PZB300 Series Metallized Impregnated Paper, 275 VAC Delta Configuration X2 + 2x Y2

Overview

The PZB300 Series is constructed of multilayer metallized paper encapsulated and impregnated in self-extinguishing material meeting the requirements of UL 94 V–0.

Applications

Typical applications include interference suppressors with X2 + 2x Y2 capacitors in a delta configuration.

Benefits

- Approvals: ENEC, UL, CSA
- Rated voltage: 275 VAC 50/60 Hz
- Capacitance X Value: 0.1 µF and 0.15 µF
- Capacitance Y Value: 0.0022 µF, 0.0033 µF and 0.0047 µF
- Lead spacing: 20 mm
- Capacitance tolerance: ±20%
- Climatic category: 40/100/56/B, IEC 60068–1
- Tape and reel packaging in accordance with IEC 60286–2
- RoHS Compliant and lead-free terminations
- Operating temperature range of -40˚C to +100˚C

Legacy Part Number System

PZB300	M	C	11	R30
Series	Rated Voltage (VAC)	Lead Spacing (mm)	Capacitance Code (pF)	Lead and Packaging Code
Delta EMI, X2 + 2x Y2, Metallized Paper	M = 275	C = 20.0	The first digit indicates the value of the X capacitor: 1 = 0.10 µF 2 = 0.15 µF The second digit indicates the value of the Y capacitor: 1 = 0.0022 µF 2 = 0.0033 µF 3 = 0.0047 µF	See Ordering Options Table

New KEMET Part Number System

P	300	P	L	104	M	275	A	C222
Capacitor Class	Series	Lead Spacing (mm)	Size Code	X Capacitance Code (pF)	Capacitance Tolerance	Rated Voltage (VAC)	Lead and Packaging Code	Y Capacitance Code
P = Paper	Delta EMI, X2 + 2x Y2, Metallized Paper	P = 20	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 zeros.	M = ±20%	275 = 275	See Ordering Options Table	C + first two digits represent significant figures. Third digit specifies number of zeros.

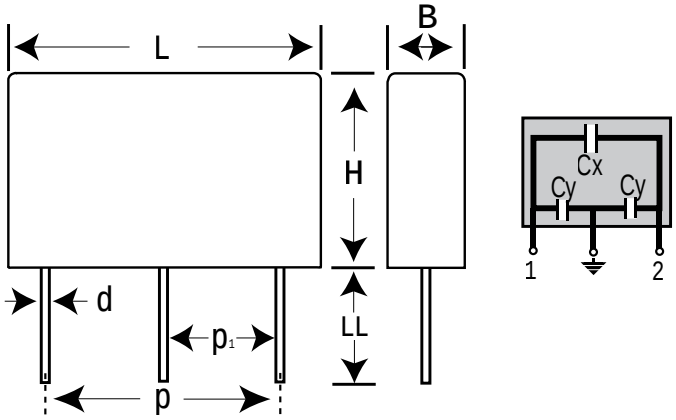
Ordering Options Table

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

Benefits cont'd

- 100% screening Factory Test at 2,150 VDC for X2 capacitors and 3,000 VDC for Y2 capacitors
- 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

Dimensions – Millimeters



p		p1		B		H		L		d	
Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance	Nominal	Tolerance
20.0	+/-0.5	10.0	Nominal	12.5	Maximum	16.0	Maximum	24.0	Maximum	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	0.1 µF and 0.15 µF	
Capacitance Tolerance	±20%	
Temperature Range	-40°C to +100°C	
Climatic Category	40/100/56/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 2,150 VDC for X2 capacitors and 3,000 VDC for Y2 capacitors. 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	Minimum Value Between Terminals	
	≥ 12,000 MΩ	

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^2 (PZB300 MCx mounted on PC board)
Bump	IEC 60068–2–29 Test Eb	4,000 bumps at 390 m/s^2
Solderability	IEC 60068–2–20 Test Ta	Solder globule method Wetting time < 1 second
Active Flammability	IEC 60384–14	V_R + 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	SE/0140–24D
	UL 1283	E100117
	CSA – C22.2 No. 8	E100117

Environmental Compliance

All KEMET EMI capacitors are RoHS Compliant.

RoHS Compliant

Table 1 – Ratings & Part Number Reference

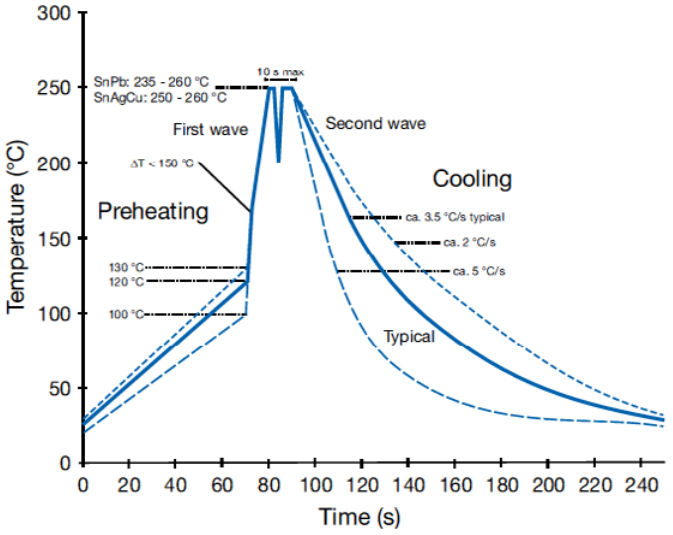
Cx (µF)	Cy (µF)	Maximum Dimensions in mm			Lead Spacing (p)	Package Quantity				New KEMET Part Number	Legacy Part Number
		B	H	L		A (R30)	C (R06)	dV/dt Cx	dV/dt Cy		
0.10	0.0022	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL104M275(1)C222	PZB300MC11(1)
0.10	0.0033	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL104M275(1)C332	PZB300MC12(1)
0.10	0.0047	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL104M275(1)C472	PZB300MC13(1)
0.15	0.0022	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL154M275(1)C222	PZB300MC21(1)
0.15	0.0033	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL154M275(1)C332	PZB300MC22(1)
0.15	0.0047	12.5	16.0	24.0	20.0	150	1000	600	1000	P300PL154M275(1)C472	PZB300MC23(1)
Cx (µF)	Cy (µF)	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) Insert lead and packaging code. See Ordering Options Table for available options.

Roll Over for Order Info.

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 (217ºC – 221ºC) as compared to SnPb eutectic alloy (183ºC). 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 (160ºC – 170ºC). 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
- Circuit diagram

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Tel: 886-2-27528585

Southeast Asia
Singapore
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Penang, Malaysia
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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
Electrolytic LifeCalculator	http://www.kemet.com:8080/elc

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

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Twitter	http://twitter.com/kemetcapacitors

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

Digitally signed by Jeannette Calvo
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