

Construction

Multilayer metallized paper, encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94V-0.

Benefits

- Approvals: ENEC, UL, CSA
- Rated Voltage: 300VAC 50/60Hz
- Capacitance Range: 0.001 μ F–0.15 μ F
- Pitch: 10.2–25.4 mm
- Capacitance Tolerance: \pm 20% for $C > 0.1\mu\text{F}$, \pm 10% for $C \leq 0.1\mu\text{F}$
- Climatic Category: 40/115/56/B, IEC 60068-1
- Tape and reel packaging in accordance with IEC 60286-2
- RoHS compliance and lead-free terminations
- Operating temperature range of -40°C to +115°C
- 100% screening factory test at 3000VDC
- The highest possible safety regarding active and passive flammability
- Excellent self-healing properties ensure long life even when subjected to frequent overvoltages
- Good resistance to ionization due to impregnated dielectric
- High dU/dt capability
- Impregnated paper ensures excellent stability and reliability properties, particularly in applications with continuous operation

Applications

For worldwide use as electromagnetic interference suppressor in all Y2 applications, line-to-earth.



Ordering Information

| PME271 | Y | A | 5100 | M | R30 |
|----------------------|---------------|--|--|--------------------------------|-----------------------------|
| Series | Rated Voltage | Pitch | Capacitance Code (pF) | Capacitance Tolerance | Packing Option and Leadform |
| Y2, Metallized Paper | Y = 300VAC | A = 10.2 B = 15.2 C = 20.3 D = 22.5 E = 25.4 | Digits 2-4(3) indicates the first three digits of the capacitance value. First digit indicates the total number of digits in the capacitance value. | K = \pm 10% M = \pm 20% | see Ordering Options Table |

Ordering Options Table

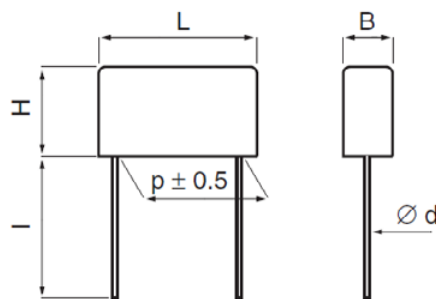
| Standard Packaging Style | Lead Length | Ordering Code |
|------------------------------------|---------------------|---------------|
| | (mm) | |
| Ammo Pack | | R19TA |
| Reel 60 mm | | R19T0 |
| Reel 500 mm | | R19T1 |
| Loose, short leads | 4 ^{+0/-1} | R04 |
| Loose, long leads | 17 ^{+0/-1} | R17 |
| Loose, long leads | 30 ⁺⁵ | R30 |
| Other options available on request | | |

Dimension Table

| Pitch | Outer Dimension | | |
|-------|-----------------|------|------|
| | B | H | L |
| 10.2 | 3.9 | 7.5 | 13.5 |
| 10.2 | 4.1 | 8.2 | 13.5 |
| 10.2 | 5.1 | 10.5 | 13.5 |
| 15.2 | 5.2 | 10.5 | 18.5 |
| 15.2 | 5.5 | 11 | 18.5 |
| 15.2 | 7.3 | 13 | 18.5 |
| 20.3 | 7.6 | 14 | 24 |
| 20.3 | 9 | 15 | 24 |
| 20.3 | 11.3 | 16.5 | 24 |
| 22.5 | 8 | 17 | 27 |
| 22.5 | 10 | 19 | 27 |
| 22.5 | 12 | 22 | 27 |
| 25.4 | 12.1 | 19 | 30.5 |
| 25.4 | 15.3 | 22 | 30.5 |

Leadspacing Table

| p | d | std l | max l |
|--------------------------|----------------|-------|-------|
| 10.2 ± 0.4 | 0.6 | 30 | 30 |
| 15.2 ± 0.4 | 0.8 | 30 | 30 |
| 20.3 ± 0.4 | 0.8 | 30 | 30 |
| 22.5 ± 0.4 | 0.8 | 30 | 30 |
| 25.4 ± 0.4 | 1.0 | 30 | 30 |
| Tolerance in Lead Length | < 30mm +0 / -1 | | |
| | 30mm +5 / -0 | | |



Technical Data

| | | |
|--------------------------------|---|------|
| Rated Voltage | 300VAC 50/60Hz | |
| Capacitance Range | 0.001 μ F–0.15 μ F | |
| Capacitance Tolerance | \pm 20% for C > 0.1 μ F, \pm 10% for C \leq 0.1 μ F | |
| Temperature Range | -40 to +115°C | |
| Climatic Category | 40/115/56/B | |
| Approvals | ENEC, UL, CSA | |
| Dissipation Factor | Maximum Values at +23°C | |
| | | |
| | 1 kHz | 1.3% |
| Test Voltage Between Terminals | The 100% screening factory test is carried out at 3000 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. It is not permitted to repeat this test as there is a risk to damage the capacitor. KEMET is not liable in such case for any failures. | |
| Insulation Resistance | 12,000M Ω | |
| In DC applications | Recommended Voltage \leq 1000 VDC | |

Environmental Test Data

| Test | IEC Publication | Procedure |
|----------------------|------------------------|---|
| Vibration | IEC 60068–2–6 Test Fc | 3 directions at 2 hours each 10 - 500 Hz at 0.75 mm or 98m/s ² |
| Bump | IEC 60068-2-29 Test Eb | 4000 bumps at 390 m/s ² |
| Solderability | IEC 60068-2-20 Test Ta | Solder globule method |
| Active Flammability | IEC 60384-14 | |
| Passive Flammability | IEC 60384-14 | |
| Humidity | IEC 60068-2-3 Test Ca | +40°C and 90-95% R.H. |

Environmental Compliance

All KEMET EMI capacitors are RoHS compliant



RoHS Compliant

Approvals



| Mark | Specification | File Number |
|---|--------------------------|-------------|
|  | EN/IEC 60384-14 | SE/0140-16A |
|  | UL 1283 (250VAC) | E100117 |
| | CSA-C22.2 No. 8 (250VAC) | E100117 |

Table 1 – Ratings & Part Number Reference

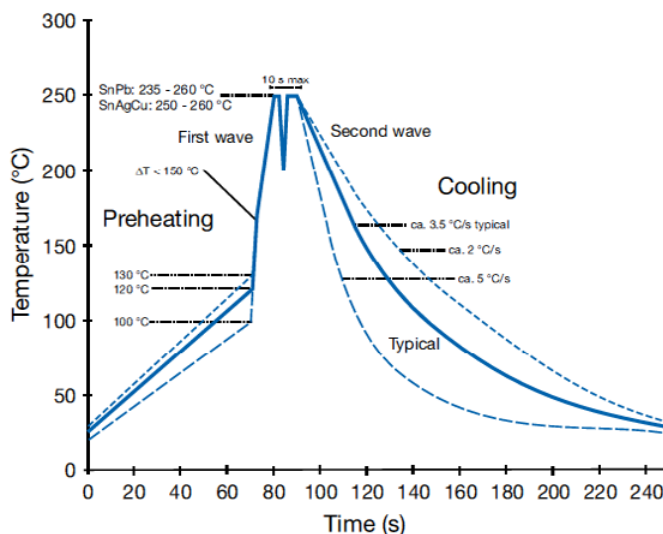
| Lead Space | Cap Value (µF) | B (mm) | H (mm) | L (mm) | dV/dt (V/µsec) | F Article Code | Part Number |
|------------|----------------|--------|--------|--------|----------------|----------------|------------------|
| 10.2 | 0.0010 | 3.9 | 7.5 | 13.5 | 2000 | P272HE102M300A | PME271YA4100MR30 |
| 10.2 | 0.0015 | 3.9 | 7.5 | 13.5 | 2000 | P272HE152M300A | PME271YA4150MR30 |
| 10.2 | 0.0022 | 3.9 | 7.5 | 13.5 | 2000 | P272HE222M300A | PME271YA4220MR30 |
| 10.2 | 0.0025 | 4.1 | 8.2 | 13.5 | 2000 | P272HH252M300A | PME271YA4250MR30 |
| 10.2 | 0.0033 | 4.1 | 8.2 | 13.5 | 2000 | P272HH332M300A | PME271YA4330MR30 |
| 10.2 | 0.0047 | 5.1 | 10.5 | 13.5 | 2000 | P272HL472M300A | PME271YA4470MR30 |
| 15.2 | 0.0068 | 5.2 | 10.5 | 18.5 | 1400 | P272QE682M300A | PME271YB4680MR30 |
| 15.2 | 10 | 5.2 | 10.5 | 18.5 | 1400 | P272QE103M300A | PME271YB5100MR30 |
| 15.2 | 15 | 5.5 | 11 | 18.5 | 1400 | P272QH153M300A | PME271YB5150MR30 |
| 15.2 | 22 | 7.3 | 13 | 18.5 | 1400 | P272QM223M300A | PME271YB5220MR30 |
| 20.3 | 33 | 7.6 | 14 | 24 | 1000 | P272CE333M300A | PME271YC5330MR30 |
| 20.3 | 47 | 9 | 15 | 24 | 1000 | P272CJ473M300A | PME271YC5470MR30 |
| 20.3 | 68 | 11.3 | 16.5 | 24 | 1000 | P272CP683M300A | PME271YC5680MR30 |
| 22.5 | 33 | 8 | 17 | 27 | 600 | P272SJ333M300A | PME271YD5330MR30 |
| 22.5 | 47 | 8 | 17 | 27 | 600 | P272SJ473M300A | PME271YD5470MR30 |
| 22.5 | 68 | 10 | 19 | 27 | 600 | P272SP683M300A | PME271YD5680MR30 |
| 22.5 | 0.1 | 12 | 22 | 27 | 600 | P272SU104M300A | PME271YD6100MR30 |
| 25.4 | 0.1 | 12.1 | 19 | 30.5 | 400 | P272EJ104M300A | PME271YE6100MR30 |
| 25.4 | 0.15 | 15.3 | 22 | 30.5 | 400 | P272EL154K300A | PME271YE6150KR30 |
| Lead Space | Cap Value (µF) | B (mm) | H (mm) | L (mm) | dV/dt (V/µsec) | F Article Code | Part Number |

Other part number options:

(1) Where the 14th character equal to, J ($\pm 5\%$ tolerance), K ($\pm 10\%$ tolerance) and M ($\pm 20\%$ tolerance).

Soldering Process

The implementation of RoHS Directive has forced to select SnAuCu (SAC) alloys or SnCu alloys as primary solder. This has increased the liquidus temperature from that of 183°C for SnPb eutectic alloy to 217–221°C for the new alloys. This means that the heat stress to components, even in wave soldering, has increased considerably due to higher pre-heat and wave temperatures. The Polypropylene Capacitors are especially sensitive to heat (melting point of Polypropylene is 160–170°C). The wave soldering can be destructive especially for mechanically small Polypropylene Capacitors (lead spacings 5-10 mm), and great care has to be taken when soldering them. The recommended solder profiles from KEMET should be used. In case of doubt, KEMET should be consulted. In general the wave soldering curve from IEC Publication 61760-1 edition 2 gives a good guideline for successful soldering.



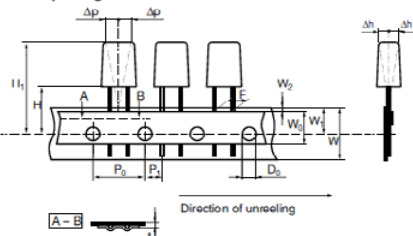
Marking

- Manufacturer's logo
- Article series
- Rated capacitance
- Capacitance tolerance
- Rated voltage
- Capacitor class
- Approval marks
- Manufacturing date code
- IEC climatic category
- Passive flammability class
- Manufacturing date code
- Manufacturing plant

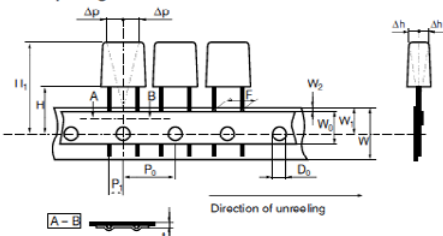
Packaging

The taping is carried out in accordance with IEC 60286-2.

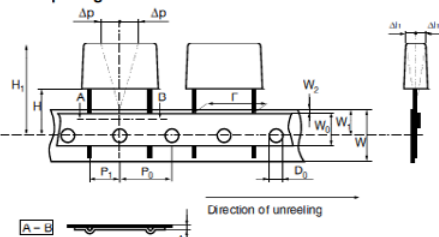
Lead spacing 5 mm



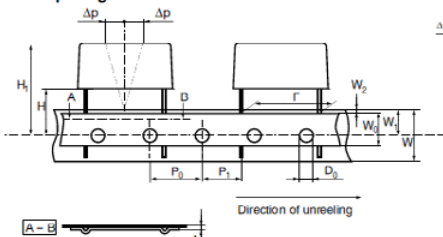
Lead spacing 7.5 mm



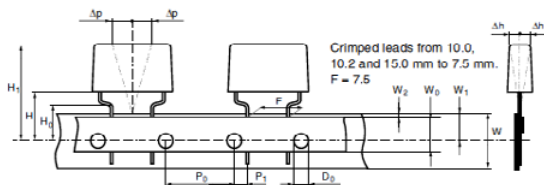
Lead spacing 10 and 15 mm



Lead spacing 22.5 and 27.5 mm



Crimped leads



Taping Specification

| | | Dimensions in mm | | | | Standard IEC 60286-2 |
|------------------------------------|------------------------------|------------------------|--------------------|------------------------|-----------|----------------------|
| Lead spacing, (Tol. +0.6/-0.1) | F | 5.0/7.5 | 7.5 Crimped Leads | 10.0/15.0 | 22.5/27.5 | F |
| Carrier tape width, ±0.5 | W | 18 | 18 | 18 | 18 | 18 (+1.0/-0.5) |
| Hold-down tape width, ±0.3 | W ₀ | 9 | 12 | 12 | 12 | |
| Position of sprocket hole, ±0.5 | W ₁ | 9 | 9 | 9 | 9 | 9 (+0.75/-0.5) |
| Distance between tapes, max. | W ₂ | 3 | 3 | 3 | 3 | 3 |
| Sprocket hole diameter, ±0.2 | D ₀ | 4 | 4 | 4 | 4 | 4 |
| Feed hole pitch, ±0.3 | P ₀ ¹⁾ | 12.7 | 15/12.7 | 12.7 | 12.7 | 12.7/15 |
| Distance lead – feed hole, ±0.7 | P ₁ | 3.85/3.75 | 3.75 | 7.7/5.2 | 5.3 | P ₁ |
| Max deviation tape – plane | Δp | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Max lateral deviation | Δh | 2 | 2 | 2 | 2 | 2 |
| Total thickness, ±0.2 | t | 0.7 | 0.7 | 0.7 | 0.9 max | 0.9 max |
| Sprocket hole/cap body | H ²⁾ | 18.5 ±0.5 16.5 ±0.5 | | 18.5 ±0.5 16.5 ±0.5 | 18.5 ±0.5 | 18.0 (+2/-0) |
| Sprocket hole/crimped leads | H ₀ ²⁾ | | 16 ±0.5 18 ±0.5 | | | 16 ±0.5 |
| Sprocket hole/top of cap body, max | H ₁ ³⁾ | 32/31 max | 40 max | 43 max | 58 | 58 max |

¹⁾ Cumulative pitch error

²⁾ Alternatives for different insertion machines

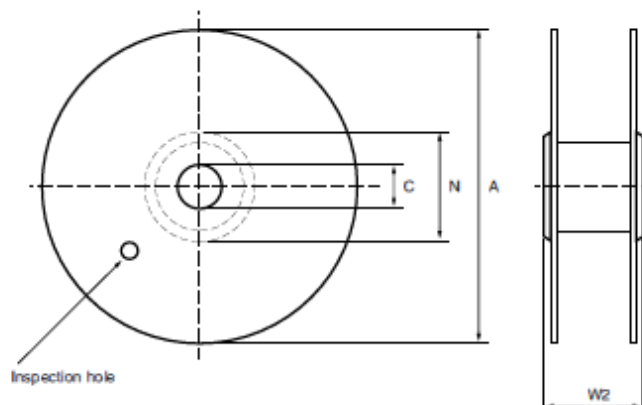
³⁾ Depending on case size

Note: Crimped leads available on request

Reel Specification

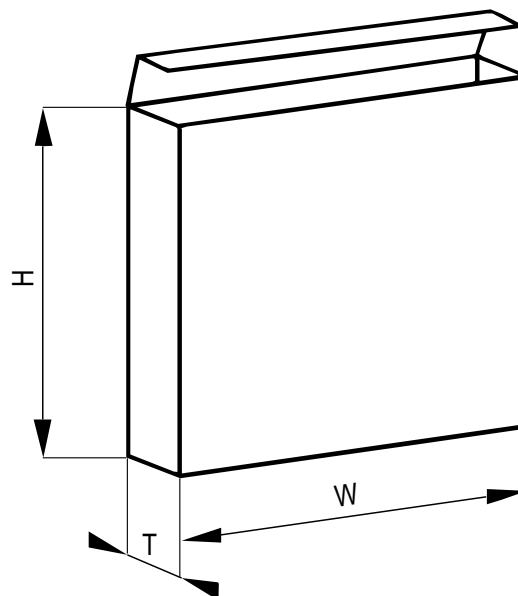
| Dimensions in mm | | | Tolerance |
|----------------------------------|----|---------|-----------|
| Reel diameter | A | 360/500 | max |
| Hub diameter | N | 80 | min |
| Arbor hole | C | 30 | ±1 |
| Total reel width measured at hub | W2 | 58 | max |

The standard packing for lead space ≤15 mm is 360 mm reel and for lead space >15 mm 500 mm reel.



Ammo Pack Specification

| Dimensions in mm | | Lead spacing, mm | |
|------------------|---|------------------|--|
| | | 5, 7.5, 10 | 15, 22.5, 27.5, 37.5 |
| Height | H | 330 | (135 or 200 for CQ depending on capacitance value) |
| Width | W | 330 | (335 for CQ) |
| Thickness | T | 50 | |



The Manufacturing Date Code Y Z, according to IEC 60062

| where Y = year, Z = month | | | | | | | | | |
|---------------------------|------|------|------|------|------|-------|------|-------|------|
| Year | Code | Year | Code | Year | Code | Month | Code | Month | Code |
| 1991 | B | 2001 | N | 2011 | B | Jan | 1 | July | 7 |
| 1992 | C | 2002 | P | 2012 | C | Febr | 2 | Aug | 8 |
| 1993 | D | 2003 | R | 2013 | D | March | 3 | Sept | 9 |
| 1994 | E | 2004 | S | 2014 | E | April | 4 | Oct | O |
| 1995 | F | 2005 | T | 2015 | F | May | 5 | Nov | N |
| 1996 | H | 2006 | U | 2016 | H | June | 6 | Dec | D |
| 1997 | J | 2007 | V | 2017 | J | | | | |
| 1998 | K | 2008 | W | 2018 | K | | | | |
| 1999 | L | 2009 | X | 2019 | L | | | | |
| 2000 | M | 2010 | A | 2020 | M | | | | |

KEMET Corporation World Headquarters

2835 KEMET Way
Simpsonville, SC 29681

Mailing Address:
P.O. Box 5928
Greenville, SC 29606

www.kemet.com
Tel: 864-963-6300
Fax: 864-963-6521

Corporate Offices

Fort Lauderdale, FL
Tel: 954-766-2800

North America

Southeast

Lake Mary, FL
Tel: 407-855-8886

Northeast

Wilmington, MA
Tel: 978-658-1663

West Chester, PA
Tel: 610-692-4642

Central

Schaumburg, IL
Tel: 847-882-3590

Carmel, IN
Tel: 317-706-6742

West

Milpitas, CA
Tel: 408-433-9950

Mexico

Zapopan, Jalisco
Tel: 52-33-3123-2141

Europe

Southern Europe

Geneva, Switzerland
Tel: 41-22-715-0100

Paris, France
Tel: 33-1-4646-1009

Sasso Marconi, Italy
Tel: 39-051-939111

Milan, Italy
Tel: 39-02-57518176

Rome, Italy
Tel: 39-06-23231718

Madrid, Spain
Tel: 34-91-804-4303

Central Europe

Landsberg, Germany
Tel: 49-8191-3350800

Dortmund, Germany
Tel: 49-2307-3619672

Kwidzyn, Poland
Tel: 48-55-279-7025

Northern Europe

Bishop's Stortford, United Kingdom
Tel: 44-1279-757201

Weymouth, United Kingdom
Tel: 44-1305-830747

Coatbridge, Scotland
Tel: 44-1236-434455

Färjestaden, Sweden
Tel: 46-485-563934

Espoo, Finland
Tel: 358-9-5406-5000

Asia

Northeast Asia

Hong Kong
Tel: 852-2305-1168

Shenzhen, China
Tel: 86-755-2518-1306

Beijing, China
Tel: 86-10-5829-1711

Shanghai, China
Tel: 86-21-6447-0707

Taipei, Taiwan
Tel: 886-2-27528585

Southeast Asia

Singapore
Tel: 65-6586-1900

Penang, Malaysia
Tel: 60-4-6430200

Bangalore, India
Tel: 91-806-53-76817

Note: KEMET reserves the right to modify minor details of internal and external construction at any time in the interest of product improvement. KEMET does not assume any responsibility for infringement that might result from the use of KEMET Capacitors in potential circuit designs. KEMET is a registered trademark of KEMET Electronics Corporation.

Other KEMET Resources

| Tools | |
|--------------------------------|---|
| Resource | Location |
| Configure A Part: CapEdge | http://capacitoredge.kemet.com |
| SPICE & FIT Software | http://www.kemet.com/spice |
| Search Our FAQs: KnowledgeEdge | http://www.kemet.com/keask |

| Product Information | |
|--|---|
| Resource | Location |
| Products | http://www.kemet.com/products |
| Technical Resources (Including Soldering Techniques) | http://www.kemet.com/technicalpapers |
| RoHS Statement | http://www.kemet.com/rohs |
| Quality Documents | http://www.kemet.com/qualitydocuments |

| Product Request | |
|-------------------------|---|
| Resource | Location |
| Sample Request | http://www.kemet.com/sample |
| Engineering Kit Request | http://www.kemet.com/kits |

| Contact | |
|--------------------|---|
| Resource | Location |
| Website | www.kemet.com |
| Contact Us | http://www.kemet.com/contact |
| Investor Relations | http://www.kemet.com/ir |
| Call Us | 1-877-MyKEMET |
| Twitter | http://twitter.com/kemetcapacitors |

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Although we design and manufacture our products to the most stringent quality and safety standards, given the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage.

Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated or that other measures may not be required.

