



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS
for Automotive Applications



Multilayer Ceramic Dipped Axial and Radial
Capacitors for Automotive Applications



Capacitors - AEC-Q200 Approved

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One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components





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Applications



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Powertrain

- Engine Control Unit
- Common Rail Diesel Electrical Control
- Turbo Charger Control Unit
- Piezoelectric-Injection Driver
- Engine Sensors
- Electrical Fan Control
- Electrical Water Pump
- Ignition Electrical Drive
- Board Load-Control Unit
- Integrated Starter Generator
- Boardnet Management

Lighting Systems

- Headlight Leveling Control and Advanced Front Lighting Cleaning System
- Sensors for Night Vision Systems and Fog Detection
- LED Lighting
- Ambient Lighting
- HID Electrical

Chassis

- Active Safety
- Sensors
- EAGA, Electrical Catalytic Converter, Diesel Particle Filter
- Electrical Transmission
- Electric Park Brake
- Active Suspension
- Electrical Power Steering
- Electrical Hydraulic Power Steering
- Tire Pressure Monitoring

Body and Comfort

- Sensors
- Climate Control
- Seat Adjust and Memory
- Immobilizer and Security Systems
- Dashboard and Interior Illumination
- HVAC—Heating, Ventilating, Air Conditioning
- Multimedia Systems
- Passive Safety
- Reversible Wiper Drives
- Keyless or Passive Entry
- Door / Window / Sunroof Control

Driver Information

- Driver Information System
- GPS Car Navigation and Audio System
- SDARS / Antenna / Amplifier System
- Bluetooth Communication
- Lidar Sensor



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General Information

For more than 20 years, Vishay Vitramon has supported the automotive industry with robust, highly reliable MLCCs that have made it a leader in this segment. All Vishay Vitramon MLCCs are manufactured in precious metal technology (PMT/NME) with a wet build process. They are qualified according to AEC-Q200 with PPAP available on request.

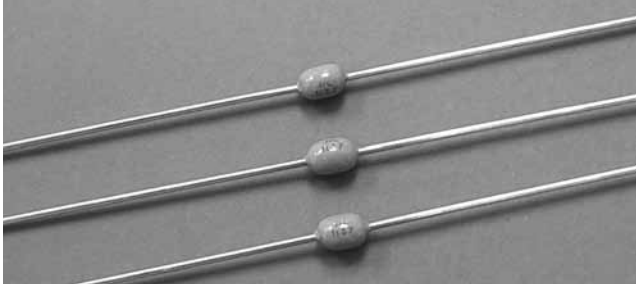
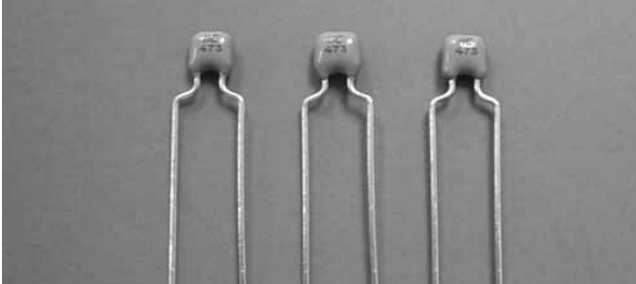
These chips are used in the automotive-grade Mono-Axial and Mono-Kap series from Vishay BCcomponents. They feature coppery steel wire lead terminations with a 100 % tin plate matte finish. Their epoxy coating provides mechanical strength for assembly extended-life environmental protection.



RoHS COMPLIANT



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General Specifications	
C0G (NP0) Dielectric	X7R, X8R Dielectric
<p>Note: Electrical characteristics at + 25 °C unless otherwise specified</p> <p>Operating Temperature: – 55 °C to + 160 °C (above +150 °C, 50 % rated voltage)</p> <p>Capacitance Range: 100 pF to 10 nF</p> <p>Temperature Coefficient of Capacitance (TCC): ± 30 ppm/°C from – 55 °C to + 125 °C</p> <p>Dissipation Factor (DF): 0.1 % maximum at 1.0 Vrms and 1 kHz for values > 1000 pF and 1 MHz for values ≤ 1000 pF</p> <p>Voltage Range: 50 Vdc, 100 Vdc, and 200 Vdc</p> <p>Insulating Resistance: At + 25 °C 100 000 MΩ min. or 1000 ΩF whichever is less At + 125 °C 10 000 MΩ min. or 100 ΩF whichever is less Test condition: rated voltage within 2 minutes of charging</p> <p>Aging: 0 % maximum per decade</p> <p>Dielectric Withstanding Voltage (DWV): This is the maximum voltage the capacitors are tested for a 1-s to 5-s period and the charge/discharge current does not exceed 50 mA DWV: 50 V to 100 V, at 250 % of rated voltage 200 V, at 200 % of rated voltage</p>	<p>Note: Electrical characteristics at +25 °C unless otherwise specified</p> <p>Operating Temperature: – 55 °C to + 160 °C (above +150 °C, 50 % rated voltage)</p> <p>Capacitance Range: 470 pF to 1.0 μF</p> <p>Temperature Coefficient of Capacitance (TCC): X7R: ± 15 % from – 55 °C to + 125 °C, with 0 Vdc applied + 15 %/– 30 % from – 55 °C to + 150 °C, with 0 Vdc applied X8R: ± 15 % from – 55 °C to + 150 °C, with 0 Vdc applied</p> <p>Dissipation Factor (DF): 2.5 % maximum at 1.0 Vrms and 1 kHz</p> <p>Voltage Range: 50 Vdc, 100 Vdc, and 200 Vdc</p> <p>Insulating Resistance: At + 25 °C 100 000 MΩ min. or 1000 ΩF whichever is less At + 125 °C 10 000 MΩ min. or 100 ΩF whichever is less</p> <p>Aging Rate: Typical 1 % maximum per decade</p> <p>Dielectric Withstanding Voltage (DWV): This is the maximum voltage the capacitors are tested for a 1-s to 5-s period and the charge/discharge current does not exceed 50 mA DWV: 50 V to 100 V, at 250 % of rated voltage 200 V, at 200 % of rated voltage</p>



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS for Automotive Applications



Ordering Information

Mono-Axial

A	103	K	15	X7R	F	5	TAA	V
Product Type	Capacitance Code	Cap. Tolerance	Size Code	Temp. Char.	Rated Voltage	Lead Dia.	Packaging	Automotive Application
A = Mono-Axial	Two significant digits followed by the number of zeros. Example: 103 = 10 000 pF	J = ± 5 % K = ± 10 % M = ± 20 %	Ref. mechanical spec.	C0G X7R X8R	F = 50 V H = 100 V K = 200 V	5 = 0.5 mm (0.20")	TAA = T&R UAA = AMMO	AEC Q200 Qualified for Automotive Grade Product

Ordering Example: A-103-K-15-X7R-F-5-TAA-V

Mono-Kap

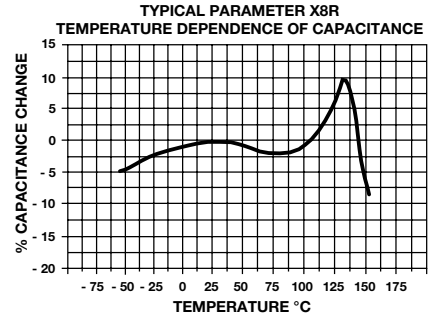
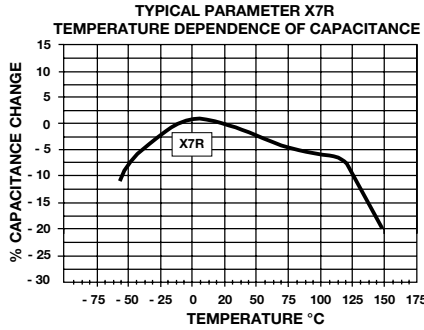
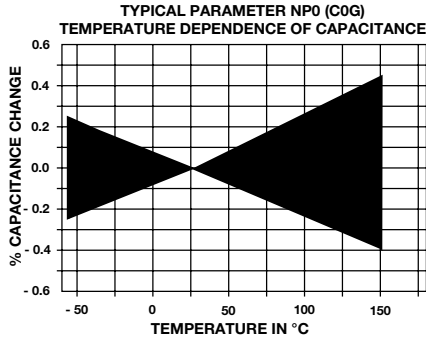
K	102	K	15	X7R	F	5	3	H	5	V
Product Type	Capacitance Code	Cap. Tolerance	Size Code	Temp. Char.	Rated Voltage	Lead Dia.	Packaging	Lead Style	Lead Spacing	Automotive Application
A = Mono-Kap	Two significant digits followed by the number of zeros. Example: 102 = 1000 pF	J = ± 5 % K = ± 10 % M = ± 20 %	Ref. mechanical spec.	C0G X7R X8R	F = 50 V H = 100 V K = 200 V	5 = 0.5 mm (0.20")	3 = BULK, with lead length of 30 ± 5.0 mm (1.25") T = Tape and reel U = AMMO	L = Straight lead H = Hight seated assy	2 = 2.5 mm (0.1") 5 = 5.0 mm (0.2")	AEC Q200 Qualified for Automotive Grade Product

Ordering Example: K-473-K-15-X7R-F-5-3-H-5-V

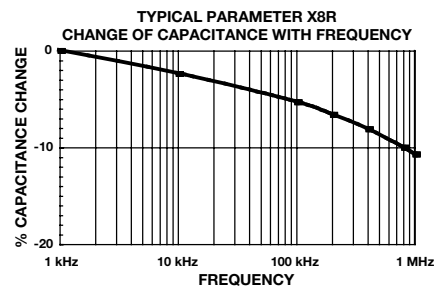
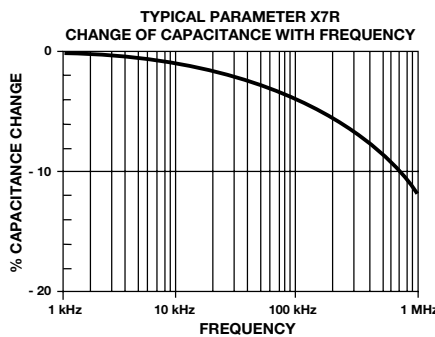
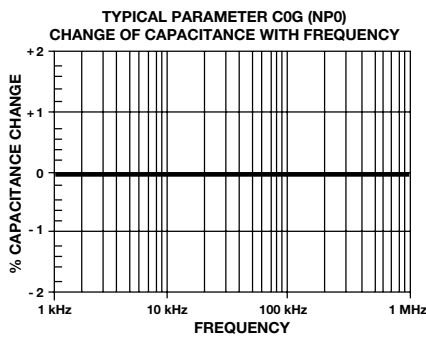
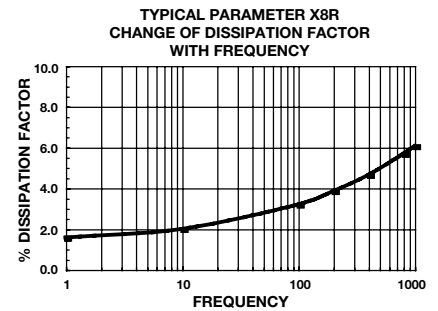
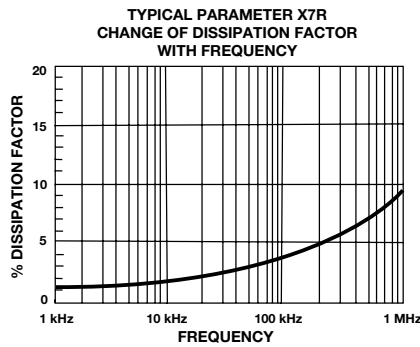
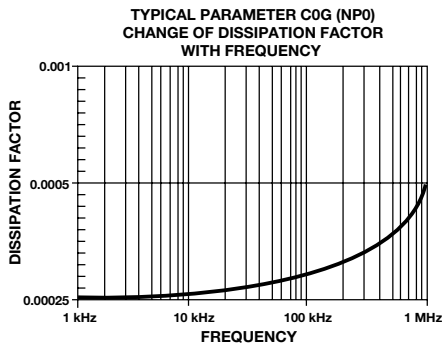
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Electrical Data and Dielectric Characteristics



Remark: NP0 and X7R are defined temperature up to + 125 °C



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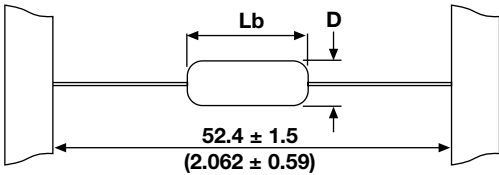


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Dimensions Data

Mono-Axial

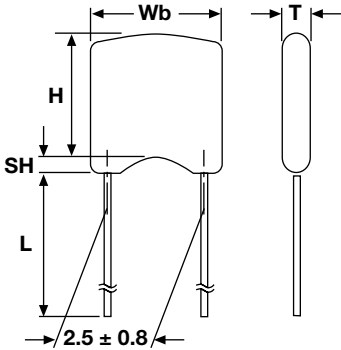


Capacitor Dimensions and Weight				
Size Code	Lb _{max} ⁽¹⁾	ØD _{max} ⁽¹⁾	Lead diameter (mm)	Weight (g)
15	0.15 (3.8)	0.10 (2.5)	0.5 ± 0.05	≈ 0.14
20	0.20 (5.0)	0.12 (3.0)	0.5 ± 0.05	≈ 0.15

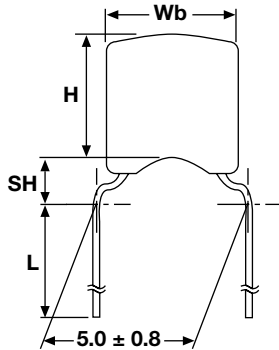
Note: 1. Dimensions between parentheses are in millimeters.
2. If inserted with 1210 chip, then Ød_{max} is 4.5 mm (0.18").

Mono-Kap

L2
Component outline for
Lead spacing 2.5 ± 0.8 mm
(straight leads)

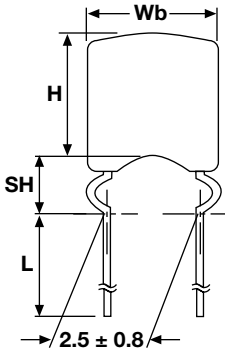


H5
Component outline for
Lead spacing 5.0 ± 0.8 mm
(flat bent leads)

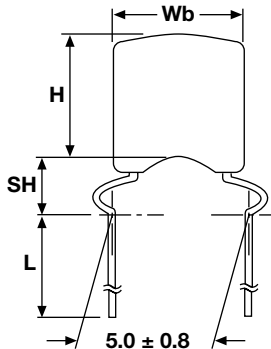


L2 and H5 are preferred styles

K2
Component outline for
Lead spacing 2.5 ± 0.8 mm
(outside kink)



K5
Component outline for
Lead spacing 2.5 ± 0.8 mm
(outside kink)



CAPACITOR DIMENSIONS (Unit: mm)

SIZE CODE	Wb	H	T	Lead Diameter	MAX. SEATING HEIGHT (SH)			
					L2	H5	K2	K5
15	3.0-3.8	2.0-3.8	1.6-2.6	0.5±0.05	1.6	2.6	3.5	3.5
20	4.3-5.1	2.5-5.1	1.9-3.2	0.5±0.05	1.6	2.6	3.5	3.5

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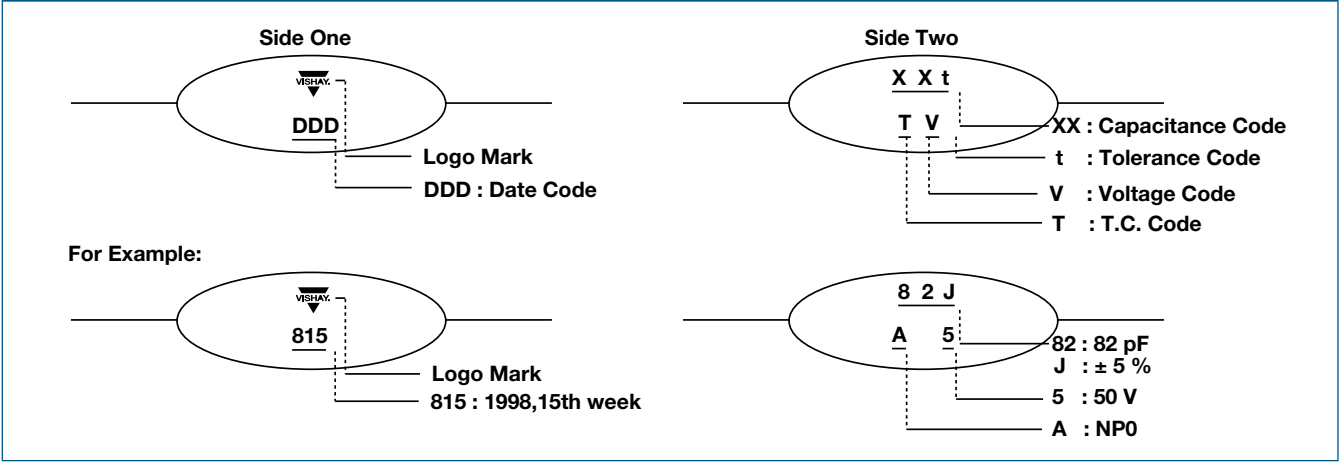
Marking

Mono-Axial Marking Code Description

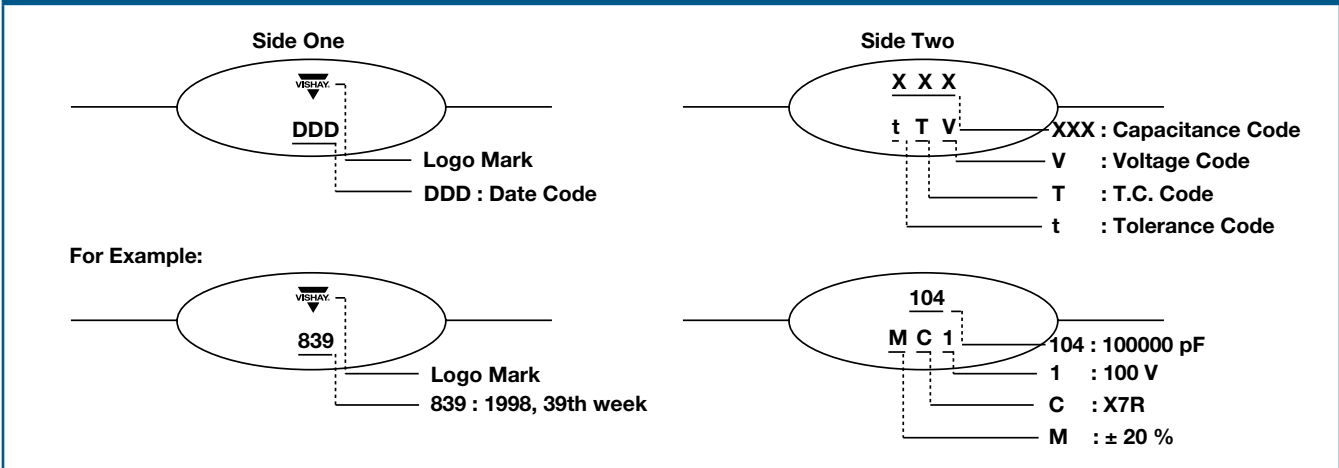
DDD Date Code	XXX Capacitance Code	t Tolerance Code	V Voltage Code	T T.C. Code
The first digit is the year, the last two digits are the week Examples: 309 = 2003, 9th week 317 = 2003, 17th week	Two significant digits followed by one digit for the multiplier as given below. 0=x 1 2=x 100 4=x 10 000 1=x 10 3=x 1000 5=x 100 000	J = ± 5 % K = ± 10 % M = ± 20 %	1 = 100 V 2 = 200 V 5 = 50 V	A = C0G(NP0) C = X7R R = X8R

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Capacitance Value < 100 pF



Capacitance Value ≥ 100 pF



Note: VISHAY or BCcomponents logo can be marked on the products body.



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Marking

Mono-Kap

Size 15 Capacitance Value < 100 pF

Vishay logo or BC logo

t : Tolerance code

XX : Capacitance code

For example

Vishay logo or BC logo

J : ± 5 %

82 : 82 pF

Size 15 Capacitance Value ≥ 100 pF

Vishay logo or BC logo

XXX : Capacitance code

For example

Vishay logo or BC logo

102 : 1000 pF

Size 20 Capacitance Value ≥ 100 pF

Vishay logo or BC logo

t : Tolerance code

XXX : Capacitance code

For example

Vishay logo or BC logo

M : ± 20 %

104 : 100000 pF



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Packaging

Mono-Axial

Reel Data

- A maximum of 0.5 % of the total number of capacitors per reel may be missing.
- A maximum of 1 consecutive vacant positions is followed by 6 consecutive components.
- Tape begins and ends with a minimum of 4 empty positions (50 mm tape).
- Maximum of 5 splicers per reel.

Ammopack Data

- A maximum of 0.5 % of the total number of capacitors per reel may be missing.
- A maximum of 1 consecutive vacant positions is followed by 6 consecutive components.
- Tape begins and ends with a minimum of 4 empty positions (180 mm tape).
- Maximum of 5 splicers per reel.
- The cumulative pitch tolerance over 20 consecutive units is not to exceed ± 1.0 mm.
- Lead space (F) shall be measured at (3.6 ± 0.5) mm from the capacitor seating plane.

Labelling

- Each reel is provided with a label showing the following details:
- Manufacturer, A style, capacitance, tolerance, batch number, quantity of components, rated voltage, dielectric.
- On special request other designations can be shown.
- See example.

Reel and Reel Dimensions

REEL SIZE		(mm)
A	Outer Dia.	355.6 Max
L	Hole Dia.	28 ± 1.5
K	Core Dia.	90
H ₁	Internal Width	69.9 ± 1.5

Ammopack

Labelling Example

>>



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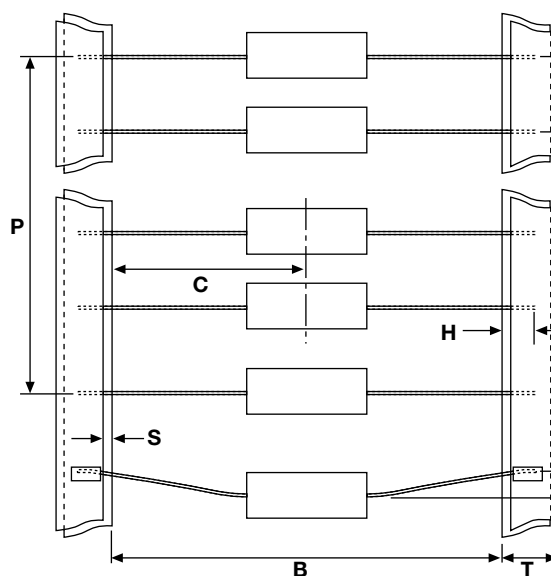
Packaging

Mono-Axial (continued)

Packaging Quantities and Box Dimensions

Packaging	Size Code	Smallest Packaging Quantity (SPQ)	Box Dimensions L x W x H (mm)
Tape on reel	15; 20	7000	370 x 370 x 90
Ammopack	15; 20	4000	265 x 85 x 95

Capacitors on Bandolier



Symbol	Parameter	Dimensions	
		mm	inch
B ⁽¹⁾	Inside tape spacing	52.4 ± 1.5	2.062 ± 0.059
C	Centre to tape spacing	± 0.8	± 0.031
P	Cumulative pitch, 6 consecutive components	± 1.5	± 0.059
A	Components pitch	5 ± 0.5	0.197 ± 0.015
M	Lead bend	< 1.2	< 0.047
S	Exposed adhesive	< 0.51	> 0.020
T	Tape width	6.35	0.25
H	Lead sandwich	> 3.96	> 0.156

Note:

1. Inside tape spacing 26.0 + 1.51/- 0.0 is available on request

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Packaging

Mono-Kap

Reel Data

- A maximum of 0.5 % of the total number of capacitors per reel may be missing.
- A maximum of 1 consecutive vacant positions is followed by 6 consecutive components.
- Tape begins and ends with a minimum of 4 empty positions (50 mm tape).
- Maximum of 5 splicers per reel.

Ammopack Data

- A maximum of 0.5 % of the total number of capacitors per reel may be missing.
- A maximum of 1 consecutive vacant positions is followed by 6 consecutive components.
- Tape begins and ends with a minimum of 4 empty positions (50 mm tape).
- Maximum of 5 splicers per reel.
- The cumulative pitch tolerance over 20 consecutive units is not to exceed ± 1.0 mm.
- Lead space (F) shall be measured at (3.6 ± 0.5) mm from the capacitor seating plane.

Labelling

- Each reel is provided with a label showing the following details:
- Manufacturer, K style, capacitance, tolerance, batch number, quantity of components, rated voltage, dielectric.
- On special request other designations can be shown.
- See example.

Labelling Example



Reel and Reel Dimensions

REEL SIZE		(mm)
A	Outer Dia.	355.6 Max
L	Hole Dia.	28 ± 1.5
K	Core Dia.	90
H ₁	Internal Width	48 + 0/- 2
H ₂	External Width	55 Max

Ammopack

Packaging Quantities and Box Dimensions

Packaging	Size Code	Smallest Packaging Quantity (SPQ)	Box Dimensions L x W x H (mm)
Tape on reel	15	4000	370 x 370 x 60
	20	3000	
Ammopack	15; 20	2500	335 x 290 x 50
Bulk (Note 1)	15; 20	5000	245 x 120 x 65

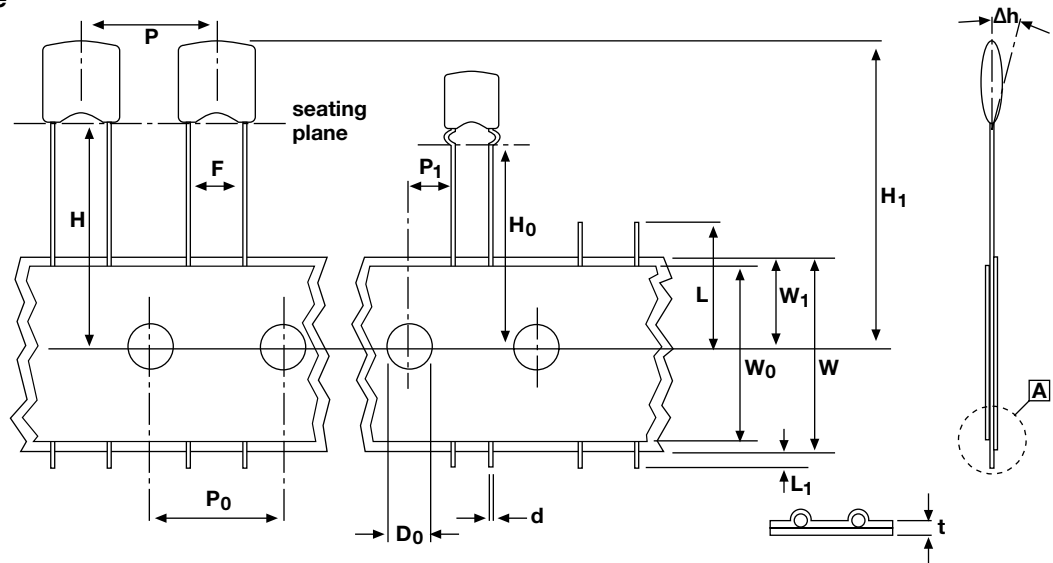
Note:
1. SPQ contains one or a multiple of poly-bags, 1000 units per bag.



Packaging

Mono-Kap (continued)

Capacitors on Tape



Symbol	Parameter	Dimensions	
		mm	inch
L	Cut of length	≤ 11	≤ 0.443
L ₁	Lead end protrusion	≤ 1	≤ 0.039
H	Height to seating plane (straight leads)	≥ 18	≥ 0.709
H ₀	Height to seating plane (crimp leads)	16.0 ± 0.5	0.630 ± 0.020
H ₁	Top of Component height	≤ 32	≤ 1.26
Δh	Body inclination	0.0 ± 1.0	0 ± 0.039
W	Carrier tape width	18.0 + 1.0/- 0.5	0.709 + 0.039/- 0.02
W ₀	Hold down tape width	15.0 ref. (Note 2)	0.591 ref. (Note 2)
W ₁	Sprocket hole position	9 + 0.075/- 0.5	0.354 + 0.03/- 0.02
F	1e lead space (Note 3)	2.5 + 0.60/- 0.40	0.10 + 0.024/- 0.016
	2e lead space (Note 3)	5.0 + 0.60/- 0.40	0.20 + 0.024/- 0.016
P ₀	Sprocket hole pitch	12.7 ± 0.3	0.50 ± 0.012
P ₁	1e sprocket hole centre to lead centre	5.08 ± 0.7	0.20 ± 0.028
	2e sprocket hole centre to lead centre	3.85 ± 0.7	0.015 ± 0.028
D ₀	Sprocket hole diameter	4.0 ± 0.30	0.157 ± 0.012
t	Overall tape thickness	≤ 0.9	≤ 0.035
d	Wire lead diameter	0.50 ± 0.05	0.02 ± 0.002
P	Taping pitch	12.7 ref.	0.50 ref.

Note:

2. Tape width of 6 mm (0.236 inch) permissible.

3. e = 2.54 mm.



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Product Range

Mono-Axial C0G Dielectric

C	Tol. (%)	Lb Max (mm)	ØD Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾		
50 Vdc						
100 pF	5	3.81	2.54	A101J15C0GF□□□□V		
150 pF				A151J15C0GF□□□□V		
220 pF				A221J15C0GF□□□□V		
330 pF				A331J15C0GF□□□□V		
470 pF				A471J15C0GF□□□□V		
680 pF				A681J15C0GF□□□□V		
1000 pF				A102J15C0GF□□□□V		
1500 pF				A152J15C0GF□□□□V		
2200 pF				A222J15C0GF□□□□V		
3300 pF				A332J15C0GF□□□□V		
3900 pF				A392J15C0GF□□□□V		
4700 pF	5	5.08	3.05	A472J20C0GF□□□□V		
6800 pF				A682J20C0GF□□□□V		
0.01 µF				A103J20C0GF□□□□V		
100 Vdc						
100 pF	5	3.81	3.81	A101J15C0GH□□□□V		
150 pF				A151J15C0GH□□□□V		
220 pF				A221J15C0GH□□□□V		
330 pF				A331J15C0GH□□□□V		
470 pF				A471J15C0GH□□□□V		
680 pF				A681J15C0GH□□□□V		
1000 pF				A102J15C0GH□□□□V		
1500 pF		A152J15C0GH□□□□V				
1800 pF		A182J15C0GH□□□□V				
2200 pF		5.08	3.05	A222J20C0GH□□□□V		
3300 pF				A332J20C0GH□□□□V		
4700 pF				A472J20C0GH□□□□V		
6800 pF				A682J20C0GH□□□□V		
0.01 µF				A103J20C0GH□□□□V		
200 Vdc						
100 pF	5			3.81	2.54	A101J15C0GK□□□□V
150 pF		A151J15C0GK□□□□V				
220 pF		A221J15C0GK□□□□V				
330 pF		A331J15C0GK□□□□V				
470 pF		A471J15C0GK□□□□V				
680 pF		A681J15C0GK□□□□V				
1000 pF		A102J15C0GK□□□□V				

Note:

1.The four blank digits are filled with lead configuration and packaging, and please refer to ordering information

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Product Range
Mono-Axial X7R Dielectric

C	Tol. (%)	Lb Max (mm)	ØD Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
50 Vdc				
470 pF	10	3.81	2.54	A471K15X7RF□□□□V
680 pF				A681K15X7RF□□□□V
1000 pF				A102K15X7RF□□□□V
1500 pF				A152K15X7RF□□□□V
2200 pF				A222K15X7RF□□□□V
3300 pF				A332K15X7RF□□□□V
4700 pF				A472K15X7RF□□□□V
6800 pF				A682K15X7RF□□□□V
0.010 µF				A103K15X7RF□□□□V
0.015 µF				A153K15X7RF□□□□V
0.022 µF				A223K15X7RF□□□□V
0.033 µF				A333K15X7RF□□□□V
0.047 µF				A473K15X7RF□□□□V
0.068 µF				A683K15X7RF□□□□V
0.10 µF				A104K15X7RF□□□□V
0.15 µF				A154K15X7RF□□□□V
0.22 µF	10	5.08	3.05	A224K20X7RF□□□□V
0.33 µF				A334K20X7RF□□□□V
0.47 µF				A474K20X7RF□□□□V
0.68 µF		5.08	4.5 ⁽²⁾	A684K20X7RF□□□□V
1.0 µF		A105K20X7RF□□□□V		
100 Vdc				
470 pF	10	3.81	3.81	A471K15X7RH□□□□V
680 pF				A681K15X7RH□□□□V
1000 pF				A102K15X7RH□□□□V
1500 pF				A152K15X7RH□□□□V
2200 pF				A222K15X7RH□□□□V
3300 pF				A332K15X7RH□□□□V
4700 pF				A472K15X7RH□□□□V
6800 pF				A682K15X7RH□□□□V
0.010 µF				A103K15X7RH□□□□V
0.015 µF				A153K15X7RH□□□□V
0.022 µF				A223K15X7RH□□□□V
0.033 µF				A333K15X7RH□□□□V
0.047 µF				A473K15X7RH□□□□V
0.068 µF				A683K15X7RH□□□□V
0.10 µF				A104K15X7RH□□□□V

Note:

- The four blank digits are filled with lead configuration and packaging, and please refer to ordering information
- Inserted with 1210 chip





MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS

for Automotive Applications



Product Range

Mono-Axial X7R Dielectric

(continued)

C	Tol. (%)	Lb Max (mm)	ØD Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
100 Vdc (continued)				
0.15 µF	10	5.08	3.05	A154K20X7RH□□□□V
0.22 µF				A224K20X7RH□□□□V
0.33 µF		5.08	4.5 ⁽²⁾	A334K20X7RH□□□□V
0.47 µF				A474K20X7RH□□□□V
200 Vdc				
330 pF	10	3.81	3.81	A331K15X7RK□□□□V
470 pF				A471K15X7RK□□□□V
680 pF				A681K15X7RK□□□□V
1000 pF				A102K15X7RK□□□□V
1500 pF				A152K15X7RK□□□□V
2200 pF				A222K15X7RK□□□□V
3300 pF				A332K15X7RK□□□□V
4700 pF				A472K15X7RK□□□□V
6800 pF				A682K15X7RK□□□□V
0.010 µF				A103K15X7RK□□□□V
0.015 µF		A153K15X7RK□□□□V		
0.022 µF		A223K15X7RK□□□□V		
0.033 µF		5.08	3.05	A333K20X7RK□□□□V
0.047 µF				A473K20X7RK□□□□V
0.068 µF				A683K20X7RK□□□□V
0.10 µF				A683K20X7RK□□□□V

Note:

1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information
2. Inserted with 1210 chip

Capacitors - AEC-Q200 Approved



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS
for Automotive Applications



Product Range

Mono-Axial X8R Dielectric

C	Tol. (%)	Lb Max (mm)	ØD Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
50 Vdc				
470 pF	10	3.81	2.54	A471K15X8RF□□□□V
680 pF				A681K15X8RF□□□□V
1000 pF				A102K15X8RF□□□□V
1500 pF				A152K15X8RF□□□□V
2200 pF				A152K15X8RF□□□□V
3300 pF				A332K15X8RF□□□□V
4700 pF				A472K15X8RF□□□□V
6800 pF				A682K15X8RF□□□□V
0.010 µF				A103K15X8RF□□□□V
0.015 µF				A153K15X8RF□□□□V
0.022 µF				A223K15X8RF□□□□V
0.033 µF		A333K15X8RF□□□□V		
0.047 µF		A473K15X8RF□□□□V		
0.056 µF		A563K15X8RF□□□□V		
0.068 µF		5.08	3.05	A683K20X8RF□□□□V
0.10 µF				A104K20X8RF□□□□V
0.15 µF		5.08	4.5 ⁽²⁾	A154K20X8RF□□□□V
0.22 µF				A224K20X8RF□□□□V
0.33 µF				A334K20X8RF□□□□V

- Note:
1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information
 2. Inserted with 1210 chip

Capacitors - AEC-Q200 Approved



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS

for Automotive Applications



Product Range

Mono-Kap C0G Dielectric

C	Tol. (%)	W _b Max (mm)	H Max (mm)	T Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾	
50 Vdc						
100 pF	5	3.81	3.81	2.54	K101J15C0GF□□□□V	
150 pF					K151J15C0GF□□□□V	
220 pF					K221J15C0GF□□□□V	
330 pF					K331J15C0GF□□□□V	
470 pF					K471J15C0GF□□□□V	
680 pF					K681J15C0GF□□□□V	
1000 pF					K102J15C0GF□□□□V	
1500 pF					K152J15C0GF□□□□V	
2200 pF					K222J15C0GF□□□□V	
3300 pF					K332J15C0GF□□□□V	
3900 pF					K392J15C0GF□□□□V	
4700 pF	5	5.08	5.08	3.18	K472J20C0GF□□□□V	
6800 pF					K682J20C0GF□□□□V	
0.01 μF					K103J20C0GF□□□□V	
100 Vdc						
100 pF	5	3.81	3.81	2.54	K101J15C0GH□□□□V	
150 pF					K151J15C0GH□□□□V	
220 pF					K221J15C0GH□□□□V	
330 pF					K331J15C0GH□□□□V	
470 pF					K471J15C0GH□□□□V	
680 pF					K681J15C0GH□□□□V	
1000 pF					K102J15C0GH□□□□V	
1500 pF		K152J15C0GH□□□□V				
1800 pF		K182J15C0GH□□□□V				
2200 pF		5.08	5.08	5.08	3.18	K222J20C0GH□□□□V
3300 pF						K332J20C0GH□□□□V
4700 pF						K472J20C0GH□□□□V
6800 pF						K682J20C0GH□□□□V
0.01 μF						K103J20C0GH□□□□V
200 Vdc						
100 pF	5	3.81	3.81	2.54	K101J15C0GK□□□□V	
150 pF					K151J15C0GK□□□□V	
220 pF					K221J15C0GK□□□□V	
330 pF					K331J15C0GK□□□□V	
470 pF					K471J15C0GK□□□□V	
680 pF					K681J15C0GK□□□□V	
1000 pF					K102J15C0GK□□□□V	

Note: 1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information

Capacitors - AEC-Q200 Approved



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS

for Automotive Applications



Product Range

Mono-Kap X7R Dielectric

C	Tol. (%)	W _b Max (mm)	H Max (mm)	T Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
50 Vdc					
470 pF	10	3.81	3.81	2.54	K471K15X7RF□□□□V
680 pF					K681K15X7RF□□□□V
1000 pF					K102K15X7RF□□□□V
1500 pF					K152K15X7RF□□□□V
2200 pF					K222K15X7RF□□□□V
3300 pF					K332K15X7RF□□□□V
4700 pF					K472K15X7RF□□□□V
6800 pF					K682K15X7RF□□□□V
0.010 μF					K103K15X7RF□□□□V
0.015 μF					K153K15X7RF□□□□V
0.022 μF					K223K15X7RF□□□□V
0.033 μF					K333K15X7RF□□□□V
0.047 μF					K473K15X7RF□□□□V
0.068 μF					K683K15X7RF□□□□V
0.10 μF					K104K15X7RF□□□□V
0.15 μF					K154K15X7RF□□□□V
0.22 μF	10	5.08	5.08	3.18	K224K20X7RF□□□□V
0.33 μF					K334K20X7RF□□□□V
0.47 μF					K474K20X7RF□□□□V
0.68 μF					K684K20X7RF□□□□V
1.0 μF					K105K20X7RF□□□□V
100 Vdc					
470 pF	10	3.81	3.81	2.54	K471K15X7RH□□□□V
680 pF					K681K15X7RH□□□□V
1000 pF					K102K15X7RH□□□□V
1500 pF					K152K15X7RH□□□□V
2200 pF					K222K15X7RH□□□□V
3300 pF					K332K15X7RH□□□□V
4700 pF					K472K15X7RH□□□□V
6800 pF					K682K15X7RH□□□□V
0.010 μF					K103K15X7RH□□□□V
0.015 μF					K153K15X7RH□□□□V
0.022 μF					K223K15X7RH□□□□V
0.033 μF					K333K15X7RH□□□□V
0.047 μF					K473K15X7RH□□□□V
0.068 μF					K683K15X7RH□□□□V
0.10 μF					K104K15X7RH□□□□V

Note:

1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information



Capacitors - AEC-Q200 Approved


MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS
for Automotive Applications

Product Range
Mono-Kap X7R Dielectric
(continued)

C	Tol. (%)	W _b Max (mm)	H Max (mm)	T Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
100 Vdc (continued)					
0.15 μF	10	5.08	5.08	3.18	K154K20X7RH□□□□V
0.22 μF					K224K20X7RH□□□□V
0.33 μF					K334K20X7RH□□□□V
0.47 μF					K474K20X7RH□□□□V
200 Vdc					
330 pF	10	3.81	3.81	2.54	K331K15X7RK□□□□V
470 pF					K471K15X7RK□□□□V
680 pF					K681K15X7RK□□□□V
1000 pF					K102K15X7RK□□□□V
1500 pF					K152K15X7RK□□□□V
2200 pF					K222K15X7RK□□□□V
3300 pF					K332K15X7RK□□□□V
4700 pF					K472K15X7RK□□□□V
6800 pF					K682K15X7RK□□□□V
0.010 μF					K103K15X7RK□□□□V
0.015 μF		K153K15X7RK□□□□V			
0.022 μF		K223K15X7RK□□□□V			
0.033 μF		5.08	5.08	3.18	K333K20X7RK□□□□V
0.047 μF					K473K20X7RK□□□□V
0.068 μF	K683K20X7RK□□□□V				
0.10 μF	K104K20X7RK□□□□V				

Note:

1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information

Capacitors - AEC-Q200 Approved



MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS
for Automotive Applications



Product Range

Mono-Axial X8R Dielectric

C	Tol. (%)	W _b Max (mm)	H Max (mm)	T Max (mm)	Clear Text Code without Lead configuration and Packaging ⁽¹⁾
50 Vdc					
470 pF	10	3.81	3.81	2.54	K471K15X8RF□□□□V
680 pF					K681K15X8RF□□□□V
1000 pF					K102K15X8RF□□□□V
1500 pF					K152K15X8RF□□□□V
2200 pF					K222K15X8RF□□□□V
3300 pF					K332K15X8RF□□□□V
4700 pF					K472K15X8RF□□□□V
6800 pF					K682K15X8RF□□□□V
0.010 μF					K103K15X8RF□□□□V
0.015 μF					K153K15X8RF□□□□V
0.022 μF					K223K15X8RF□□□□V
0.033 μF					K333K15X8RF□□□□V
0.047 μF					K473K15X8RF□□□□V
0.056 μF					K563K15X8RF□□□□V
0.068 μF	10	5.08	5.08	3.18	K683K20X8RF□□□□V
0.10 μF					K104K20X8RF□□□□V
0.15 μF					K154K20X8RF□□□□V
0.22 μF					K224K20X8RF□□□□V
0.33 μF					K334K20X8RF□□□□V

Note:
1. The four blank digits are filled with lead configuration and packaging, and please refer to ordering information

Capacitors - AEC-Q200 Approved

**MULTILAYER CERAMIC DIPPED AXIAL AND RADIAL CAPACITORS**

for Automotive Applications

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Capacitors - AEC-Q200 Approved



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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