

# PMZ2074 Series Metallized Impregnated Paper, 275 VAC 2x X2 with One Common Terminal

## Overview

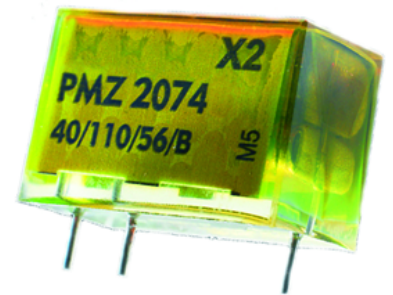
Multilayer metallized paper encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94 V-0.

## Applications

For worldwide use as an electromagnetic interference suppressor in all X2, across-the-line applications or other demanding applications where two capacitors are utilized in series.

## Benefits

- Approvals: ENEC
- Rated voltage: 275 VAC 50/60 Hz
- Capacitance: 0.15  $\mu\text{F}$  + 0.033  $\mu\text{F}$ , 0.15  $\mu\text{F}$  + 0.047  $\mu\text{F}$ , 0.15  $\mu\text{F}$  + 0.068  $\mu\text{F}$ , 0.22  $\mu\text{F}$  + 0.082  $\mu\text{F}$ , 0.22  $\mu\text{F}$  + 0.1  $\mu\text{F}$
- Lead spacing: 20.3 mm
- Capacitance tolerance:  $\pm 20\%$ ,  $\pm 10\%$
- Climatic category: 40/110/56/B, IEC 60068-1
- RoHS Compliant and lead-free terminations
- Operating temperature range of  $-40^{\circ}\text{C}$  to  $+110^{\circ}\text{C}$
- 100% screening factory test at 2,150 VDC
- Highest possible safety regarding active and passive flammability
- Excellent self-healing properties ensure long life even when subjected to frequent over-voltages
- Good resistance to ionization due to impregnated paper dielectric
- High dV/dt capability
- Impregnated paper ensures excellent stability and reliability properties, particularly in applications with continuous operation



## Legacy Part Number System

PMZ2074	M	C	615	M	533	M	R30
Series	Rated Voltage (VAC)	Lead Spacing (mm)	Capacitance Code (pF)	Capacitance Tolerance	Capacitance Code (pF)	Internal Use	Lead and Packaging Code
Double Capacitor X2, Metallized Paper	M = 275	C = 20.3	Digits 2-3 indicate the first three digits of the C1 capacitance value. First digit indicates the total number of digits in the capacitance value.	K = $\pm 10\%$ M = $\pm 20\%$	Digits 2-3 indicate the first three digits of the C2 capacitance value. First digit indicates the total number of digits in the capacitance value.	M (Standard)	See Ordering Options Table

## New KEMET Part Number System

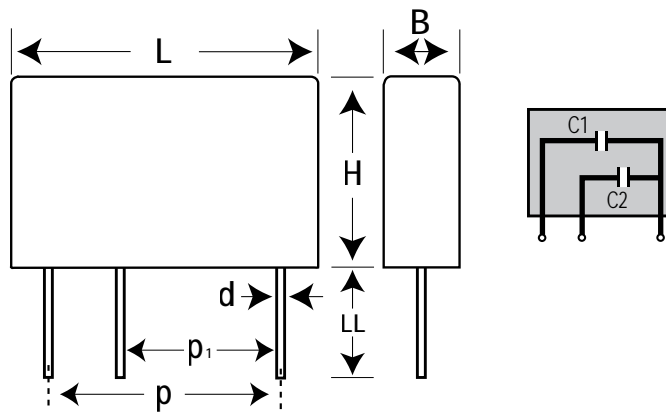
P	374	C	L	154	M	275	A	C333
Capacitor Class	Series	Lead Spacing (mm)	Size Code	X Capacitance Code (EIA pF)	Capacitance Tolerance	Rated Voltage (VAC)	Lead and Packaging Code	Y Capacitance Code
P = Paper	Double Capacitor X2, Metallized Paper	C = 20.3	See Dimension Table	First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeroes.	M = $\pm 20\%$	275 = 275	See Ordering Options Table	C + First two digits represent significant figures. Third digit specifies number of zeros.

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## Ordering Options Table

Lead Spacing Nominal (mm)	Type of Leads and Packaging	Lead Length (mm)	KEMET Lead and Packaging Code	Legacy Lead and Packaging Code
20.3	<b>Standard Lead and Packaging Options</b>			
	Bulk (Bag)–Short Leads	6 +0/-1	C	R06
	Bulk (Bag)–Max Length Leads	30 +5/-0	A	R30

## Dimensions – Millimeters



p		p <sub>1</sub>		B		H		L		d	
Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
20.3	+/-0.4	15.2	Nom	12.5	Max	16.0	Max	24.0	Max	0.8	+/-0.05
20.3	+/-0.4	15.2	Nom	14	Max	18	Max	24.0	Max	0.8	+/-0.05

**Note: See Ordering Options Table for lead length (LL) options.**


## Performance Characteristics

Rated Voltage	275 VAC 50/60 Hz	
Capacitance Range	0.15 $\mu$ F + 0.033 $\mu$ F, 0.15 $\mu$ F + 0.047 $\mu$ F, 0.15 $\mu$ F + 0.068 $\mu$ F, 0.22 $\mu$ F + 0.082 $\mu$ F, 0.22 $\mu$ F + 0.1 $\mu$ F	
Capacitance Tolerance	$\pm$ 20%, $\pm$ 10%	
Temperature Range	-40°C to +110°C	
Climatic Category	40/110/56/B	
Approvals	ENEC	
Dissipation Factor	Maximum Values at +23°C	
	1 kHz	1.3%
Test Voltage Between Terminals	The 100% screening factory test is carried out at 2,150 VDC. The voltage level is selected to meet the requirements in applicable equipment standards. All electrical characteristics are checked after the test. This test may not be repeated due to potential capacitor damage. KEMET is not liable in such case for any failures.	
Insulation Resistance	Between Terminals:	
	$\geq$ 12,000 M $\Omega$	
In DC Applications	Recommended voltage $\leq$ 630 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 98 m/s <sup>2</sup>
Bump	IEC 60068-2-29 Test Eb	4,000 bumps at 390 m/s <sup>2</sup>
Solderability	IEC 60068-2-20 Test Ta	Solder globule method Wetting time for d > 0.8 < 1.5 seconds
Active Flammability	IEC 60384-14	V <sub>R</sub> + 20 surge pulses at 2.5 kV (pulse every 5 seconds)
Passive Flammability	IEC 60384-14	IEC 60384-1, IEC 60695-11-5 Needle-flame test
Humidity	IEC 60068-2-3 Test Ca	+40°C and 90 – 95% RH, 56 days

## Approvals

Mark	Specification	File Number
	EN/IEC 60384-14	

## Environmental Compliance

All KEMET EMI capacitors are RoHS Compliant.



RoHS Compliant

## Table 1 – Ratings & Part Number Reference

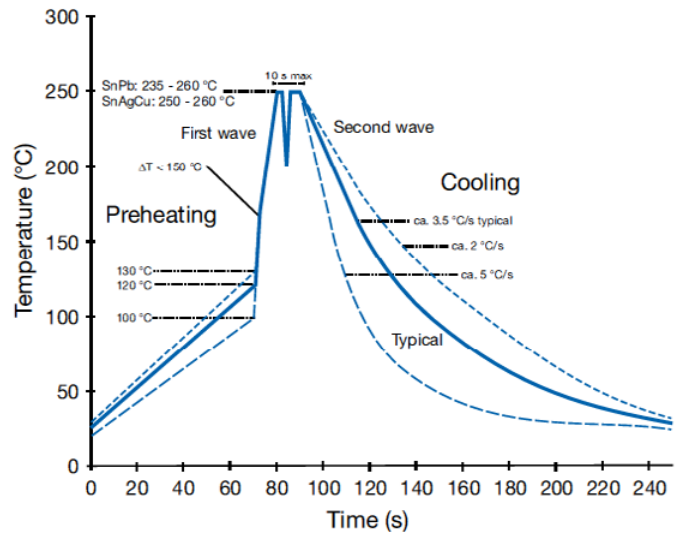
Cx ( $\mu$ F)	Cy ( $\mu$ F)	Max Dimensions in mm			Lead Spacing (p)	Package QTY		dV/dt Cx	dV/dt Cy	New KEMET Part Number	Legacy Part Number
		B	H	L		A (R30)	C (R06)				
0.15	0.033	12.5	16.0	24.0	20.3	150	900	600	1200	P374CL154(1)275(2)C333	PMZ2074MC615(1)533M(2)
0.15	0.047	12.5	16.0	24.0	20.3	150	900	600	1200	P374CL154(1)275(2)C473	PMZ2074MC615(1)547M(2)
0.15	0.068	12.5	16.0	24.0	20.3	150	900	600	1200	P374CL154(1)275(2)C683	PMZ2074MC615(1)568M(2)
0.22	0.082	14.0	18.0	24.0	20.3	100	900	600	1200	P374CR224(1)275(2)C823	PMZ2074MC622(1)582M(2)
0.22	0.10	14.0	18.0	24.0	20.3	100	900	600	1200	P374CR224(1)275(2)C104	PMZ2074MC622(1)610M(2)
Cx ( $\mu$ F)	Cy ( $\mu$ F)	B (mm)	H (mm)	L (mm)	Lead Spacing (p)	A (R30)	C (R06)	dV/dt Cx	dV/dt Cy	New KEMET Part Number	Legacy Part Number

(1) M =  $\pm 20\%$ , K =  $\pm 10\%$ .

(2) Insert lead and packaging code. See table for available options.

## Soldering Process

The implementation of the RoHS Directive has required the use of SnAuCu (SAC) or SnCu alloys as primary solder. These alloys require a higher liquidus temperature (217°C – 221°C) as compared to SnPb eutectic alloy (183°C). Due to the higher pre-heat and wave temperatures, the heat stress to components has increased considerably. Polypropylene capacitors are especially sensitive to soldering temperature due to the relatively low melting point of polypropylene material (160°C – 170°C). As a result, wave soldering can be destructive, especially to mechanically small polypropylene capacitors with lead spacings of 5 – 10 mm. For more information, please refer to KEMET's Recommended Soldering Profiles or contact a KEMET representative. IEC Publication 61760–1 Edition 2 may also be consulted for general guidelines.



## Marking

- KEMET's logo
- Series
- Capacitance
- Rated voltage
- Capacitor class
- Approval marks
- Manufacturing date code
- IEC climatic category
- Passive flammability class

## 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

Novi, MI  
Tel: 248-994-1030

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

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## Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	<a href="http://capacitoredge.kemet.com">http://capacitoredge.kemet.com</a>
SPICE & FIT Software	<a href="http://www.kemet.com/spice">http://www.kemet.com/spice</a>
Search Our FAQs: KnowledgeEdge	<a href="http://www.kemet.com/keask">http://www.kemet.com/keask</a>

Product Information	
Resource	Location
Products	<a href="http://www.kemet.com/products">http://www.kemet.com/products</a>
Technical Resources (Including Soldering Techniques)	<a href="http://www.kemet.com/technicalpapers">http://www.kemet.com/technicalpapers</a>
RoHS Statement	<a href="http://www.kemet.com/rohs">http://www.kemet.com/rohs</a>
Quality Documents	<a href="http://www.kemet.com/qualitydocuments">http://www.kemet.com/qualitydocuments</a>

Product Request	
Resource	Location
Sample Request	<a href="http://www.kemet.com/sample">http://www.kemet.com/sample</a>
Engineering Kit Request	<a href="http://www.kemet.com/kits">http://www.kemet.com/kits</a>

Contact	
Resource	Location
Website	<a href="http://www.kemet.com">www.kemet.com</a>
Contact Us	<a href="http://www.kemet.com/contact">http://www.kemet.com/contact</a>
Investor Relations	<a href="http://www.kemet.com/ir">http://www.kemet.com/ir</a>
Call Us	1-877-MyKEMET
Twitter	<a href="http://twitter.com/kemetcapacitors">http://twitter.com/kemetcapacitors</a>

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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.

