P700L High-Reliability Solid Body Fuses

AEM, Inc. is the sole U.S. manufacturer of solid body current limiting fuses produced utilizing thick film technology with subsequent screening and qualification for spacecraft/ satellite applications. AEM, Inc.'s Hi-Rel fuses have been selected by most major space programs and have been in orbit for decades with *zero failures*.

Applications

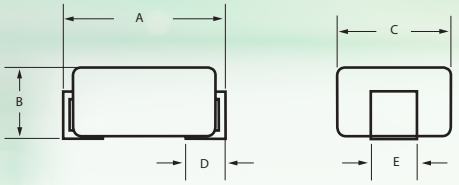
Used in military and commercial satellites and spacecraft including manned space vehicles

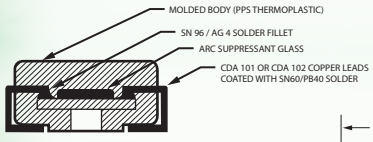
- Protection of power supplies, batteries and solar arrays
- Isolation of redundant and branch circuits
- Short circuit protection from fired squib and jettison circuitry

Features

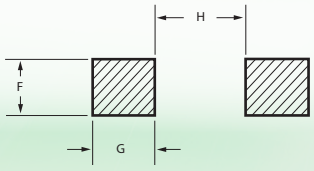
- Consistent clearing times achieved at overload currents regardless of vacuum conditions
- Solid body construction without outgassing and not subjected to the de-rating factors of MIL-STD-975
- Solid body construction capable of withstanding greater vibration and shock exposure without damage
- Positive temperature coefficient of fuse element causing resistance to increase (prior to opening) thereby preventing absolute short to the power source
- Internal construction ensuring that arc plasma and vapor are contained within the fuse package during overload current conditions
- Groups A/B data supplied with each shipment and Group C inspection optional
- High-reliability fuse series with millions of hours of life testing *without a failure*
- Available as QPL Certified per MIL-PRF-23419/13

Model P700L Current Limiting Fuses





Sectional View



Suggested Land Pattern

	Figure 1* (inches)	Figure 2* (inches)
A	.330 ± .010.	.475 ± .025
B	.160 Max	.250 Max
C	.235 ± .010	.430 ± .020
D	.075 ± .010	.145 ±.010
E	.094 ± .004	.203 ± .004
F	0.100 (2 PLCS.)	0.210 (2 PLCS.)
G	0.110 (2 PLCS.)	0.180 (2 PLCS.)
H	0.160	0.180

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AEM, Inc.'s High Reliability Solid Body Fuses

ELECTRICAL CHARACTERISTICS

Fuse Part Number/Rating			DC Resistance (Ohms) Note 1			Overload Interrupt Time (Seconds) Nominal Rating - Note 2			Maximum I^2T (Ampere^2 seconds) Nominal Rating - Note 3		
P700L Part No. Note 4	Maximum Voltage (VDC)	Current Rating (AMP)	Min.	Max.	Figure (1 or 2)	250% Nominal Rating	400% Nominal Rating	600% Nominal Rating	250% Nominal Rating	400% Nominal Rating	600% Nominal Rating
P700L-72-1/8	72	1/8	6.375	10.625	1	.005-30.0	.0005-.015	.000075-.003	2.93	0.004	0.002
P700L-72-1/4	72	1/4	1.875	3.125	1	.005-30.0	.0005-.015	.000075-.003	11.719	0.015	0.007
P700L-72-3/8	72	3/8	1.125	1.875	1	.005-.5	.0005-.015	.000075-.003	0.439	0.034	0.015
P700L-72-1/2	72	1/2	0.675	1.125	1	.005-.5	.0005-.015	.000075-.003	0.781	0.060	0.027
P700L-72-3/4	72	3/4	0.225	0.375	1	.005-.5	.0005-.015	.000075-.003	1.758	0.135	0.061
P700L-72-1.0	72	1.0	0.135	0.225	1	.005-.5	.0005-.015	.000075-.003	3.125	0.240	0.108
P700L-72-1.5	72	1.5	0.097	0.163	1	.005-.5	.0005-.015	.000075-.003	7.031	0.540	0.243
P700L-72-2.0	72	2.0	0.045	0.075	1	.005-.5	.0005-.015	.000075-.003	12.5	0.960	0.432
P700L-72-3.0	72	3.0	0.0262	0.0438	1	.005-.5	.0005-.015	.000075-.003	28.125	2.160	0.972
P700L-72-4.0	72	4.0	0.0195	0.0325	1	.005-.5	.0005-.015	.000075-.003	50.0	3.840	1.728
P700L-72-5.0	72	5.0	0.0135	0.0225	1	.005-.5	.0005-.015	.000075-.003	78.125	6.00	2.700
P700L-72-6.0	72	6.0	0.0100	0.0180	1	.005-.5	.0005-.015	.000075-.003	112.5	8.64	3.888
P700L-72-7.5	72	7.5	0.0070	0.0110	1	.005-.5	.0005-.015	.000075-.003	175.781	13.5	6.075
P700L-72-10.0	72	10.0	0.0046	0.0079	1	.005-.5	.0005-.015	.000075-.003	312.5	24.0	10.8
P700L-72-15.0	72	15.0	0.0040	0.0075	2	.005-.5	.0005-.015	.000075-.003	703.125	54.0	24.3
P700L-50-20.0	50	20.0	0.0020	0.0056	2	.005-.5	.0005-.015	.000075-.003	1250.	96.0	43.2
P700L-125-1/8	125	1/8	6.375	10.625	1	.005-30.0	.0005-.015	.000075-.003	2.93	0.004	0.002
P700L-125-1/4	125	1/4	1.875	3.125	1	.005-30.0	.0005-.015	.000075-.003	11.719	0.015	0.007
P700L-125-3/8	125	3/8	1.125	1.875	1	.005-.5	.0005-.015	.000075-.003	0.439	0.034	0.015
P700L-125-1/2	125	1/2	0.675	1.125	2	.005-.5	.0005-.015	.000075-.003	0.781	0.060	0.027
P700L-125-3/4	125	3/4	0.225	0.375	2	.005-.5	.0005-.015	.000075-.003	1.758	0.135	0.061
P700L-125-1.0	125	1.0	0.090	0.270	2	.005-.5	.0005-.015	.000075-.003	3.125	0.24	0.108
P700L-125-1.5	125	1.5	0.085	0.225	2	.005-.5	.0005-.015	.000075-.003	7.031	0.54	0.243
P700L-125-2.0	125	2.0	0.045	0.135	2	.005-.5	.0005-.015	.000075-.003	12.5	0.96	0.432
P700L-125-3.0	125	3.0	0.035	0.105	2	.005-.5	.0005-.015	.000075-.003	28.125	2.16	0.972
P700L-125-4.0	125	4.0	0.030	0.090	2	.005-.5	.0005-.015	.000075-.003	50.0	3.84	1.728
P700L-125-5.0	125	5.0	0.022	0.068	2	.005-.5	.0005-.015	.000075-.003	78.125	6.00	2.70

1/ DC Resistance is measured at from 0.1 to 10 milliamperes of current or calculated from the measured Voltage Drop at a current not exceeding 10% of the rated current of the fuse.

2/ Overload interrupt times at -55°C and 250% overload current shall be as follows:
- a) Fuses with ratings less then 3/8 amperes shall open in 60 seconds maximum.
- b) Fuses with ratings from 3/8 to 1.0 ampere shall open in 10 seconds maximum.
- c) Fuses with ratings greater than 1.0 ampere shall open in 5 seconds maximum.

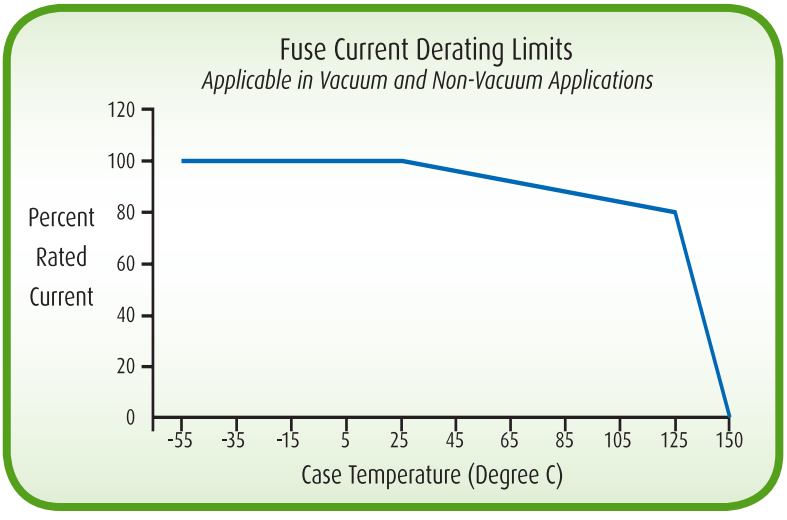
3/ Maximum I^2T at -55°C and 250% overload current may be greater than indicated. To calculate maximum I^2T at case temperatures of -55°C and 250% overload current, multiply the I^2 product by the maximum blow times indicated in Note 2 above.

4/ Standard P700L part type is manufactured with an internal solder of type Sn96 / Ag4. Non-standard P700LH part type (High Temperature) is manufactured with an internal solder of type Sn10 / Pb88 / Ag2.

Ordering Example:

A) Standard (Sn96 / Ag4 internal solder) P700L, 72 VDC, 5 amp part type shall be ordered as P700L-72-5.0.

B) Non-standard (Sn10 / Pb88 / Ag2 internal solder) P700L, 72 VDC, 5 amp part shall be ordered as P700LH-72-5.0.



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