

DATASHEET

DMM16R0-3303-A

16.5V, 330mF, -40°C to +70°C module

V1.0, Aug 2023

Ultra low-profile 16V EDLC module

This datasheet only applies to module PCB printed with **DMF 16V 330mF modules V1.2**.



Electrical Specifications

Table 1: Absolute Maximum Ratings

| Parameter | Name | Conditions | Min | Typical | Max | Units |
|------------------|-----------|------------|-----|---------|------|-------|
| Terminal Voltage | V_n | | | | 16.5 | V |
| Temperature | T_{max} | | -40 | | +70 | °C |

Table 2: Electrical Characteristics

| Parameter | Conditions | Spec | Units |
|-----------------------|------------------------------|----------|------------|
| Capacitance | | 330 | mF |
| Tolerance | | ± 20 | % |
| ESR | AC, 1kHz | 150 | m Ω |
| Peak Current | Connector limit | 10 | A |
| Rated Current | Connector limit | 3 | A |
| Leakage Current I_L | 16.5V, 23°C 120hrs | 35 | μ A |
| Balancing | Resistor balancing, per cell | 100 | k Ω |

Note: NO current limiting or voltage control has been integrated into the module. Customer must provide appropriate current limit and voltage control circuitry.

Mechanical specification

All units in mm

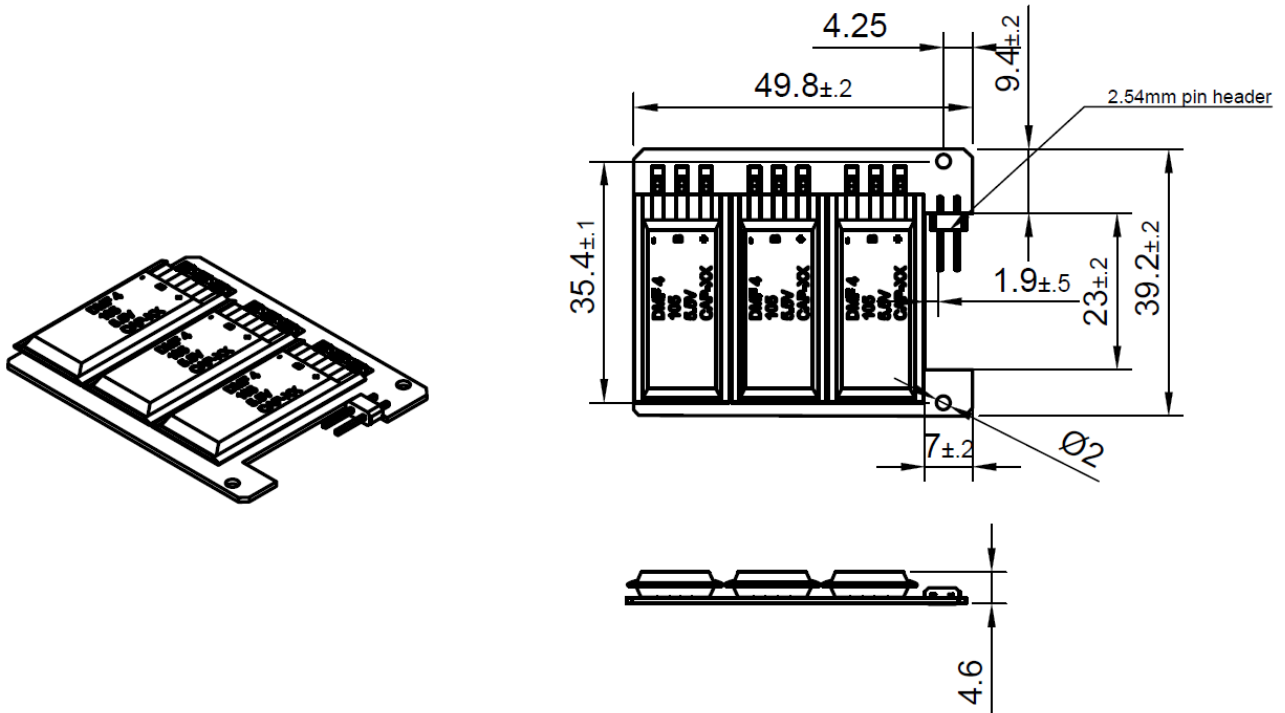


Figure 1, mechanical drawing of the module

3D step file available, please contact CAP-XX.

Connector detail

Module side

A 1 Row, 2 Contacts, 2.54mm pitch straight pin header is soldered on the module.

Receptor side

Please use a 2.54 mm pitch, 1 Rows, 2 Contacts PCB Surface Mount Right Angle Receptacle. Such as BG300-02-A-L-A below (reflowable).



Figure 2, picture of the receptacle BG300-02-A-L-A

Module polarity

The module has polarity, which is denoted by a “+” sign printed on the PCB (highlighted in red).

The pin closer to the capacitor is the positive, the other the negative. See illustration below.

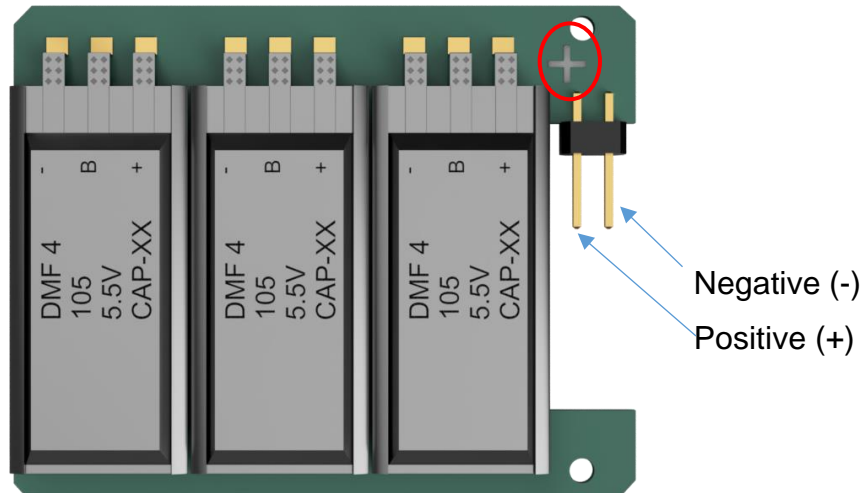


Figure 3, top-down view of the module with polarity marked

Typical assembly steps

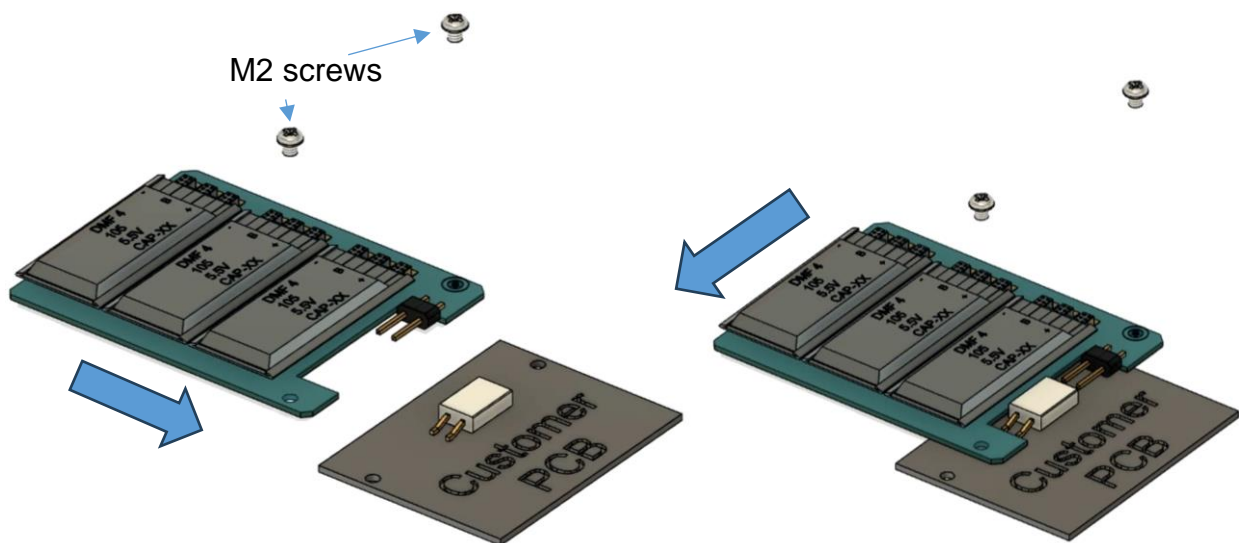


Figure 4, step 1 (left) and step 2 (right) in final assembly

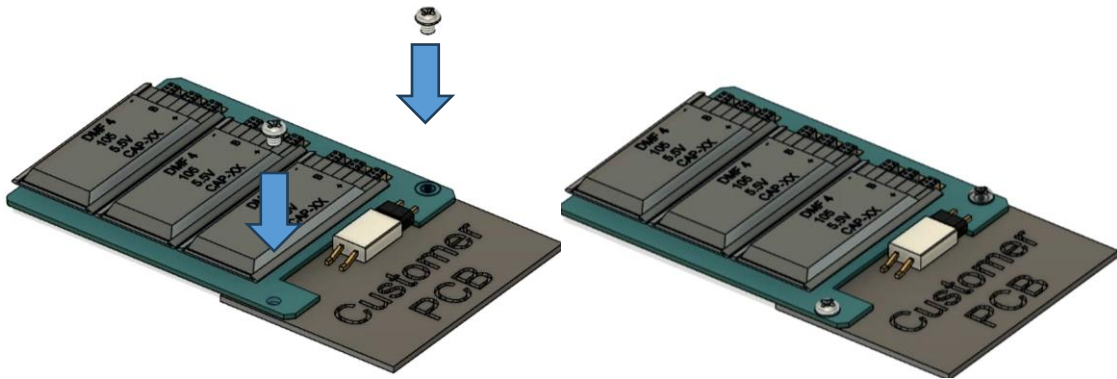


Figure 5, step 3 (left) and the complete assembly (right)

Storage

CAP-XX recommends storing supercapacitors in their original packaging in an air-conditioned room at $< 30^{\circ}\text{C}$ and $< 60\%$ relative humidity. CAP-XX supercapacitors can be stored at any temperature not exceeding their maximum operating temperature but storage at continuous high temperature and humidity is not recommended and will cause premature ageing.

Do not store supercapacitors in the following environments:

- High temperature / high humidity
- Direct sunlight
- In direct contact with water, salt, oil or other chemicals
- In direct contact with corrosive materials, acids, alkalis or toxic gases
- Dusty environment
- In environments subjected to shock and vibration

Cautions before use

CAP-XX supercapacitors are “burned in” during production and have a defined polarity. Reversing the polarity of the device will not damage the device but may cause a rise in the ESR and will void the warranty. Please verify the orientation of the supercapacitor in accordance with the product markings before assembly.

CAP-XX supercapacitors are heat-sensitive. Over-heating of the supercapacitor may result in a degradation of performance and useful life.

CAP-XX supercapacitors must only be used within their rated voltage range. Over-voltage may cause swelling and eventually, product failure.

CAP-XX supercapacitors are fully discharged when shipped. Devices should be handled and soldered in a discharged state.