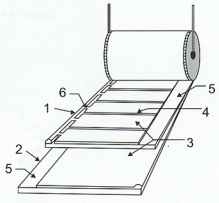
## 保安性 / Safety

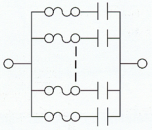
### 保安機構動作原理 / Operation of Internal Safety Mechanism

電容器元件以節段式金屬化塑膠膜捲繞而成，使電容量由數百或數千個小容量並聯而成，且在每一個小容量上設計有類似保險絲功能的保安機構，如下圖1所示。當電容器承受過電壓、異常過溫或壽命終了時，造成絕緣材質破壞，部份小容量單元發生異常，導致保險絲熔斷，與電路分離，而其餘正常小容量單元仍然正常被使用，如下圖2所示。電容器功能不因局部異常而失去整只電容器的功能，以達自我保護功能，避免電容器發生冒煙或起火。

Capacitor element wounded by segmented metallized film. Hundreds or thousands of small capacitors in parallel formed the element, and each small capacitor equipped individual fuse as Figure 1. When a dielectric breakdown occurred in a small capacitor due to overvoltage, abnormal heating or end of life, the fuse of the failure area burned off and disconnected the failure area from circuit. The remained good small capacitors would continue to be used as Figure 2. Capacitor will not lose the function caused by partial failure. Its self-protective function will prevent capacitor from emitting smoke or catching fire.

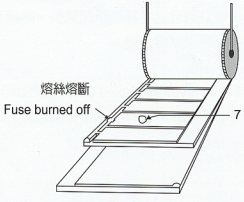
圖1. 元件結構(正常情形)
Figure 1. Element Structure (Normal Condition)

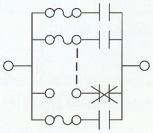


等效電路
Equivalent Circuit

圖2. 異常發生熔絲動作
Figure 2. Fuse burned off on failure area



等效電路
Equivalent Circuit

1. 附保安機構之金屬化塑膠膜 (Segmented metallized film)
2. 一般金屬化塑膠膜 (General metallized film)
3. 蒸著金屬層 (Metallized layer)
4. 橫向間隔區 (Free margin in transverse direction)
5. 縱向間隔區 (Free margin in machine direction)
6. 保險絲 (Fuses)
7. 故障點 (Failure area)