

Aluminum Electrolytic Capacitors

Capacitors with screw terminals – General information

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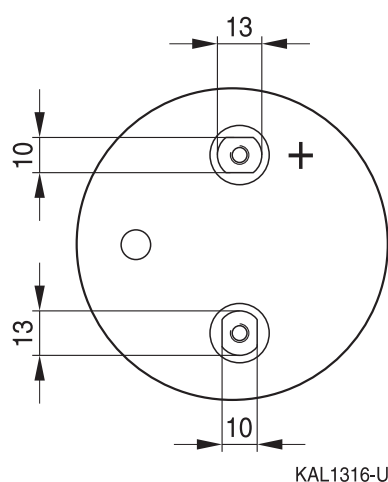
PAPR terminal style

An aluminum electrolytic capacitor is a polar component that needs strictly to be mounted under correct polarity. With our PAPR terminal style (**P**rotection **A**gainst **P**olarity **R**eversal) we offer an optional mechanical feature in addition to the visual polarity marking on the cover disk and the sleeve, which prevents from mounting in reverse polarity. The non-circular shape of the terminals and their arrangement perpendicular to each other enables the user to definitely prevent wrong mounting with respect to polarity (Poka Yoke).

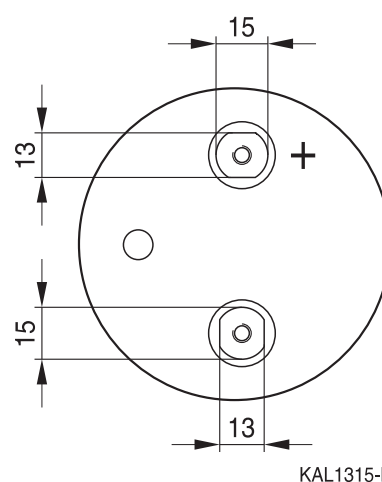
For details concerning the ordering code or combination with other optional features please refer to the detailed specifications within each screw terminal product series (where available).

Terminal configuration with PAPR terminal style

Capacitor diameter $d = 51.6$ mm



Capacitor diameter $d = 64.3$ mm, 76.9 mm and 90.0 mm



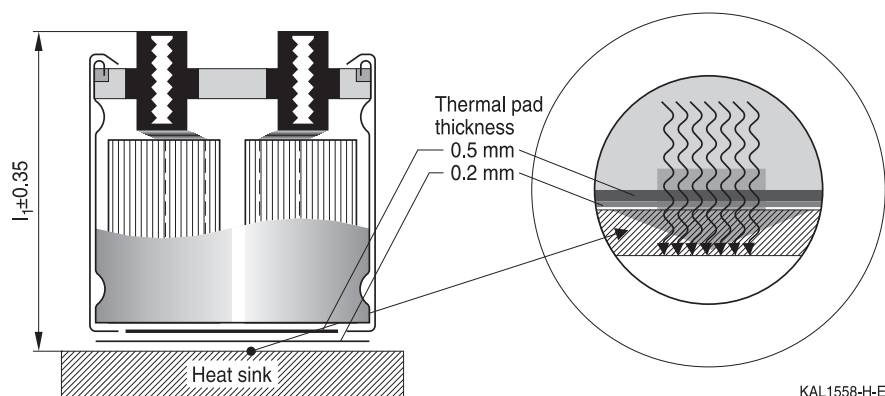
All other dimensions of the capacitor such as diameter d , case length l , overall length l_1 , terminal spacing as well as the thread type are identical with those of standard capacitors.

Most of the high-voltage data book types with diameter ≥ 51.6 mm can be ordered with PAPR terminal style.

Capacitors with heat sink-mounting

As a large amount of heat is dissipated through the base of the case, the use of a heat sink connected to the capacitor base is the most efficient cooling method. For heat-sink mounting EPCOS offers a special optimized version of high-voltage capacitors with screw terminals in order to ensure an optimal heat transfer between the base of the case and the heat sink. The special design comprises:

- Two thermal pads at the base. The first one (thickness 0.5 mm) closes the air gap at the base in the area which is not covered by the insulating sleeve and the second one (thickness 0.2 mm) ensures the electrical insulation of the case.
- Minimized tolerance (± 0.35 mm) of the overall length l_1 of the capacitor to avoid unwanted mechanical forces on the terminals particularly when several capacitors are mounted between heat sink and bus bar.
- Case with extra groove near the base for ring clamp mounting (recommended accessory B44030A0165-A0190B). The clamp ensures an optimal pressing of the case to the heat sink.
- Most of the high-voltage data book types without threaded stud and for diameters ≥ 64.3 mm can be ordered in heat-sink mounting design.



Low-inductance design

Low-inductance aluminum electrolyte capacitors offer numerous advantages for frequency converter design:

- Voltage peaks caused by steep-edged pulses are significantly reduced.
- Power semiconductors of a lower voltage class can be used.
- Capacitor banks require fewer capacitors, which reduces the cost, weight and space requirements of frequency converters accordingly.

The low inductance of the aluminum electrolytic capacitor with screw terminals is the result of various design improvements.

Many of the data book types with diameter ≥ 64.3 mm can be ordered in low-inductance design with inductance approx. $L = 13$ nH.