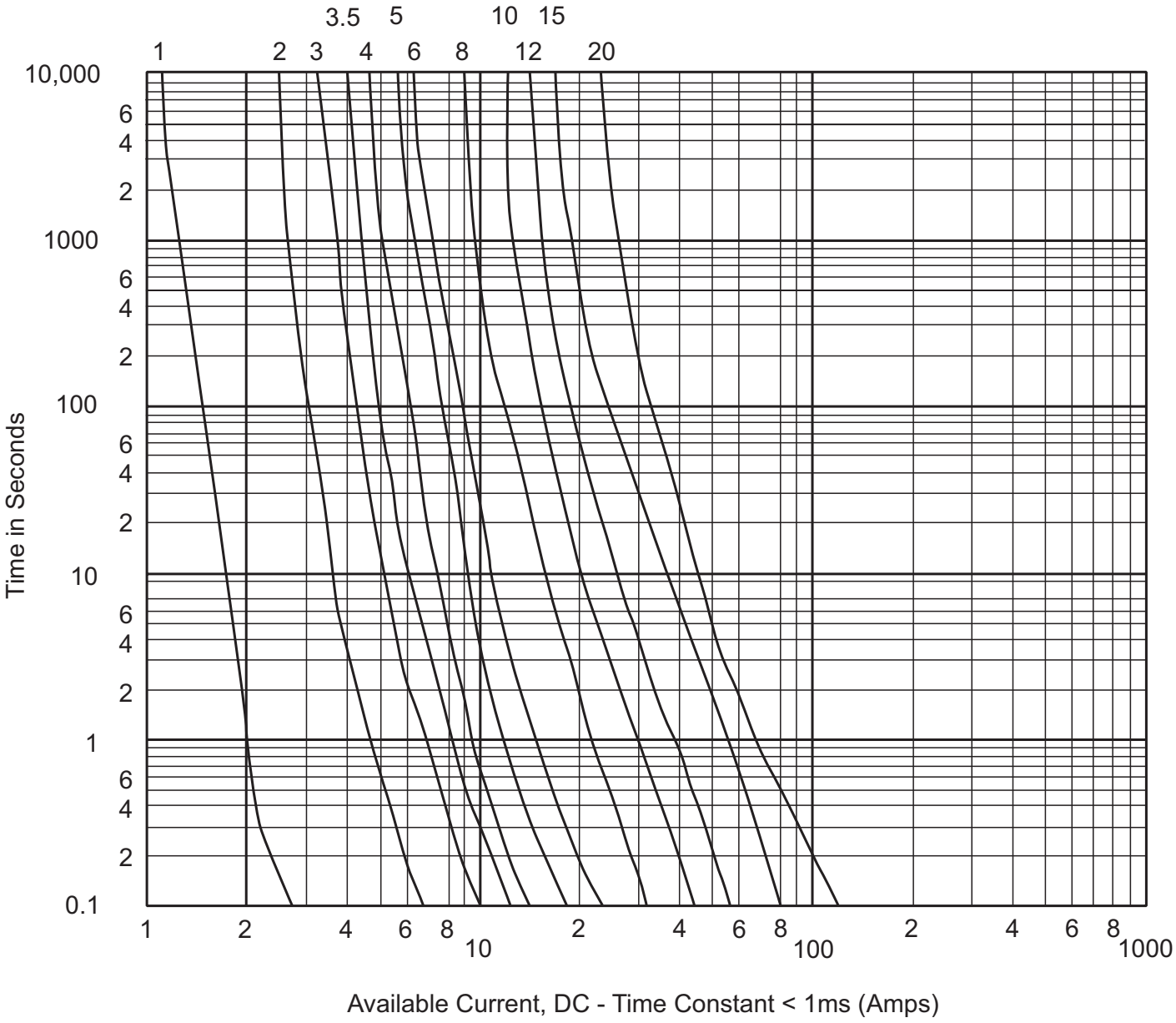
Terminals

- Crimp terminal for 12-10AWG PV copper conductors

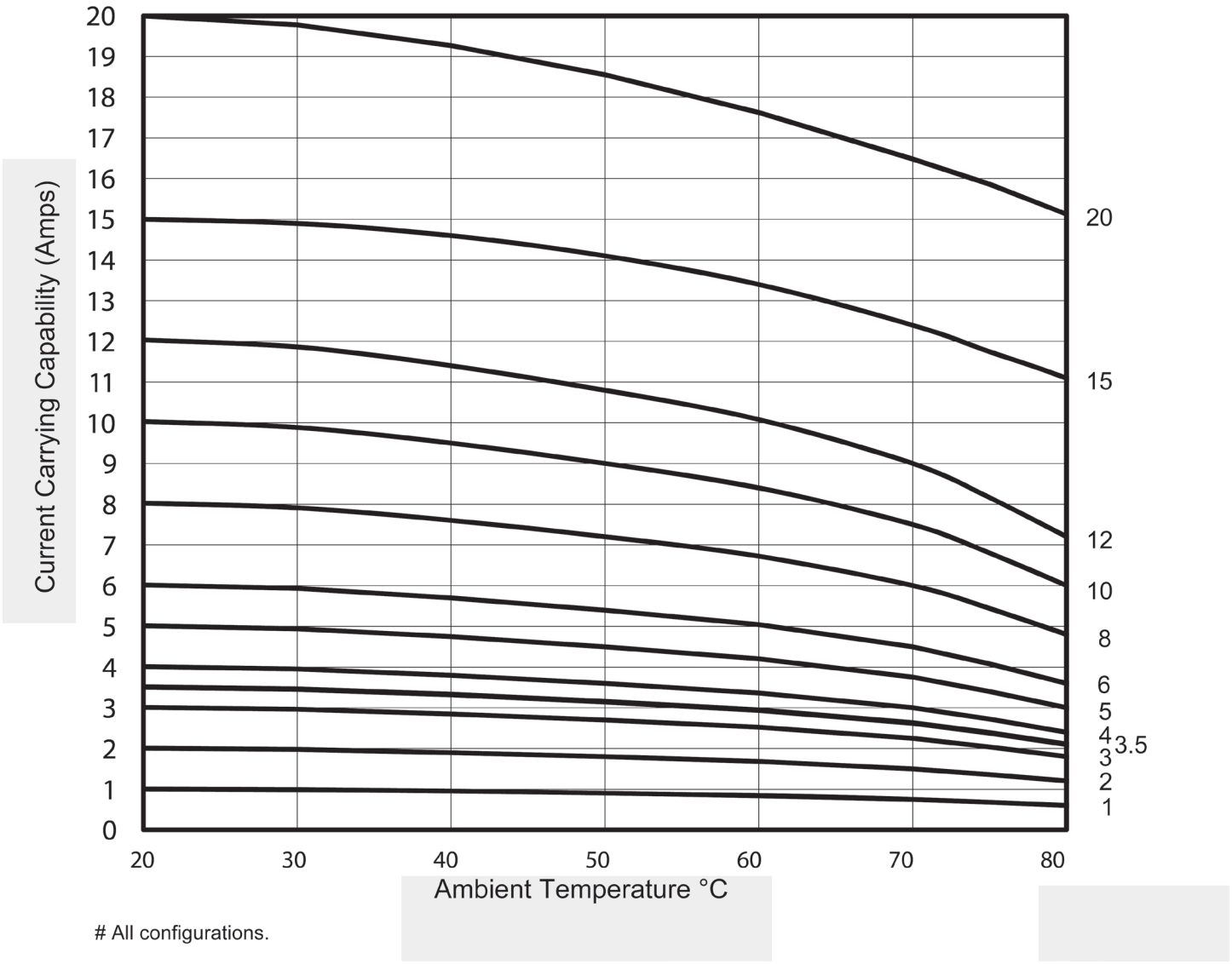
Recommended tools:

- Sta-Kon terminal crimping tool, catalog # ERG4002

Time-current characteristics — 1-20A



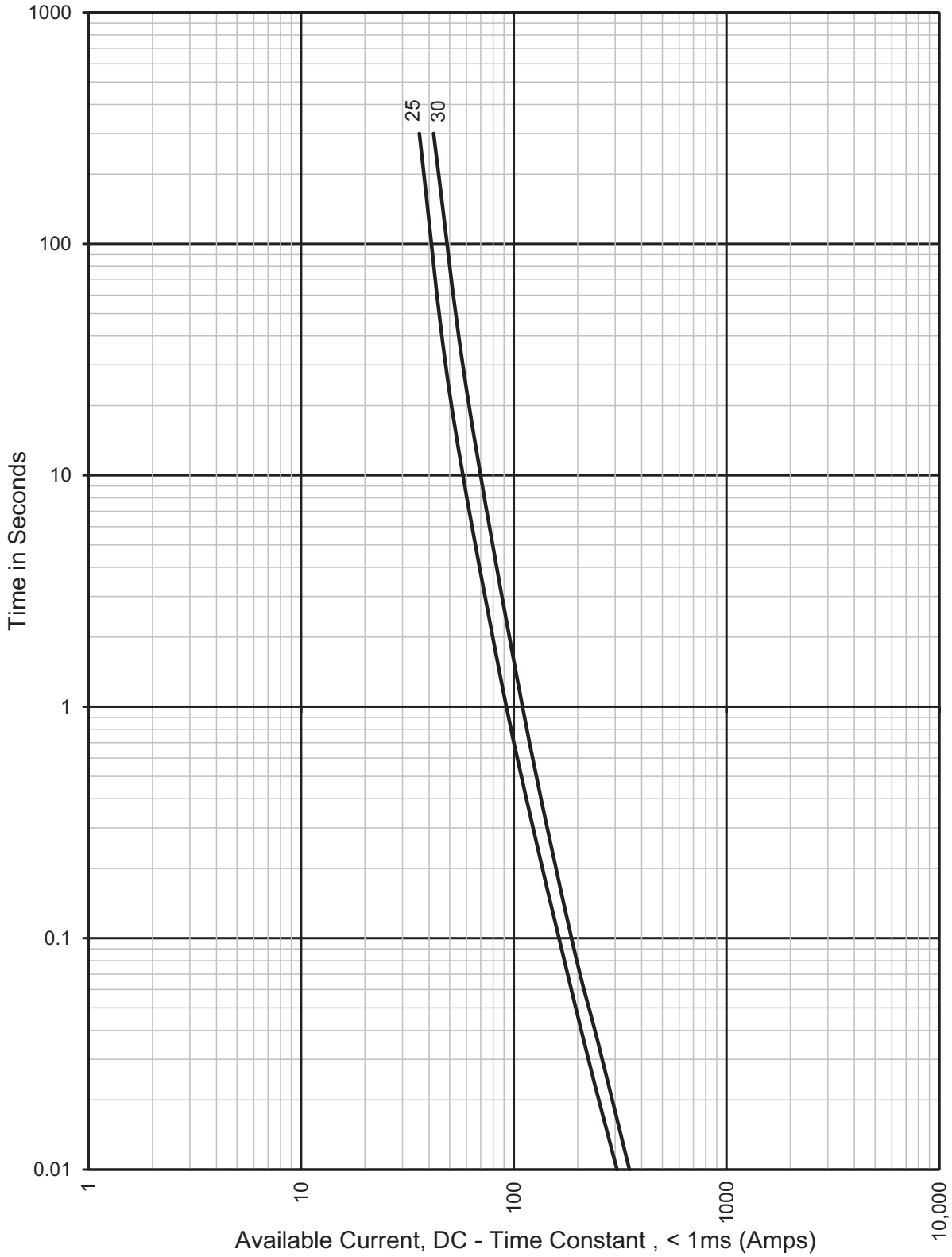
Temperature derating curves — 1-20A



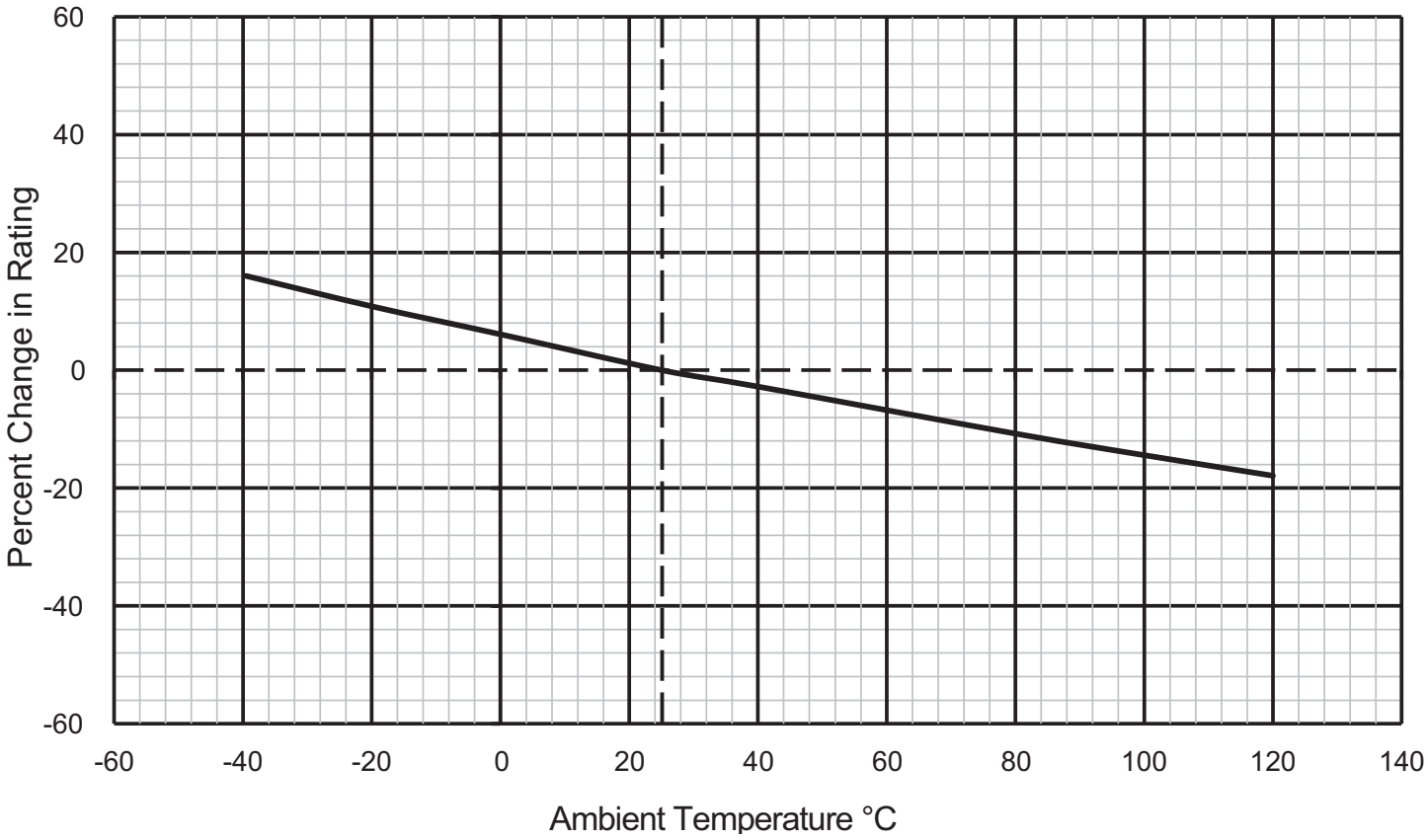
All configurations.

No additional derating is required for PV fuse links installed in ganged modular fuse holders without spacing between units, provided that the rating used is >1.56 x I_{sc}.

Time-current characteristics — 25-30A



Temperature derating curves — 25-30A



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