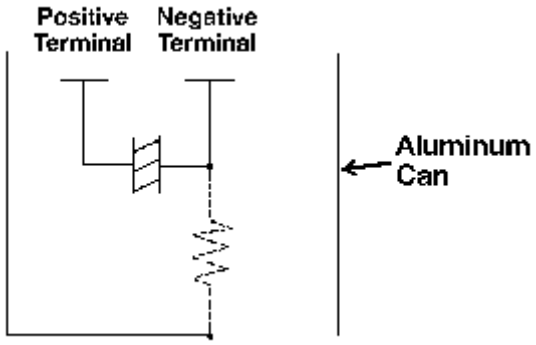
Capacitor Insulation

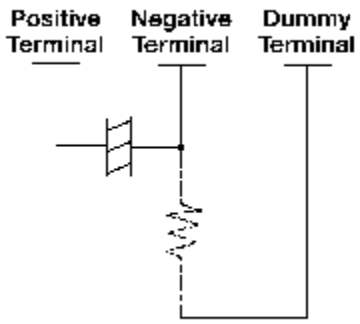
Designing Circuits Using Non-Solid and Solid Aluminum Electrolytic Capacitors

Explanatory Notes

1. The aluminum can of a capacitor is not internally insulated from the negative terminal (cathode) due to an indeterminate resistance caused by a naturally formed oxide layer on the inside of the can that has been coated with the electrolyte.



2. The dummy terminal(s) of a non-solid capacitor are not internally insulated from the negative terminal (cathode) due to an indeterminate resistance caused by an electrolyte coating on the terminals inside the can.



3. The outer sleeve of a standard capacitor, made of polyvinylchloride or similar material, covers the aluminum can and is used only for marking. This sleeve is not designed for insulation purposes.

4. If the internal element needs to be electrically insulated from the can, capacitors specially designed for these insulation requirements should be used. Consult United Chemi-Con for assistance.

Precaution

1. The aluminum can of a capacitor is not insulated from the cathode so isolate the following sections electrically when designing circuits.

   Isolate the outer can of a capacitor from the negative terminal (see footnote), positive terminal and circuit traces.

Isolate the dummy terminal(s) of a capacitor (which are provided for mounting stability) from the positive terminal, negative terminal and circuit traces.

2. The outer sleeve of a capacitor is not designed for insulating purposes. It is used for marking only.

3. Do not use standard capacitors for applications that require the outer sleeve to function as an insulator. Consult United Chemi-Con for specially designed capacitors.

Footnote

1. For some types of axial lead capacitors, the negative terminal is not connected to the aluminum can.