

## 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 P700L Series Fuses have been selected by most major space programs and have been in orbit for the past 38 years with *zero failures*.

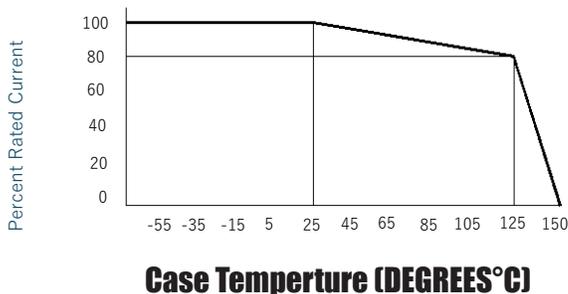
### Features

- Solid body construction with hermetically sealed gold fusing elements
- 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 over 39 million hours of life testing without a failure
- Available as QPL Certified per MIL-PRF-23419/13

### Applications

- Satellite/Spacecraft
- Aerospace
- Avionics
- Military

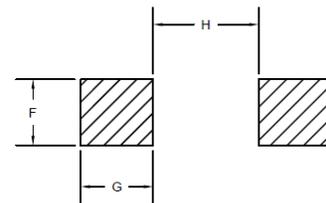
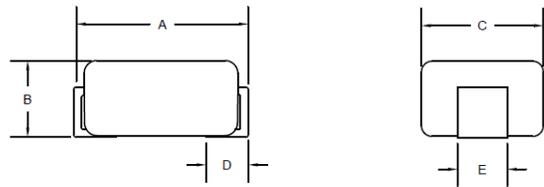
### Derating Curve



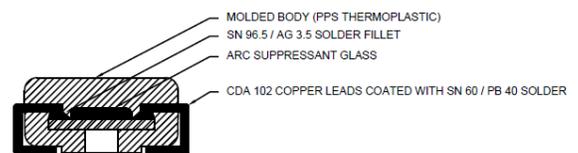
### Product Dimensions

(Inches)

Dimension	Figure 1*	Figure 2*	Figure 3*
A	.330 ± .010	.475 ± .025	.720 ± .025
B	.160 max.	.250 max.	.350 max.
C	.235 ± .015	.430 ± .020	.405 max.
D	.075 ± .010	.145 ± .010	.200 typ.
E	.094 ± .004	.203 ± .004	.200 typ.
F	.100 ± .010	.210 ± .010	.210 ± .010
G	.110 ± .010	.180 ± .010	.235 ± .010
H	.160 ± .010	.180 ± .010	.205 ± .010



SUGGESTED LAND PATTERN



SECTIONAL VIEW

\* See table on Page 2

Case Temperature (DEGREES C)



# P700L High-Reliability Solid Body Fuses

## Electrical Characteristics

Fuse Part Numbers / Ratings			DC Resistance (Ohms) /1		Figure	Overload Interrupt Time (Seconds) /2			Maximum I <sup>2</sup> T (Ampere <sup>2</sup> Sec) /3		
Part Number	Maximum Voltage (VDC)	Current Rating (Amps)	Minimum	Maximum		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	0.005-30.0	0.0005-0.015	0.000075-0.003	2.93	0.004	0.002
P700L-72-1/4	72	1/4	1.875	3.125	1	0.005-30.0	0.0005-0.015	0.000075-0.003	11.7	0.015	0.007
P700L-72-3/8	72	3/8	1.125	1.875	1	0.005-0.5	0.0005-0.015	0.000075-0.003	0.439	0.034	0.015
P700L-72-1/2	72	1/2	0.675	1.125	1	0.005-0.5	0.0005-0.015	0.000075-0.003	0.781	0.060	0.027
P700L-72-3/4	72	3/4	0.225	0.375	1	0.005-0.5	0.0005-0.015	0.000075-0.003	1.75	0.135	0.061
P700L-72-1.0	72	1.0	0.135	0.225	1	0.005-0.5	0.0005-0.015	0.000075-0.003	3.12	0.240	0.108
P700L-72-1.5	72	1.5	0.097	0.163	1	0.005-0.5	0.0005-0.015	0.000075-0.003	7.03	0.540	0.243
P700L-72-2.0	72	2.0	0.045	0.0750	1	0.005-0.5	0.0005-0.015	0.000075-0.003	12.5	0.960	0.432
P700L-72-3.0	72	3.0	0.0262	0.0438	1	0.005-0.5	0.0005-0.015	0.000075-0.003	28.1	2.16	0.972
P700L-72-4.0	72	4.0	0.0195	0.0325	1	0.005-0.5	0.0005-0.015	0.000075-0.003	50.0	3.84	1.72
P700L-72-5.0	72	5.0	0.0135	0.0225	1	0.005-0.5	0.0005-0.015	0.000075-0.003	78.1	6.00	2.70
P700L-72-6.0	72	6.0	0.0100	0.0180	1	0.005-0.5	0.0005-0.015	0.000075-0.003	112	8.64	3.88
P700L-72-7.5	72	7.5	0.0070	0.0110	1	0.005-0.5	0.0005-0.015	0.000075-0.003	175	13.5	6.07
P700L-72-10.0	72	10.0	0.0046	0.0079	1	0.005-0.5	0.0005-0.015	0.000075-0.003	312	24.0	10.8
P700L-72-15.0	72	15.0	0.0040	0.0075	2	0.005-0.5	0.0005-0.015	0.000075-0.003	703	54.0	24.3
P700L-125-1/8	125 / 135	1/8	6.375	10.625	1	0.005-30.0	0.0005-0.015	0.000075-0.003	2.93	0.004	0.002
P700L-125-1/4	125 / 135	1/4	1.875	3.125	1	0.005-30.0	0.0005-0.015	0.000075-0.003	11.7	0.015	0.007
P700L-125-3/8	125 / 135	3/8	1.125	1.875	1	0.005-0.5	0.0005-0.015	0.000075-0.003	0.439	0.034	0.015
P700L-125-1/2	125 / 135	1/2	0.675	1.125	2	0.005-0.5	0.0005-0.015	0.000075-0.003	0.781	0.060	0.027
P700L-125-3/4	125 / 135	3/4	0.225	0.375	2	0.005-0.5	0.0005-0.015	0.000075-0.003	1.75	0.135	0.061
P700L-125-1.0	125 / 135	1.0	0.090	0.270	2	0.005-0.5	0.0005-0.015	0.000075-0.003	3.12	0.240	0.108
P700L-125-1.5	125 / 135	1.5	0.085	0.225	2	0.005-0.5	0.0005-0.015	0.000075-0.003	7.03	0.540	0.243
P700L-125-2.0	125 / 135	2.0	0.045	0.135	2	0.005-0.5	0.0005-0.015	0.000075-0.003	12.5	0.960	0.432
P700L-125-3.0	125 / 135	3.0	0.035	0.105	2	0.005-0.5	0.0005-0.015	0.000075-0.003	28.1	2.16	0.972
P700L-125-4.0	125 / 135	4.0	0.030	0.090	2	0.005-0.5	0.0005-0.015	0.000075-0.003	50.0	3.84	1.72
P700L-125-5.0	125 / 135	5.0	0.022	0.068	2	0.005-0.5	0.0005-0.015	0.000075-0.003	78.1	6.00	2.70
P700L-125-7.5	125 / 135	7.5	0.0165	0.0275	3	0.100-4.00	0.008-0.048	0.0008-0.008	1410	43.2	16.2
P700L-125-10.0	125 / 135	10.0	0.0120	0.0200	3	0.100-4.00	0.008-0.048	0.0008-0.008	2500	76.8	28.8
P700L-125-15.0	125 / 135	15.0	0.0090	0.0130	3	0.100-5.00	0.010-0.060	0.001-0.010	7030	216	81.0
P700L-50-20.0	50	20.0	0.0020	0.0056	2	0.005-0.5	0.0005-0.015	0.000075-0.003	1250	96.0	43.2

**Notes:**

1/ DC Resistance is measured at current levels less than or equal to 10% of rated current.

2/ Overload interrupt times at -55 °C and 250% overload current shall be as follows:

a) Fuses with ratings less than 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<sup>2</sup>T at -55 °C and 250% overload current may be greater than indicated. To calculate maximum I<sup>2</sup>T at a case temperature of -55 °C and 250% overload current, multiply the I<sup>2</sup> 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.

5/P700L-125 options are also available as 135 VDC fuses.



Certified to  
AS9100D  
ISO 9001:2015

