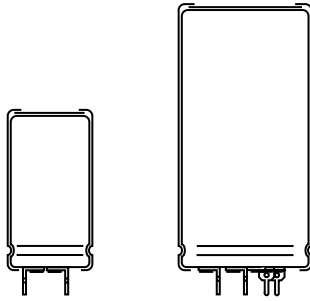


Aluminum Capacitors Power Printed Wiring Style



Component outlines

| QUICK REFERENCE DATA | | |
|--|--|---|
| DESCRIPTION | VALUE | |
| | $\leq 100 \text{ V}$ | $> 100 \text{ V}$ |
| Nominal case size ($\varnothing D \times L$ in mm) | 25 x 30 to 40 x 100 | |
| Rated capacitance range (E6 series), C_R | 470 μF to 68 000 μF | 47 μF to 1000 μF |
| Tolerance on C_R | - 10 % to + 30 % | |
| Rated voltage range, U_R | 10 V to 100 V | 250 V to 400 V |
| Category temperature range | - 40 °C to + 85 °C | |
| Endurance test at 85 °C | 5000 h | |
| Useful life at 85 °C | 15 000 h | |
| Useful life at 40 °C, 1.4 x I_R applied | 200 000 h | |
| Shelf life at 0 V, 85 °C | 500 h | |
| Based on sectional specification | IEC 60384-4/EN130300 | |
| Climatic category IEC 60068 | 40/085/56 | |

FEATURES

- Polarized aluminum electrolytic capacitors, non-solid electrolyte
- Large types, cylindrical aluminum case, insulated
- Provided with keyed polarity
- Very long useful life: 15 000 h at 85 °C
- Low ESR, high ripple current capability
- High resistance to shock and vibration


**RoHS
COMPLIANT**
APPLICATIONS

- Computer, telecommunication and industrial systems
- Smoothing and filtering
- Standard and switched mode power supplies
- Energy storage in pulse systems

MARKING

The capacitors are marked (where possible) with the following information:

- Rated capacitance (in μF)
- Tolerance on rated capacitance, code letter in accordance with IEC 60062 (Q for - 10/+ 30 %)
- Rated voltage (in V)
- Date code (YYMM)
- Name of manufacturer
- Code for factory of origin
- Polarity of the terminals and '-' sign to indicate the negative terminal, visible from the top and/or side of the capacitor
- Code number
- Climatic category in accordance with IEC 60068

| SELECTION CHART FOR C_R, U_R AND RELEVANT NOMINAL CASE SIZES ($\varnothing D \times L$ in mm) | | | | | | |
|---|-----------|----------|----------|----------|----------|----------|
| C_R (μF) | U_R (V) | | | | | |
| | 10 | 16 | 25 | 40 | 63 | 100 |
| 470 | - | - | - | - | - | 25 x 30 |
| 680 | - | - | - | - | - | 25 x 40 |
| 1000 | - | - | - | - | 25 x 30 | 30 x 40 |
| 1500 | - | - | - | 25 x 30 | 25 x 40 | 35 x 40 |
| 2200 | - | - | 25 x 30 | 25 x 40 | 30 x 40 | 35 x 50 |
| | - | - | - | - | - | 40 x 40 |
| 3300 | - | 25 x 30 | 25 x 40 | 30 x 40 | 35 x 40 | 40 x 50 |
| | 25 x 30 | 25 x 40 | 30 x 40 | 35 x 40 | 35 x 50 | 40 x 70 |
| 4700 | - | - | - | - | 40 x 40 | - |
| | 25 x 40 | 30 x 40 | 35 x 40 | 35 x 50 | 40 x 50 | 40 x 100 |
| 6800 | - | - | - | 40 x 40 | - | - |
| | 30 x 40 | 35 x 40 | 35 x 50 | 40 x 50 | 40 x 70 | - |
| 10 000 | - | - | 40 x 40 | - | - | - |
| | 35 x 40 | 35 x 50 | 40 x 50 | 40 x 70 | 40 x 100 | - |
| 15 000 | - | 40 x 40 | - | - | - | - |
| | 35 x 50 | 40 x 50 | 40 x 70 | 40 x 100 | - | - |
| 22 000 | 40 x 40 | - | - | - | - | - |
| | 40 x 50 | 40 x 70 | 40 x 100 | - | - | - |
| 33 000 | 40 x 50 | 40 x 70 | 40 x 100 | - | - | - |
| 47 000 | 40 x 70 | 40 x 100 | - | - | - | - |
| 68 000 | 40 x 100 | - | - | - | - | - |

| SELECTION CHART FOR C_R, U_R AND RELEVANT NOMINAL CASE SIZES ($\varnothing D \times L$ in mm) | | | |
|---|-----------|---------|----------|
| C_R (μF) | U_R (V) | | |
| | 250 | 385 | 400 |
| 47 | - | 25 x 30 | 25 x 30 |
| 68 | - | 25 x 40 | 25 x 40 |
| 100 | 25 x 30 | 30 x 40 | 30 x 40 |
| 150 | 25 x 40 | 35 x 40 | 35 x 40 |
| 220 | 30 x 40 | 35 x 50 | 35 x 50 |
| | - | 40 x 40 | 40 x 40 |
| 330 | 35 x 40 | 40 x 50 | 40 x 50 |
| 470 | 35 x 50 | 40 x 70 | 40 x 70 |
| | 40 x 40 | - | - |
| 680 | 40 x 50 | - | 40 x 100 |
| 1000 | 40 x 70 | - | - |

DIMENSIONS in millimeters AND AVAILABLE FORMS

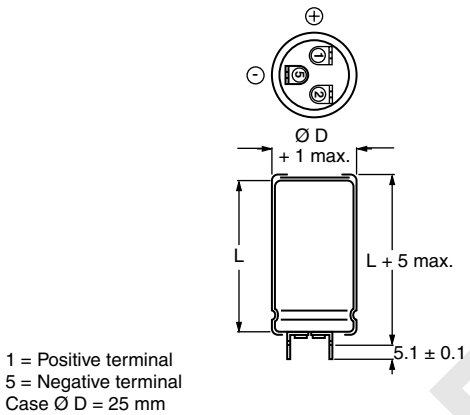
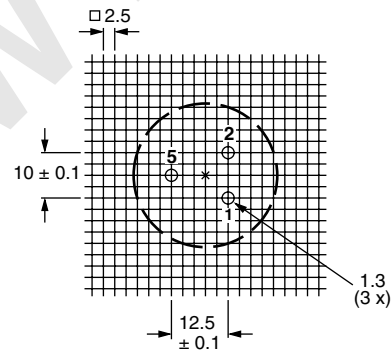


Fig.1 Printed wiring pin version



Case $\varnothing D = 25$ mm

Fig.2 Mounting hole pattern viewed from the component side

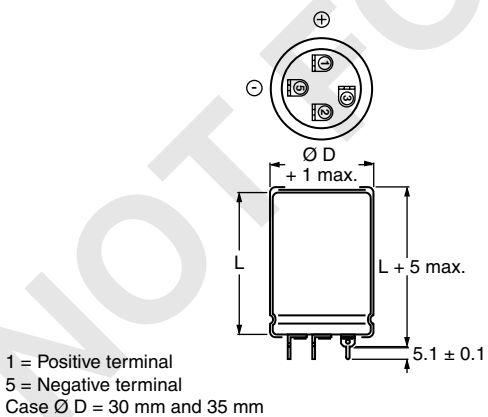
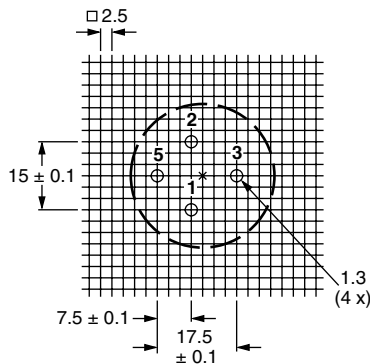


Fig.3 Printed wiring pin version



Case $\varnothing D = 30$ mm and 35 mm

Fig.4 Mounting hole pattern viewed from the component side

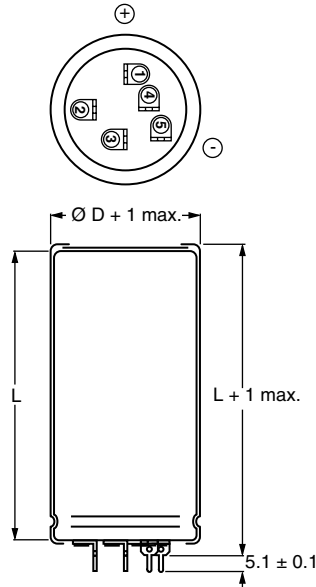
DIMENSIONS in millimeters **AND AVAILABLE FORMS**

 1 = Positive terminal
 5 = Negative terminal
 Case Ø D = 40 mm

Fig.5 Printed wiring pin version

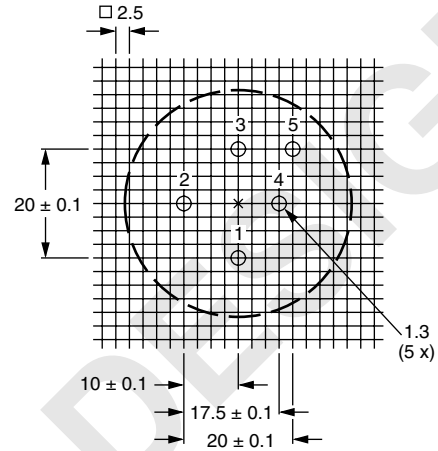

 1 = Positive terminal
 5 = Negative terminal
 Case Ø D = 40 mm

Fig.6 Mounting hole pattern viewed from the component side

| DIMENSIONS in millimeters, MASS AND PACKAGING QUANTITIES | | | | | |
|--|---------------------------|-------------------------|---------------------|---|---|
| NOMINAL CASE SIZE Ø D x L | Ø D_{max.} | L_{max.} | MASS (g) | PACKAGING QUANTITIES (units per box) | CARDBOARD BOX DIMENSIONS L x W x H |
| 25 x 30 | 26 | 35 | ≈ 24 | 100 | 290 x 280 x 50 |
| 25 x 40 | 26 | 45 | ≈ 28 | 100 | 290 x 280 x 60 |
| 30 x 40 | 31 | 45 | ≈ 38 | 100 | 340 x 330 x 60 |
| 35 x 40 | 36 | 45 | ≈ 51 | 50 | 390 x 198 x 60 |
| 35 x 50 | 36 | 55 | ≈ 66 | 50 | 390 x 198 x 70 |
| 40 x 40 | 41 | 45 | ≈ 78 | 50 | 440 x 223 x 60 |
| 40 x 50 | 41 | 55 | ≈ 82 | 50 | 440 x 223 x 70 |
| 40 x 70 | 41 | 75 | ≈ 110 | 25 | 230 x 230 x 90 |
| 40 x 100 | 41 | 105 | ≈ 176 | 25 | 230 x 230 x 120 |

MOUNTING

When a number of capacitors are connected in a bank, they must not be closer together than 15 mm, when no derating of ripple current and/or temperature is applied.

Pin numbers 2, 3 and 4 (if present) must be free from the electrical circuit.

| ELECTRICAL DATA | |
|-----------------|---|
| SYMBOL | DESCRIPTION |
| C_R | rated capacitance at 100 Hz |
| I_R | rated RMS ripple current at 100 Hz, 85 °C or at 20 kHz, 70 °C |
| I_{L1} | max. leakage current after 1 minute at U_R |
| I_{L5} | max. leakage current after 5 minutes at U_R |
| ESR | max. equivalent series resistance at 100 Hz |
| Z | max. impedance at 10 kHz |

Note

(1) Unless otherwise specified, all electrical values apply at $T_a = 20\text{ °C}$, $P = 86\text{ kPa}$ to 106 kPa , $RH = 45\text{ %}$ to 75 %

ORDERING EXAMPLE

10 000 $\mu\text{F}/25\text{ V}$; - 10/+ 30 %

Nominal case size: $\varnothing 35 \times 50\text{ mm}$

Ordering code: MALPEYV00CD510E02W

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | | | | |
|--|--------------------------------------|--|---------------------------------|---------------------------------|---------------------------|---------------------------|--------------------------------|------------------------------|--------------------|
| U_R (V) | C_R 100 Hz (μF) | NOMINAL CASE SIZE $\varnothing D \times L$ (mm) | I_R 100 Hz 85 °C (A) | I_R 20 kHz 70 °C (A) | I_{L1} 1 min (mA) | I_{L5} 5 min (mA) | ESR 100 Hz (m Ω) | Z 10 kHz (m Ω) | ORDERING CODE |
| 10 | 4700 | 25 x 30 | 2.4 | 4.6 | 0.28 | 0.10 | 74 | 50 | MALPEYV00AV447C02W |
| | 6800 | 25 x 40 | 3.2 | 6.1 | 0.41 | 0.14 | 51 | 37 | MALPEYV00AB468C02W |
| | 10 000 | 30 x 40 | 3.8 | 7.2 | 0.60 | 0.20 | 39 | 29 | MALPEYV00BB510C02W |
| | 15 000 | 35 x 40 | 4.1 | 7.8 | 0.90 | 0.30 | 35 | 26 | MALPEYV00CB515C02W |
| | 22 000 | 35 x 50 | 5.0 | 9.5 | 1.32 | 0.44 | 27 | 21 | MALPEYV00CD522C02W |
| | 22 000 | 40 x 40 | 4.2 | 8.0 | 1.32 | 0.44 | 36 | 27 | MALPEYV00DB522C02W |
| | 33 000 | 40 x 50 | 5.0 | 9.5 | 1.98 | 0.66 | 29 | 22 | MALPEYV00DD533C02W |
| | 47 000 | 40 x 70 | 6.8 | 12.9 | 2.82 | 0.94 | 20 | 17 | MALPEYV00DG547C02W |
| | 68 000 | 40 x 100 | 9.2 | 17.5 | 4.08 | 1.36 | 15 | 14 | MALPEYV00DM568C02W |
| 16 | 3300 | 25 x 30 | 2.4 | 4.6 | 0.32 | 0.11 | 75 | 50 | MALPEYV00AV433D02W |
| | 4700 | 25 x 40 | 3.1 | 5.9 | 0.45 | 0.15 | 52 | 37 | MALPEYV00AB447D02W |
| | 6800 | 30 x 40 | 3.7 | 7.0 | 0.65 | 0.22 | 40 | 30 | MALPEYV00BB468D02W |
| | 10 000 | 35 x 40 | 4.1 | 7.8 | 0.96 | 0.32 | 36 | 27 | MALPEYV00CB510D02W |
| | 15 000 | 35 x 50 | 5.0 | 9.5 | 1.44 | 0.48 | 28 | 21 | MALPEYV00CD515D02W |
| | 15 000 | 40 x 40 | 4.2 | 8.0 | 1.44 | 0.48 | 36 | 27 | MALPEYV00DB515D02W |
| | 22 000 | 40 x 50 | 5.0 | 9.5 | 2.12 | 0.71 | 29 | 22 | MALPEYV00DD522D02W |
| | 33 000 | 40 x 70 | 6.7 | 12.7 | 3.17 | 1.06 | 20 | 17 | MALPEYV00DG533D02W |
| | 47 000 | 40 x 100 | 9.1 | 17.3 | 4.51 | 1.51 | 15 | 14 | MALPEYV00DM547D02W |
| 25 | 2200 | 25 x 30 | 2.3 | 4.4 | 0.33 | 0.11 | 78 | 52 | MALPEYV00AV422E02W |
| | 3300 | 25 x 40 | 3.1 | 5.9 | 0.49 | 0.17 | 53 | 38 | MALPEYV00AB433E02W |
| | 4700 | 30 x 40 | 3.7 | 7.0 | 0.70 | 0.24 | 42 | 31 | MALPEYV00BB447E02W |
| | 6800 | 35 x 40 | 4.1 | 7.8 | 1.02 | 0.34 | 37 | 28 | MALPEYV00CB468E02W |
| | 10 000 | 35 x 50 | 5.0 | 9.5 | 1.50 | 0.50 | 28 | 21 | MALPEYV00CD510E02W |
| | 10 000 | 40 x 40 | 4.2 | 8.0 | 1.50 | 0.50 | 36 | 27 | MALPEYV00DB510E02W |
| | 15 000 | 40 x 50 | 5.0 | 9.5 | 2.25 | 0.75 | 29 | 22 | MALPEYV00DD515E02W |
| | 22 000 | 40 x 70 | 6.8 | 12.9 | 3.30 | 1.10 | 20 | 17 | MALPEYV00DG522E02W |
| | 33 000 | 40 x 100 | 9.2 | 17.5 | 4.95 | 1.65 | 15 | 14 | MALPEYV00DM533E02W |
| 40 | 1500 | 25 x 30 | 2.0 | 3.8 | 0.36 | 0.12 | 112 | 68 | MALPEYV00AV415G02W |
| | 2200 | 25 x 40 | 2.7 | 5.1 | 0.53 | 0.18 | 76 | 51 | MALPEYV00AB422G02W |
| | 3300 | 30 x 40 | 3.3 | 6.3 | 0.79 | 0.27 | 57 | 41 | MALPEYV00BB433G02W |
| | 4700 | 35 x 40 | 3.8 | 7.2 | 1.13 | 0.38 | 48 | 35 | MALPEYV00CB447G02W |
| | 6800 | 35 x 50 | 4.7 | 8.9 | 1.64 | 0.55 | 36 | 27 | MALPEYV00CD468G02W |
| | 6800 | 40 x 40 | 4.1 | 7.8 | 1.64 | 0.55 | 45 | 33 | MALPEYV00DB468G02W |
| | 10 000 | 40 x 50 | 4.9 | 9.3 | 2.40 | 0.80 | 35 | 27 | MALPEYV00DD510G02W |
| | 15 000 | 40 x 70 | 6.6 | 12.5 | 3.60 | 1.20 | 25 | 20 | MALPEYV00DG515G02W |
| | 22 000 | 40 x 100 | 9.0 | 17.1 | 5.28 | 1.76 | 18 | 16 | MALPEYV00DM522G02W |
| 63 | 1000 | 25 x 30 | 1.8 | 3.4 | 0.38 | 0.13 | 122 | 74 | MALPEYV00AV410J02W |
| | 1500 | 25 x 40 | 2.5 | 4.7 | 0.57 | 0.19 | 83 | 54 | MALPEYV00AB415J02W |
| | 2200 | 30 x 40 | 3.1 | 5.9 | 0.83 | 0.28 | 57 | 41 | MALPEYV00BB422J02W |
| | 3300 | 35 x 40 | 3.6 | 6.8 | 1.25 | 0.42 | 48 | 35 | MALPEYV00CB433J02W |
| | 4700 | 35 x 50 | 4.4 | 8.3 | 1.78 | 0.60 | 36 | 27 | MALPEYV00CD447J02W |
| | 4700 | 40 x 40 | 3.8 | 7.2 | 1.78 | 0.60 | 45 | 33 | MALPEYV00DB447J02W |
| | 6800 | 40 x 50 | 4.7 | 8.9 | 2.57 | 0.86 | 35 | 27 | MALPEYV00DD468J02W |
| | 10 000 | 40 x 70 | 6.2 | 11.8 | 3.78 | 1.26 | 25 | 20 | MALPEYV00DG510J02W |
| | 15 000 | 40 x 100 | 8.5 | 16.1 | 5.67 | 1.89 | 18 | 16 | MALPEYV00DM515J02W |

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | | | | |
|---|-------------------------------|---|---------------------------------|---------------------------------|---------------------------|---------------------------|--------------------------------|------------------------------|--------------------|
| U_R (V) | C_R 100 Hz (μ F) | NOMINAL CASE SIZE \varnothing D x L (mm) | I_R 100 Hz 85 °C (A) | I_R 20 kHz 70 °C (A) | I_{L1} 1 min (mA) | I_{L5} 5 min (mA) | ESR 100 Hz (m Ω) | Z 10 kHz (m Ω) | ORDERING CODE |
| 100 | 470 | 25 x 30 | 1.4 | 2.7 | 0.28 | 0.10 | 247 | 172 | MALPEYV00AV347L02W |
| | 680 | 25 x 40 | 1.9 | 3.6 | 0.41 | 0.14 | 170 | 116 | MALPEYV00AB368L02W |
| | 1000 | 30 x 40 | 2.5 | 4.7 | 0.60 | 0.20 | 123 | 88 | MALPEYV00BB410L02W |
| | 1500 | 35 x 40 | 3.1 | 5.8 | 0.90 | 0.30 | 94 | 71 | MALPEYV00CB415L02W |
| | 2200 | 35 x 50 | 3.9 | 7.4 | 1.32 | 0.44 | 69 | 55 | MALPEYV00CD422L02W |
| | 2200 | 40 x 40 | 3.6 | 6.8 | 1.32 | 0.44 | 81 | 65 | MALPEYV00DB422L02W |
| | 3300 | 40 x 50 | 4.6 | 8.7 | 1.98 | 0.66 | 59 | 48 | MALPEYV00DD433L02W |
| | 4700 | 40 x 70 | 6.2 | 11.7 | 2.82 | 0.94 | 42 | 36 | MALPEYV00DG447L02W |
| | 6800 | 40 x 100 | 8.2 | 15.5 | 4.08 | 1.36 | 32 | 28 | MALPEYV00DM468L02W |
| 250 | 100 | 25 x 30 | 0.6 | 1.15 | 0.15 | 0.05 | 1800 | 1300 | MALPEYV00AV310N02W |
| | 150 | 25 x 40 | 0.8 | 1.5 | 0.23 | 0.08 | 1100 | 850 | MALPEYV00AB315N02W |
| | 220 | 30 x 40 | 1.0 | 1.9 | 0.33 | 0.11 | 750 | 550 | MALPEYV00BB322N02W |
| | 330 | 35 x 40 | 1.4 | 2.65 | 0.49 | 0.17 | 500 | 400 | MALPEYV00CB333N02W |
| | 470 | 35 x 50 | 1.8 | 3.4 | 0.70 | 0.24 | 360 | 290 | MALPEYV00CD347N02W |
| | 470 | 40 x 40 | 1.8 | 3.4 | 0.70 | 0.24 | 420 | 350 | MALPEYV00DB347N02W |
| | 680 | 40 x 50 | 2.3 | 4.4 | 1.02 | 0.34 | 250 | 190 | MALPEYV00DD368N02W |
| | 1000 | 40 x 70 | 3.0 | 5.7 | 1.50 | 0.50 | 170 | 140 | MALPEYV00DG410N02W |
| 385 | 47 | 25 x 30 | 0.5 | 0.94 | 0.11 | 0.04 | 2370 | 1550 | MALPEYV00AV247R02W |
| | 68 | 25 x 40 | 0.67 | 1.27 | 0.16 | 0.06 | 1640 | 1100 | MALPEYV00AB268R02W |
| | 100 | 30 x 40 | 0.84 | 1.59 | 0.23 | 0.08 | 1275 | 950 | MALPEYV00BB310R02W |
| | 150 | 35 x 40 | 1.13 | 2.14 | 0.34 | 0.11 | 850 | 635 | MALPEYV00CB315R02W |
| | 220 | 35 x 50 | 1.48 | 2.8 | 0.50 | 0.17 | 580 | 430 | MALPEYV00CD322R02W |
| | 220 | 40 x 40 | 1.48 | 2.8 | 0.50 | 0.17 | 580 | 430 | MALPEYV00DB322R02W |
| | 330 | 40 x 50 | 1.97 | 3.73 | 0.75 | 0.25 | 385 | 300 | MALPEYV00DD333R02W |
| | 470 | 40 x 70 | 2.7 | 5.11 | 1.06 | 0.36 | 270 | 215 | MALPEYV00DG347R02W |
| 400 | 47 | 25 x 30 | 0.47 | 0.89 | 0.11 | 0.04 | 2700 | 2125 | MALPEYV00AV247X02W |
| | 68 | 25 x 40 | 0.63 | 1.29 | 0.16 | 0.06 | 1875 | 1470 | MALPEYV00AB268X02W |
| | 100 | 30 x 40 | 0.84 | 1.59 | 0.24 | 0.08 | 1275 | 1000 | MALPEYV00BB310X02W |
| | 150 | 35 x 40 | 1.13 | 2.14 | 0.36 | 0.12 | 850 | 665 | MALPEYV00CB315X02W |
| | 220 | 35 x 50 | 1.41 | 2.67 | 0.52 | 0.17 | 650 | 450 | MALPEYV00CD322X02W |
| | 220 | 40 x 40 | 1.41 | 2.67 | 0.52 | 0.17 | 650 | 450 | MALPEYV00DB322X02W |
| | 330 | 40 x 50 | 1.86 | 3.52 | 0.79 | 0.26 | 435 | 315 | MALPEYV00DD333X02W |
| | 470 | 40 x 70 | 2.54 | 4.81 | 1.12 | 0.37 | 305 | 225 | MALPEYV00DG347X02W |
| 680 | 40 x 100 | 3.56 | 6.75 | 1.63 | 0.54 | 210 | 155 | MALPEYV00DM368X02W | |

Note

- 450 V on request

| ADDITIONAL ELECTRICAL DATA | | |
|------------------------------------|-------------------------------------|--|
| PARAMETER | Conditions | Value |
| Voltage | | |
| Surge voltage | ≤ 250 V versions | $U_s = 1.15 \times U_R$ |
| | ≥ 385 V versions | $U_s = 1.1 \times U_R$ |
| Reverse voltage | | $U_{rev} \leq 1$ V |
| Current | | |
| Leakage current | After 1 minute at U_R | $I_{L1} \leq 0.006 C_R \times U_R + 4 \mu$ A |
| | After 5 minutes at U_R | $I_{L5} \leq 0.002 C_R \times U_R + 4 \mu$ A |
| Inductance | | |
| Equivalent series inductance (ESL) | Case \varnothing D = 25 mm | max. 25 nH |
| | Case \varnothing D = 30 and 35 mm | max. 30 nH |
| | Case \varnothing D = 40 mm | max. 35 nH |

LIFETIME TABLE rated voltage: ≤ 100 V

| INTERRELATION BETWEEN ALTERNATING CURRENT, AMBIENT TEMPERATURE AND LIFETIME | | | | | | | | | | | | | | | | |
|--|------|------|------|------|--------|---|---|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I/I_R (frequency dependent) | | | | | | SURFACE TEMPERATURE RISE ΔT_0 (°C) | LIFETIME MULTIPLIER (depending on I/I_R and T_a) | | | | | | | | | |
| FREQUENCY (Hz) | | | | | | | AMBIENT TEMPERATURE T_a (°C) | | | | | | | | | |
| 50 | 100 | 250 | 500 | 1000 | > 2500 | | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| 0.19 | 0.20 | 0.21 | 0.22 | 0.22 | 0.23 | 0.2 | 63 | 40 | 26 | 17 | 11 | 7.3 | 5.0 | 3.4 | 2.3 | 1.63 |
| 0.38 | 0.40 | 0.42 | 0.43 | 0.45 | 0.47 | 0.7 | 55 | 35 | 23 | 15 | 9.9 | 6.7 | 4.5 | 3.1 | 2.2 | 1.51 |
| 0.56 | 0.60 | 0.63 | 0.65 | 0.67 | 0.70 | 1.5 | 45 | 29 | 19 | 13 | 8.5 | 5.7 | 3.9 | 2.7 | 1.9 | 1.33 |
| 0.75 | 0.80 | 0.84 | 0.86 | 0.89 | 0.94 | 2.5 | 35 | 23 | 15 | 10 | 6.9 | 4.7 | 3.3 | 2.3 | 1.6 | 1.13 |
| 0.94 | 1.00 | 1.05 | 1.08 | 1.12 | 1.17 | 3.8 | 26 | 17 | 12 | 7.9 | 5.4 | 3.7 | 2.6 | 1.8 | 1.3 | 1.00 |
| 1.13 | 1.20 | 1.26 | 1.29 | 1.34 | 1.41 | 5.4 | 18 | 13 | 8.6 | 5.9 | 4.1 | 2.9 | 2.0 | 1.4 | 1.0 | |
| 1.31 | 1.40 | 1.47 | 1.51 | 1.56 | 1.64 | 7.4 | 13 | 8.7 | 6.1 | 4.2 | 3.0 | 2.1 | 1.5 | 1.1 | | |
| 1.50 | 1.60 | 1.68 | 1.72 | 1.79 | 1.87 | 9.6 | 8.3 | 5.9 | 4.2 | 3.0 | 2.1 | 1.5 | 1.1 | | | |
| 1.69 | 1.80 | 1.89 | 1.94 | 2.01 | 2.11 | 12 | 5.4 | 3.9 | 2.8 | 2.0 | 1.4 | 1.0 | | | | |
| 1.88 | 2.00 | 2.10 | 2.15 | 2.23 | 2.34 | 15 | 3.4 | 2.5 | 1.8 | 1.3 | | | | | | |
| 2.06 | 2.20 | 2.30 | 2.37 | 2.45 | 2.58 | 18 | 2.1 | 1.5 | 1.1 | | | | | | | |
| 2.25 | 2.40 | 2.51 | 2.58 | 2.68 | 2.81 | 21 | 1.2 | | | | | | | | | |

Notes

- I_R 100 Hz alternating current (A) at upper category temperature T_{UC} taken from datasheet
- I User current (A)
- T_a Ambient temperature of capacitor (°C)
- ΔT_0 Surface temperature rise of capacitor caused by AC load (°C)
- L Lifetime multiplier

LIFETIME TABLE rated voltage: > 100 V

| INTERRELATION BETWEEN ALTERNATING CURRENT, AMBIENT TEMPERATURE AND LIFETIME | | | | | | | | | | | | | | | | |
|--|------|------|------|------|--------|---|---|-----|-----|-----|-----|-----|-----|-----|-----|------|
| I/I_R (frequency dependent) | | | | | | SURFACE TEMPERATURE RISE ΔT_0 (°C) | LIFETIME MULTIPLIER (depending on I/I_R and T_a) | | | | | | | | | |
| FREQUENCY (Hz) | | | | | | | AMBIENT TEMPERATURE T_a (°C) | | | | | | | | | |
| 50 | 100 | 250 | 500 | 1000 | > 2500 | | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| 0.16 | 0.20 | 0.26 | 0.29 | 0.31 | 0.33 | 0.2 | 78 | 50 | 32 | 21 | 14 | 9.2 | 6.2 | 4.2 | 2.3 | 1.64 |
| 0.31 | 0.40 | 0.51 | 0.58 | 0.63 | 0.66 | 0.6 | 68 | 44 | 29 | 19 | 12 | 8.4 | 5.7 | 3.1 | 2.2 | 1.53 |
| 0.47 | 0.60 | 0.77 | 0.87 | 0.94 | 0.99 | 1.3 | 56 | 37 | 24 | 16 | 11 | 7.3 | 5.0 | 2.8 | 1.9 | 1.36 |
| 0.62 | 0.80 | 1.03 | 1.16 | 1.25 | 1.32 | 2.3 | 43 | 29 | 19 | 13 | 8.9 | 6.1 | 4.2 | 2.4 | 1.7 | 1.18 |
| 0.78 | 1.00 | 1.29 | 1.45 | 1.57 | 1.65 | 3.4 | 32 | 22 | 15 | 10 | 7.1 | 4.9 | 2.8 | 2.0 | 1.4 | 1.00 |
| 0.93 | 1.20 | 1.54 | 1.74 | 1.88 | 1.98 | 5.3 | 23 | 16 | 11 | 7.8 | 5.5 | 3.1 | 2.2 | 1.6 | 1.1 | |
| 1.09 | 1.40 | 1.80 | 2.04 | 2.19 | 2.31 | 7.2 | 16 | 12 | 8.2 | 5.8 | 4.1 | 2.4 | 1.7 | 1.2 | | |
| 1.24 | 1.60 | 2.06 | 2.33 | 2.51 | 2.64 | 9.3 | 11 | 8.0 | 5.8 | 4.2 | 2.4 | 1.7 | 1.3 | | | |
| 1.40 | 1.80 | 2.31 | 2.62 | 2.82 | 2.97 | 12 | 7.4 | 5.4 | 3.2 | 2.3 | 1.7 | 1.3 | | | | |
| 1.56 | 2.00 | 2.57 | 2.91 | 3.13 | 3.30 | 14 | 4.9 | 2.9 | 2.2 | 1.6 | 1.2 | | | | | |
| 1.71 | 2.20 | 2.83 | 3.20 | 3.45 | 3.63 | 17 | 2.5 | 1.9 | 1.5 | 1.1 | | | | | | |
| 1.86 | 2.40 | 3.09 | 3.49 | 3.76 | 3.96 | 19 | 1.6 | 1.2 | | | | | | | | |
| 2.02 | 2.60 | 3.34 | 3.78 | 4.07 | 4.29 | 22 | 1.0 | | | | | | | | | |

Notes

- I_R 100 Hz alternating current (A) at upper category temperature T_{UC} taken from datasheet
- I User current (A)
- T_a Ambient temperature of capacitor (°C)
- ΔT_0 Surface temperature rise of capacitor caused by AC load (°C)
- L Lifetime multiplier



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