



功得電子工業股份有限公司
CONQUER ELECTRONICS CO.,LTD.

規格書

Specification For Approval

Spec. No. SFA105

品名：AMC 系列 通信電源保險絲

Type：AMC *Series*
Telecom Power Fuse

www.conquer.com.tw

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History of Change

REV.	Description	Date	Drawn	Designed	Checked	Approved
1.0	(1)發出Issue	2016.6.15	陳柏安	邱俊傑	蔡進義 趙家蓬	蔡其湖
2.0	新增 40A、50A、60A 系列 、 AMC-V 系列	2018.10.25	鄭宗育	黃琦志	蔡進義 趙家蓬	葉順益

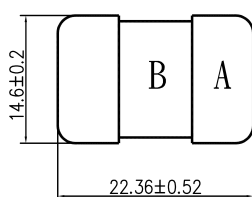
～ 通信電源保險絲 ～

Fuses for telecommunications systems and equipment

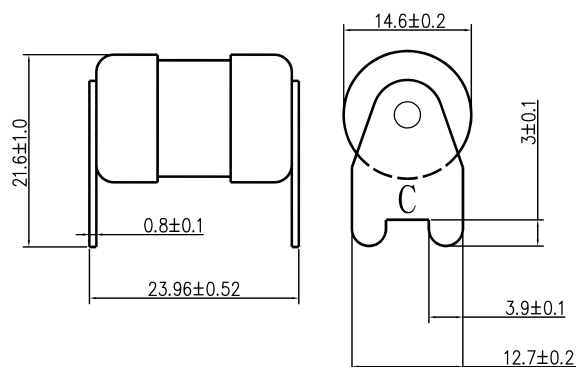
- 1 適用範圍: 本標準適用於保護電力電信系統、設備保護保險絲。
Applicability: For protecting power telecommunications systems and equipment.

- 2 形狀及尺寸如下圖 單位: mm
Shape & Size as following illustrations.

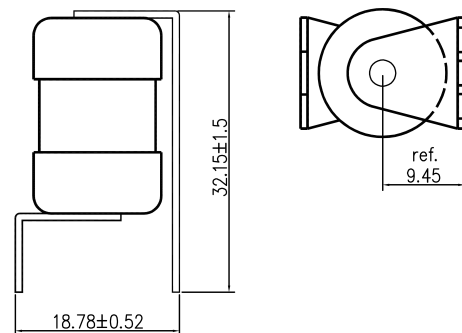
【AMC】



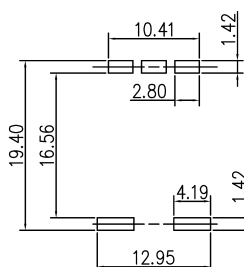
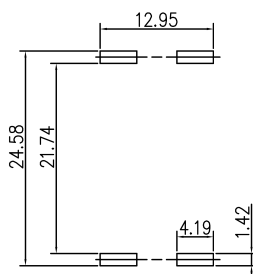
【AMC-LS】



【AMC-V】



Recommend Circuit Board distance



- 2.1 構造形狀 Structure & Shape : 如上圖 As shown in figure above
2.2 額定電壓 Rated Voltage: 170V (DC)
2.3 額定電流 Rated Current: 40~80A

3 材料 Material:

- 3.1 筒管本體: 不透明瓷管不可破裂或變形。
Tube (Body): Non-Transparent ceramic tube. Breaking or deformation is not allowed.
3.2 兩端銅蓋: 需以導電率良好之黃銅為材料。
Two brass end caps: Made of brass of good conductivity.
3.3 銅蓋處理: 銅蓋部份鍍鎳。
Coating of brass caps: Plating the surface with nickel.

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NO.	Part Name 部 品 名 稱	Volume 數量
A	Brass Cap 銅帽 - Nickel Plating - 鍍鎳	2
B	Ceramic Tube 瓷管 - Non-Transparent Ceramic Tube - 不透明瓷管	1
C	Terminal 附腳 - Copper (Tin plating) - 銅鍍錫	2

4 電氣特性 Electrical Characteristics:

4.1 負載容量: 通過額定電流值 100 % (亦即 $1.0 \times I_n$ A) , 能繼續通電至少 4 小時無任何熔化現象。

Loading Capacity: Loading 100% of rated current (i.e. $1.0 \times I_n$ A) the fuse shall not operate during 4 hours.

4.2 溫度特性: 通過額定電流值 100% (亦即 $1.0 \times I_n$ A) 1.5 小時, 繼續維持原加之電流, 每隔十分鐘測試一次, 連續測三次, 溫度不得升高, 若使用熱偶式測量方法。(Thermocouple method) 則本體溫升在 170K 以下。

Temperature: Loading the 100 % ($1.0 \times I_n$ A) for 1.5 hours, keep testing it with the original current every 10 minutes. Continue to test it for 3 times. The temperature is not allowed to be higher. The main temperature rise is below 170K by way of Thermocouple Method.

4.3 過載熔斷: Melting due to overloading:

請參照下表: Details as following Table I.

Table I 最大熔斷時限: Operating Characteristics

Rated Current	100% Rating		135% Rating		200% Rating	
	Min.	Max.	Min.	Max.	Min.	Max.
31~60A	4 Hrs	—	—	1Hrs	—	6min
61~80A	4 Hrs	—	—	2Hrs	—	8min

5 機械特性 Mechanical Properties:

拉力強度: 當施加軸拉力 4 kg (或 40N) 於兩端附腳 (或銅帽), 無鬆動或損壞現象發生。

Terminal Strength : Terminals and/or caps are soldered (adhered) to withstand axial pulling force of 4 kg (or 40N) without loosening or any appearance defect.

6 突波實驗 Pulse Test:

為適應電感或電容性電路所產之暫態電流, 本品於 10 倍額定電流的熔斷時間最少為 1ms

In order to stand transient current caused by inductive or capacitive circuit, the fuses are designed to have minimum clearing time of 1 millisecond at 1000% of rated current.

7 脈波實驗 Cycle Test (On-Off Test):

本實驗乃保證產品之壽命與可靠度, 施加 60% 額定電流之脈波, 1 分鐘 ON, 2 分鐘 OFF, 1000 次以後, 本品不熔斷且內阻變化 20% 以下。

This test is designed to assure a reliable fuse, setting 60% of rated current, 1 minute ON, 2 minutes OFF per cycle, the fuse can pass 1000 cycles and the difference of fuse resistance shall be less than 20%.



8 遮斷能力 Interrupting rating:
100,000 amperes at 170V DC

9 包裝 Packing:

AMC-LS-10 PCS/盒、一箱數量：320 PCS ; AMC-V-10 PCS/盒、一箱數量：300 PCS

內盒印明下列標示:料號、額定(電壓、電流、遮斷能力)及安規名稱。包裝材料均符合RoHS,且包裝材料不會和零件發生化學反應，造成不良。

AMC-LS-10 pcs in an inner box.Outter box Q'ty Outter box Q'ty : 320pcs

AMC-V-10 pcs in an inner box.Outter box Q'ty Outter box Q'ty : 300pcs

,The following items indicated on the box. Mark: Catalog number; ratings

(voltage, current, interrupting capacity), and safety mark. The packing material conforms to RoHS

And the packing material can't have the chemical reaction with the components.

10 其他 Other:

10.1 除非另有指定，上述機械、電器特性，係於常溫，標準狀況下測試之。

Unless otherwise specified, all tests were performed at 25±5°C and 35-75% RH.

10.2 於標準狀況下儲放一年，本品乃確保上述機械與電氣之特性。

After one year of storage at the atmosphere (25±5°C and 35-75% RH.),

the fuse shall comply with electrical and mechanical requirements in clause 4, 5 .

11 標記:Markng:

於瓷管表面刻印安培數、電壓、品名及安規標示。

The rated current, rated voltage, series model, company name and safty mark are marked on the surface of ceramic tube.

11.1 Mark:

例:AMC



例:AMC-LS



例:AMC-V





12 安規認證 Safety certification:

AMC/AMC-LS/AMC-V Series

Mark Approvals		Nominal Resistance Cold Ohms	Nominal Melting I^2t A ² Sec
40A	**	0.00156	1974.00
50A	**	0.00123	4139.00
60A	**	0.0009	6454.00
80A	**	0.00074	8236.00

**：有安規認證及瓷管上有安規印字標記 Have safety certify and safety mark on the Body

*：I²t test at 170V short circuit

13 產品描述 Product Description:

描述 Description	安培數 Ampere Rating
AMC ___A___ V (PF)	40~80A
AMC-LS ___A___ V (PF)	
AMC-V ___A___ V (PF)	

例： AMC-LS A V (PF)
 1 2 3 4

1 系列品名 Series Model : AMC/AMC-LS/AMC-V

2 安培數 Rated current: 40~80A

3 伏特數 Rated voltage : 170V

4 無鉛標示 Pb free : (PF)

14 建議生產參數(無鉛焊錫使用)：

Recommended Process Parameters(for lead-free solder alloy)：

14.1 建議手持烙鐵焊接參數 Recommended Hand-Soldering Parameters	烙鐵溫度：350°C +/-5°C Soldering Iron Temperature : 350°C +/-5°C 加熱時間：40 seconds max. Heating Time : 40 seconds max.	
14.2 波峰參數 Wave soldering Parameters	預熱溫度 Pre-heat temperature 最低溫度：100度 Minimum Temperature : 100°C 最高溫度：150度 Maximum Temperature : 150°C	錫槽溫度(280度 Maximum) Solder Pot Temperature : 280°C Max 焊接時間 8 seconds max Solder Dwell Time: 8 seconds max

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15 環境特性 Environmental Specification:

操作溫度 Operating Temperature : $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$

若貴司使用環境溫度超出 $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 範圍，在選用保險絲規格時，應考慮使用環境溫度對保險絲的影響。

When the ambient temperature is not at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$, customers should consider the effect of ambient temperature on current-carrying capacity as shown in Fig3.

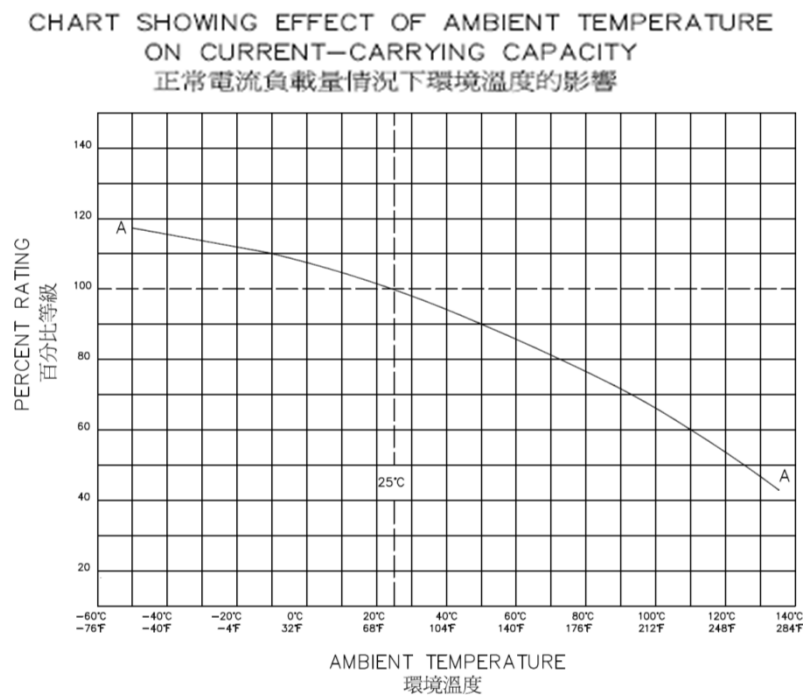
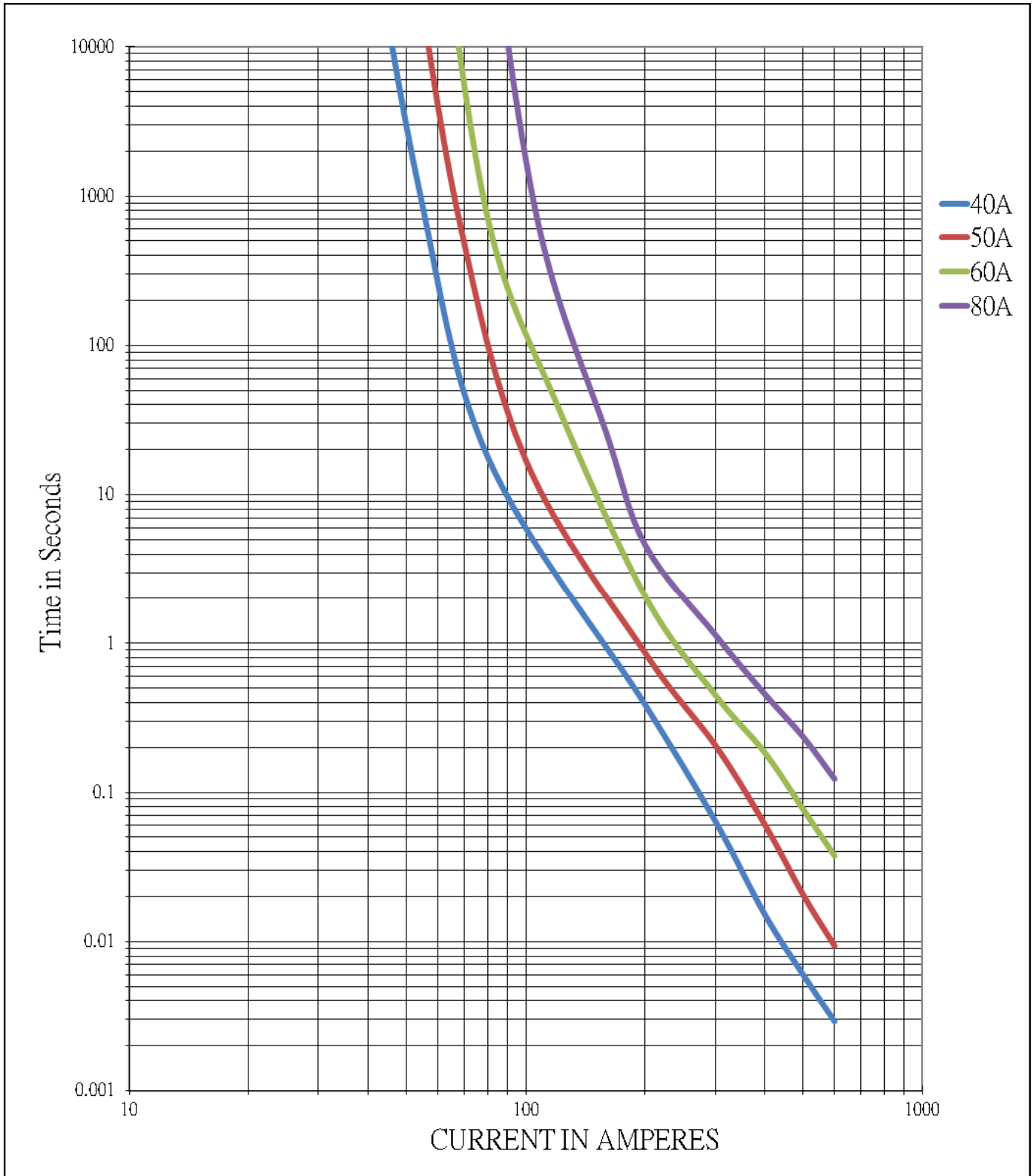


Fig.3



* The curves are average value, for reference only *

Average Melting IT Curves



Product Characteristics & Reliability Tests

Test item	Test Description & Reference
Humidity unload test	MIL-STD-202G , Method 103B , Test Condition A Heat (85±0.5°C) & High Humidity (85±1% RH), 240 hours , ΔR<15%
Thermal shock test	MIL-STD-202G, Method 107g , Test Condition B Temperature setup : 25°C ~ -65°C ~ 25°C ~ 125°C Time setup : -65°C (30min)~25°C (5min)~125°C (30min)~ 25°C (5min) 5 cycles , ΔR<15%
Vibration test	MIL-STD-202G , Method 201A Frequency setup : 10 ~ 55 ~ 10 Hz Time setup : 1 Minute/cycle (X 、 Y 、 Z each 120 Cycles) 6hrs, ΔR<15%
Salt spray Test	MIL-STD-202G , Method 101E , Test Condition A Salt spray concentration : 5 ± 1% Test liquid temperature : 35 ± 0.5°C 96hrs, ΔR<15%
Solderability test	Reference IEC 60068-2-20 Temperature setup : 250 ± 3°C, 3± 0.3sec After testing,terminal electrode wetting area must be greater than 95%
Resistance to solder heat test	Temperature setup : 275± 5°C, 10± 1 sec ΔR<15%