**KEMET Electronics Italia S.r.l.**
Via Sagittario, 1/3
I - 40037 Sasso Marconi (BO) Italy
Phone (+39) 051 939111
Fax (+39) 051 840684
www.kemet.com

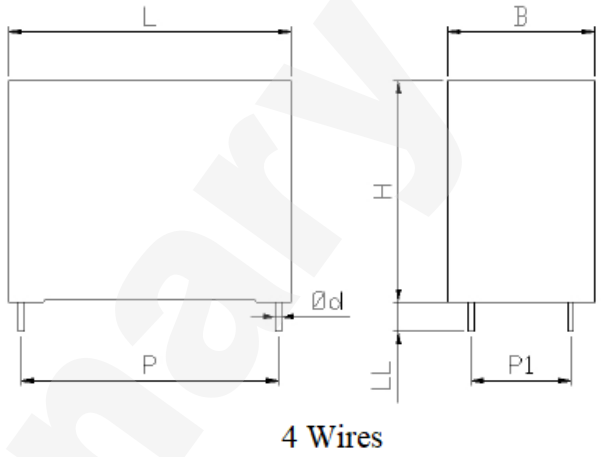
METALLIZED POLYPROPYLENE
# MKP C4A Series

**BOX CAPACITORS**
**RoHS COMPLIANT**

CAPACITORS
FOR PCB APPLICATIONS

## GENERAL TECHNICAL DATA

All dimensions are in mm




Reference Standards : IEC 61071 – EN 61071 – VDE 0560

Dielectric : polypropylene film

Case components : solvent resistant plastic case
flame retardant execution
thermosetting resin sealing
UL94 V-0 compliant

Terminals : tinned copper 4 wires (See figure)
Winding : non-inductive type

IEC climatic category : 40/85/56 according to IEC 60068-1

Max operating temperature : +105°C
Lower – Upper temperature Tmin - Tmax : -40 to +85°C
IEC61071 Endurance Test temperature

## DIMENSIONS (mm)

| B = 24 | H = 44 | L = 41.5 | P = 37.5 ± 0.4 | P1 = 10.2 ± 0.4 | LL = 3.8 ± 0.4 | Ød = 1.2 |
|---|---|---|---|---|---|---|

## ELECTRICAL CHARACTERISTICS

| | |
|---|---|
| Code | **C4AESBW4650A3HKL38G** |
| Capacitance | 6.5 µF |
| Tolerance | ± 10 % |
| Rated Voltage | 1500 Vdc @ 85°C – 1800 Vdc @70°C |
| Max Irms Current with natural cooling ($T_{hs}$ = 85°C) | 10.2 Arms @70°C ambient temperature and 10kHz |
| Thermal Resistance ($R_{th}$) | 17 °C/W - Natural cooling |
| Insulation Resistance | > 4.6 x $10^3$ MΩ |
| dV/dt | 25 V/µs |
| Repetitive Peak Current | 164 Apkr |
| ESR | 7.2 mΩ (10 kHz) |
| ESL | ≤ 32 nH |

## TEST METHODS AND PERFORMANCES

| | | |
|---|---|---|
| Test voltage terminal to terminal ($U_{tt}$) | 1.5 x $U_n$ for 10s or 1.65 x $U_n$ for 2s at 25°C | (DC test) |
| Test voltage terminal to case ($U_{tc}$) | 3.2 kVac at 50Hz for 2s | (AC test) |
| Life expectancy | ≥ 100.000 hours at $U_n$ and $T_{hs}$ = 85°C | |
| Failure rate (IEC 61709) | 300/$10^9$ components hours @ $U_n$ and $T_{hs}$ = 85°C | |
| Capacitance deviation in temperature range (-40..+85°C) | ± 1.5% max on capacitance value at 25°C | |
| Changes of capacitance versus operating time – typical | -5% after 100.000 hours | |
| Installation | Whatever position | |
| Weight | ~ 62 gr | |
| Number of pieces for packing unit | 44 | |

Preliminary

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## THERMAL CALCULATION

$T_{hs}\,[°C] = T_{amb}\,[°C] + \Delta T\,[°C]$ *with*

$\Delta T\,[°C] = R_{th}\,[°C/W] * P_{tot}\,[W]$

$$P_{tot}\,[W] = \sum_{i=1}^{n} ESR(f)_i[\Omega] * I_i^2[A^2]$$

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Edition

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