



Film Capacitors

Application note for X1/X2 EMI capacitors

Date: June 2018

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Application note for X1/X2 EMI capacitors

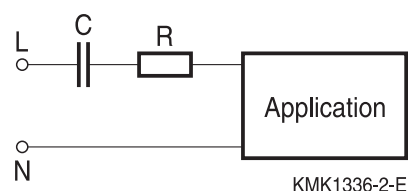
Application note for the different possible X1 / X2 positions

In series with the powerline (i.e. capacitive power supply)

Typical Applications:

- Power meters
- ECUs for white goods and household appliances
- Different sensor applications
- Severe ambient conditions

Basic circuit



Required features

- High capacitance stability over the lifetime
- Narrow tolerances for a controlled current supply

Recommended EPCOS product series

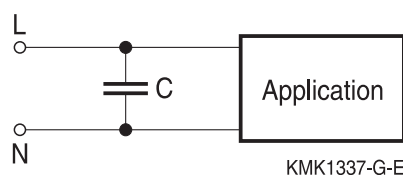
- B3293* (305 V AC) heavy duty with EN approval for X2 (UL Q1/2010)
- B3265* MKP series
standard MKP capacitor without safety approvals
- B3267*L MKP series
standard MKP capacitor without safety approvals
- B3292*H/J (305 V AC), severe ambient condition, approved as X2

In parallel with the powerline

Typical Applications:

Standard X2 are used parallel over the mains for reducing electromagnetic interferences coming from the grid. For such purposes they must meet the applicable EMC directives and standards.

Basic circuit



Required features

- Standard safety approvals (ENEC, UL, CSA, CQC)
- High pulse load capability
- Withstand surge voltages

Recommended EPCOS product series

- B3292*C/D (305 V AC)
standard series, approved as X2
- B3291* (330 V AC), approved as X1
- B3291* (530 V AC), approved as X1
- B3292*H/J (305 V AC), severe ambient condition, approved as X2