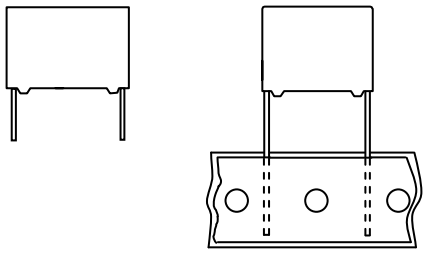
EMI Suppression film capacitors

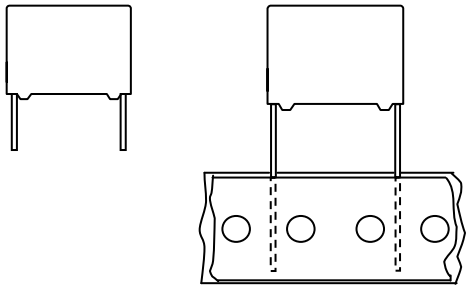
Safety

PCY2 130

MKP RADIAL POTTED CAPACITORS **Pitch 10.0/15.0/22.5/27.5mm**



15mm



22.5 and 27.5mm

QUICK REFERENCE DATA

Capacitance range(E6 series) *	0.001 μF to 0.47 μF
Capacitance tolerance	± 10 %, ± 20 %
Rated (AC) voltage 50 to 60 Hz	300 V~
Climatic category	55/105/21
Temperature range	-55℃ ~ +105℃
Reference IEC specification	IEC 60384-14(3rd edition) and EN 60384-14
Safety approvals	UL 60384-14 & CSA E60384-14:09(cUL), ENEC, CQC
Potting & Encapsulation material	Qualified in accordance with UL 94V-0
Safety class	Y2

*Intermediate values of the E12 series are available to special order

FEATURES	APPLICATIONS
. 10 to 27.5 mm lead pitch . Supplied loose in box and taped on reel . Consist of a low-inductive wound cell of Metallized Polypropylene film, potted in a flame retardant case	. For Y2-electromagnetic interference suppression . Specially designed to meet the NEW REQUIREMENTS in new IEC 60384-14 specification(3rd edition)/EN 60384-14/UL60384-14 requiring for Y2 a 5kV peak pulse voltage test

• Please refer to caution and warning at http://www.pilkor.co.kr/download/Introductions.pdf before using these products.

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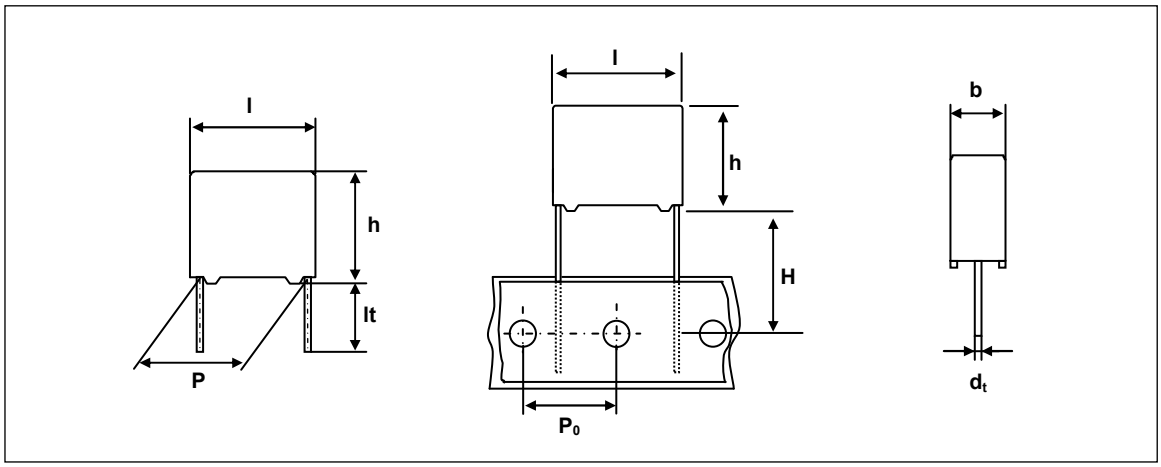
Ordering Information



PCY2 130 X X X X X X

Type series

Capacitance

Code	Voltage
3	300V

Code	Original pitch
D	10.0mm
F	15.0mm
J	22.5mm
L	27.5mm

Available versions					Product (l_{max})			
code	Packing method	C – tol.	Lead length & Height	Hole to hole (P_o)	12.5	18.0	26.0	31.0
					Pitch (P)			
0	Loose in box	±20%	lt = 5.0±1.0mm		10.0	15.0	22.5	27.5
1	Loose in box	±10%	lt = 5.0±1.0mm		10.0	15.0	22.5	27.5
4	Loose in box	±20%	lt =25.0±2.0mm		10.0	15.0	22.5	27.5
5	Loose in box	±10%	lt =25.0±2.0mm		10.0	15.0	22.5	27.5
6	Ammopack	±20%	H = 18.5mm*	12.7mm	10.0	15.0	22.5	27.5
7	Ammopack	±10%	H = 18.5mm*	12.7mm	10.0	15.0	22.5	27.5
C	Loose in box	±20%	lt = 3.2±0.3mm		10.0	15.0	22.5	27.5

* H ; intape height ; for detailed specifications refer to chapter PACKAGING

SAFETY APPROVALS

SAFETY APPROVALS	Voltage	Value	File Number
UL 60384-14 & CSA E60384-14:09(cUL)	300V(AC)	1nF to 470nF	E165646
ENEC*(SEMKO)	300V(AC)	1nF to 470nF	SE/0256-5
CQC	300V(AC)	1nF to 470μF	CQC15001121967

* The ENEC-approval together with the CB-Certificate replace all national approval marks of the following countries(they have already signed the ENEC-Agreement): Austria; Belgium; Czech. Republic; Denmark; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Luxembourg; Netherlands; Norway; Portugal; Slovenian; Spain; Sweden; Switzerland and United Kingdom

Packaging Information

SMALLEST PACKING QUANTITIES (SPQ)	LOOSE IN BOX	
DIMENSIONS	lt = 5.0 ± 1.0 mm	lt = 25 ± 2.0 mm
4.0 x 10.0 x 12.5	2000	1200
5.0 x 11.0 x 12.5	1500	1000
6.0 x 12.0 x 12.5	1000	1000
5.0 x 11.0 x 18.0	1000	1000
6.0 x 12.0 x 18.0	1000	1000
7.0 x 13.5 x 18.0	1000	1000
8.5 x 15.0 x 18.0	1000	1000
10.0 x 16.5 x 18.0	1000	1000
7.0 x 16.5 x 26.0	1000	1000
8.5 x 18.0 x 26.0	1000	1000
10.0 x 19.5 x 26.0	500	500
12.0 x 22.0 x 26.0	500	500
13.0 x 23.0 x 31.0	250	250
15.0 x 25.0 x 31.0	250	250
18.0 x 28.0 x 31.0	200	200
21.0 x 31.0 x 31.0	150	150

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SPECIFIC REFERENCE DATA FOR 300 V_{AC}

Tangent of loss angle	at 1 khz	at 10 khz	at 100kHz
	≤ 10 x 10^{-4}	≤ 20 x 10^{-4}	≤ 100 x 10^{-4}
Rated voltage pulse slope $(dV/dt)_R$ P = 10.0mm P = 15.0mm P = 22.5mm P = 27.5mm	800 V/µs 600 V/µs 500 V/µs 400 V/µs		
R between leads, for C ≤ 0.33µF at 100V 1min	> 15 000 MΩ		
RC between leads, for C > 0.33µF at 100V 1min	> 5 000 s		
R between leads and case ; 100V 1min	> 30 000 MΩ		
Withstanding(DC) Voltage (cut-off current 10mA)	3400V ; 1 min		
Withstanding(AC) Voltage between leads and case	2400V ; 1 min		

V_{Rac} = 300 V~ Y2 **loose and taped**

Cap. (µF)	b x h x l (mm)	Mass (g)	CATALOGUE NUMBER PCY2 130 ..... loose in box			
			lt = 5 ± 1.0 mm		lt = 25 ± 2.0 mm	
			C – tol. ± 20 %	C – tol. ± 10 %	C – tol. ± 20 %	C – tol. ± 10 %
Pitch = 10.0 ± 0.4 mm			dt = 0.6 +0.06/-0.05 mm			
0.001	4.0 x 10.0 x 12.5	0.8	D30102	D31102	D34102	D35102
0.0015	4.0 x 10.0 x 12.5	0.8	D30152	D31152	D34152	D35152
0.0022	4.0 x 10.0 x 12.5	0.8	D30222	D31222	D34222	D35222
0.0033	4.0 x 10.0 x 12.5	0.8	D30332	D31332	D34332	D35332
0.0047	5.0 x 11.0 x 12.5	0.9	D30472	D31472	D34472	D35472
0.0068	5.0 x 11.0 x 12.5	0.9	D30682	-	D34682	-
0.0068	6.0 x 12.0 x 12.5	1.0	-	D31682	-	D35682
0.01	6.0 x 12.0 x 12.5	1.0	D30103	D31103	D34103	D35103
Pitch = 15.0 ± 0.4 mm			dt = 0.8 +0.08/-0.05 mm			
0.0068	5.0 x 11.0 x 18.0	1.2	F30682	F31682	F34682	F35682
0.01	5.0 x 11.0 x 18.0	1.2	F30103	F31103	F34103	F35103
0.015	6.0 x 12.0 x 18.0	1.4	F30153	F31153	F34153	F35153
0.022	7.0 x 13.5 x 18.0	1.9	F30223	F31223	F34223	F35223
0.033	8.5 x 15.0 x 18.0	2.6	F30333	F31333	F34333	F35333
0.047	10.0 x 16.5 x 18.0	3.1	F30473	F31473	F34473	F35473

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V_{Rac} = 300~ Y2 **loose and taped**

Cap. (µF)	b x h x l (mm)	Mass (g)	CATALOGUE NUMBER			
			PCY2 130			
			loose in box			
			lt = 5 ± 1.0 mm		lt = 25 ± 2.0 mm	
			C – tol. ± 20 %	C – tol. ± 10 %	C – tol. ± 20 %	C – tol. ± 10 %
Pitch = 22.5 ± 0.4 mm			dt = 0.8 +0.08/-0.05 mm			
0.047	7.0 x 16.5 x 26.0	3.2	J30473	J31473	J34473	J35473
0.068	8.5 x 18.0 x 26.0	4.4	J30683	J31683	J34683	J35683
0.1	10.0 x 19.5 x 26.0	5.5	J30104	J31104	J34104	J35104
0.15	12.0 x 22.0 x 26.0	8.0	J30154	J31154	J34154	J35154
Pitch = 27.5 ± 0.4 mm			dt = 0.8 +0.08/-0.05 mm			
0.22	13.0 x 23.0 x 31.0	10.4	L30224	-	L34224	-
0.22	15.0 x 25.0 x 31.0	12.8	-	L31224	-	L35224
0.33	18.0 x 28.0 x 31.0	17.2	L30334	L31334	L34334	L35334
0.47	21.0 x 31.0 x 31.0	20.4	L30474	L31474	L34474	L35474

Original pitch	New Code	Old Code	Example
10.0mm	PCY2 130Dxxxxx	PCY2 130 3xxxx	PCY2 130 60474 => PCY2 130L30474
15.0mm	PCY2 130Fxxxxx	PCY2 130 4xxxx	
22.5mm	PCY2 130Jxxxxx	PCY2 130 5xxxx	
27.5mm	PCY2 130Lxxxxx	PCY2 130 6xxxx	

MOUNTING

NORMAL USE

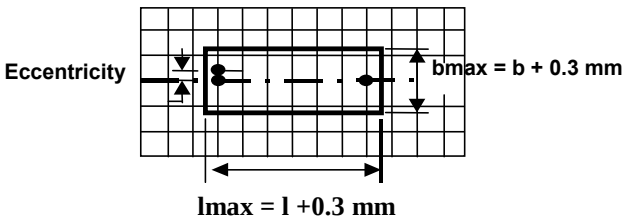
The capacitors are designed for mounting on printed-circuit boards.
The capacitors packed in bandoliers are designed for mounting on printed-circuit boards by means of automatic insertion machines.
For detailed specifications refer to chapter "PACKAGING".

SPECIFIC METHOD OF MOUNTING TO WITHSTAND VIBRATION AND SHOCK

In order to withstand vibration and shock tests, it must be ensured that the stand-off pips are in good contact with the printed-circuit board.
. For pitches of 15mm the capacitors shall be mechanically fixed by leads.
. For larger pitches the capacitors shall be mounted in the same way and the body clamped.

SPACE REQUIREMENTS ON PRINTED-CIRCUIT BOARD

The maximum length and width of film capacitors are shown in the following drawing ;



- Eccentricity as in drawing.
  The maximum eccentricity is smaller than or equal to the lead diameter of the product concerned.

- Product height with seating plane as given by IEC 60717 as reference : $h_{max} \leq$ h+0.3 mm

STORAGE TEMPERATURE

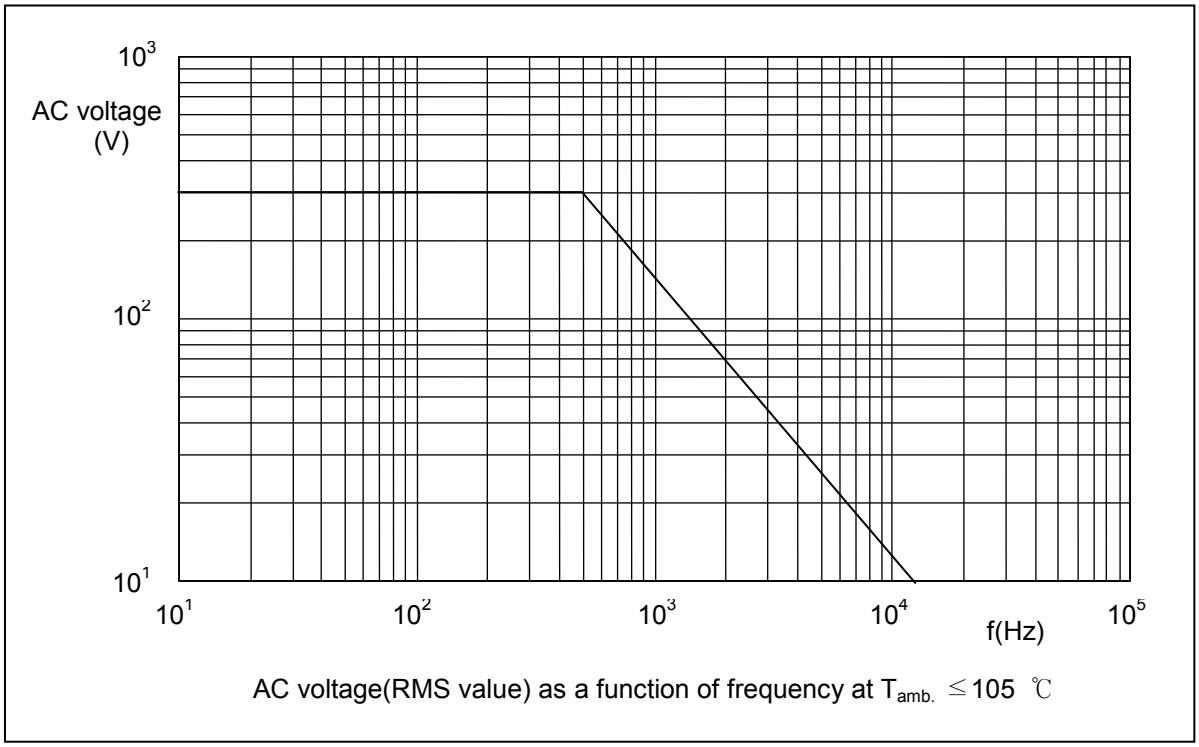
. Storage temperature : T_{stg} = -25 to +40 ^{o}C with RH maximum 80% without condensation.

RATINGS AND CHARACTERISTICS

Unless otherwise specified all electrical values apply to an ambient temperature of 23± 1℃, an atmospheric pressure of 86 to 106kPa and a relative humidity 50± 2%.

For reference testing, a conditioning period shall be applied of 96± 4 hours by heating the products in a circulating air oven at the rated temperature and a relative humidity not exceeding 20%.

Maximum RMS Voltage as a function of frequency



AC voltage(RMS value) as a function of frequency at $T_{amb.}$ ≤105 ℃

PRODUCT MARKING

Capacitors are marked with having following information;

1.Manufacturer (PILKOR)
2.Manufacturer's type designation (130 or PCY2 130)
3.Rated capacitance in code according to IEC 60062
4.Rated (AC) voltage (300V~)
5.Sub class (Y2)
6.Tolerance on rated capacitance M = ± 20 % K = ± 10 %
7.Climatic category (55/105/21)
8.Code for dielectric material (MKP)
9.Year and week of manufacturing (e.g. 1301)
10.Safety approvals

Example of marking (*CQC Marking will be applied 2016.01.04)

Pitch P = 10 mm

Marking on the side or

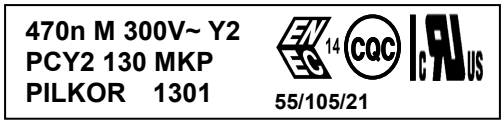
Marking on the side

Pitch P = 15 mm or 22.5 mm or 27.5mm

Marking on the top

Marking on the side

Pitch P = 22.5 mm or 27.5mm



Marking on the top

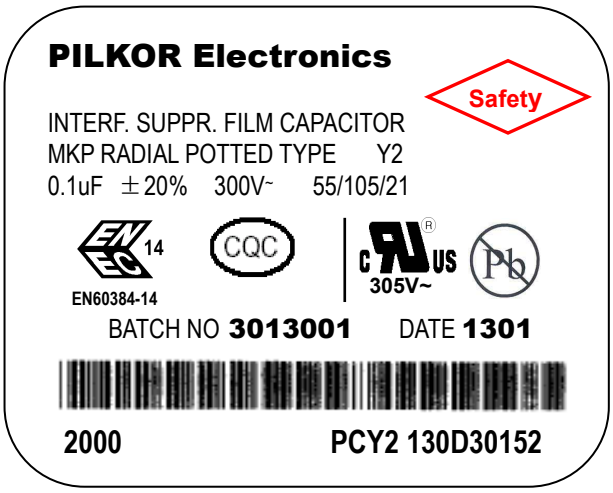
Pitch P = 27.5 mm

Marking on the top

PACKAGE MARKING

The package containing the capacitors in marking as shown.

For 4E/6E/9E/11E



LINE MARKING EXPLANATION

1. Manufacturer's name
2. Sub-family
3. Type description and safety class Y2
4. Capacitance value, tolerance, voltage and climatic category (IEC)
5. Safety approvals & Lead free marking (JEDEC-STD-97)
6. Batch Nr & production period year and week code
7. Quantity and product code (12NC)

*** Color of Label : Light green

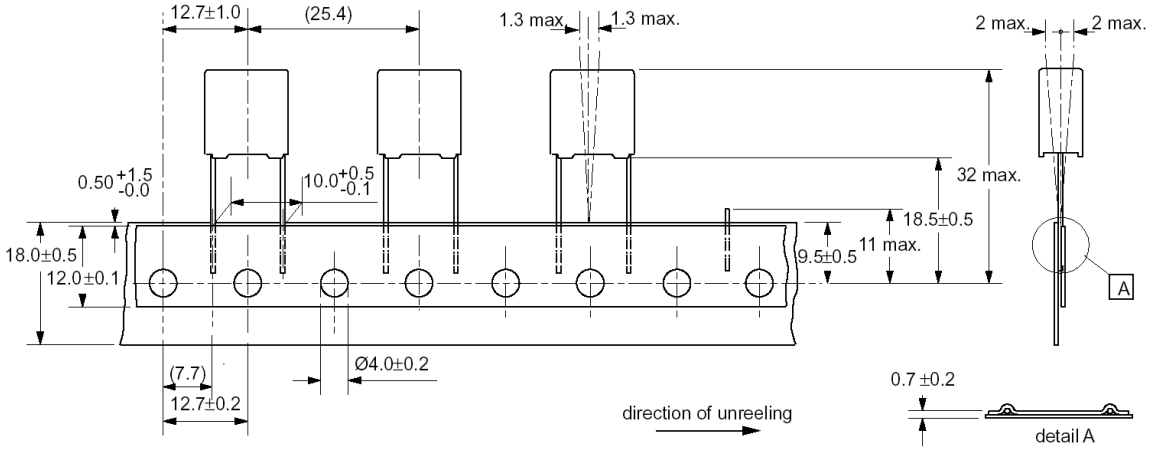
Color of Safety Marking : Red

*CQC Marking will be applied 2016.01.04

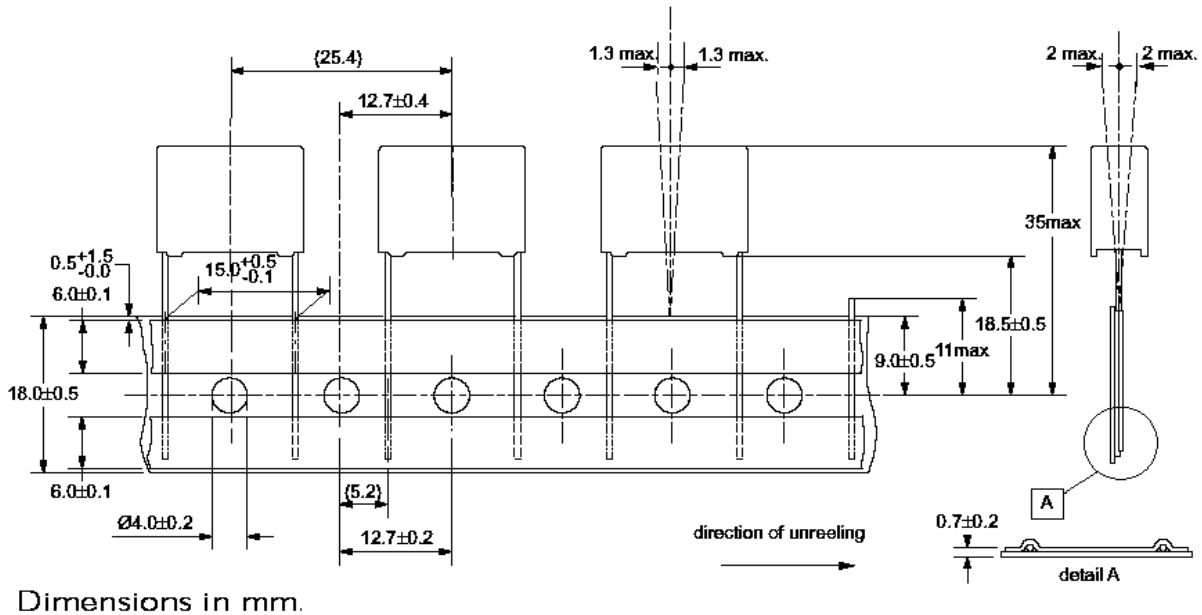
PACKING

DIMENSIONS OF TAPED PRODCUTS TAPED ON REEL

Capacitor with terminal pitch P = 10 mm



Capacitor with terminal pitch P = 15 mm



Dimensions in mm.

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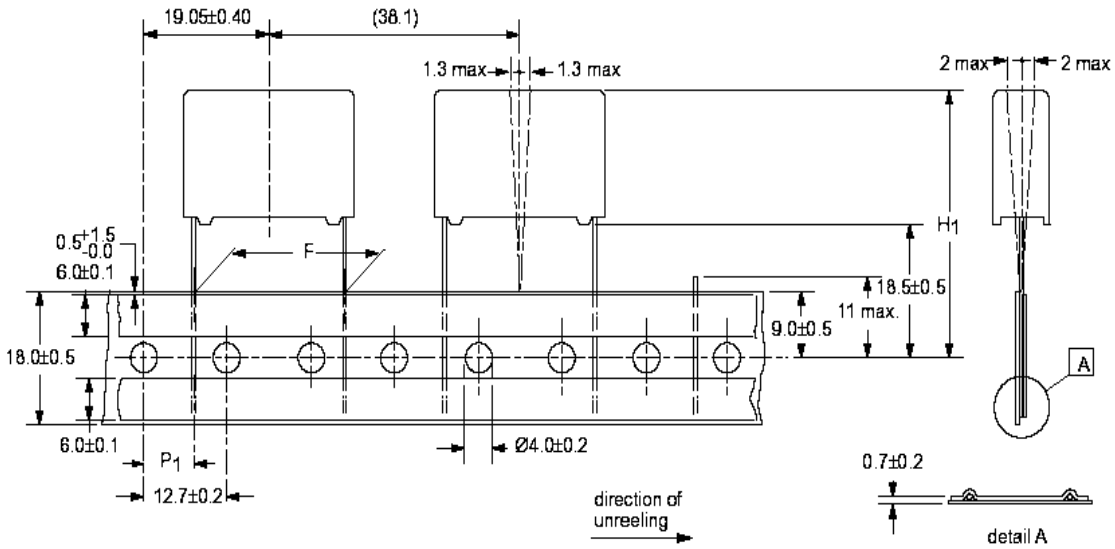
Capacitor with terminal pitch P = 22.5 or 27.5 mm



Dimensions in mm.

ITEM	SYMBOL	VALUE	VALUE	TOLERANCE
LEAD TO LEAD DISTANCE(mm)	F	22.5	27.5	+0.5/-0.1
HEIGHT OF COMPONENT FROM TAPE CENTER TO SEATING PLANE(mm)	H	18.5		0.5
COMPONENT HEIGHT FROM TAPE CENTER(mm)	H_1	40 max	48 max	
FEED HOLE TO LEAD CENTER(mm)	P_1	7.8	5.33	0.7

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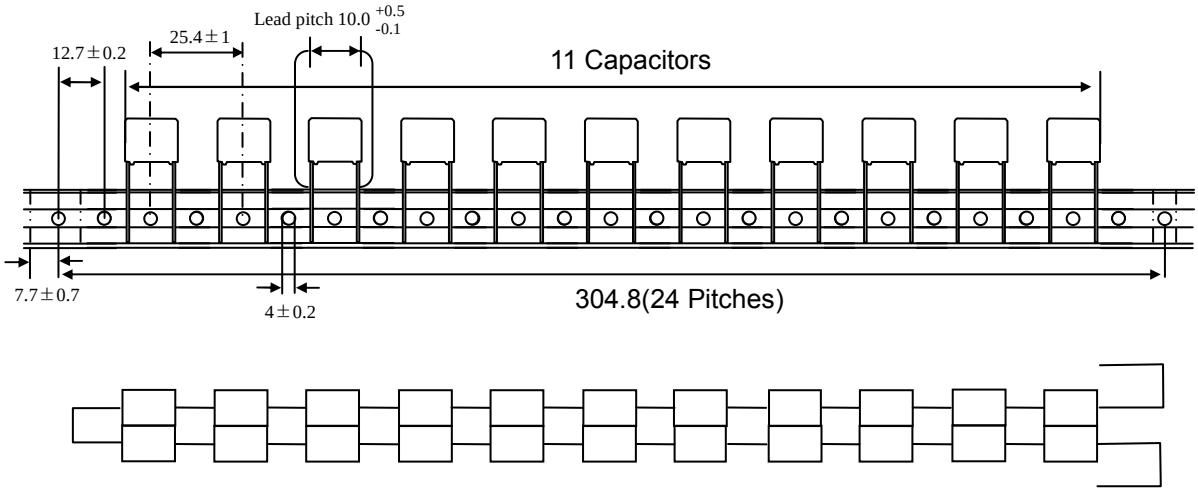
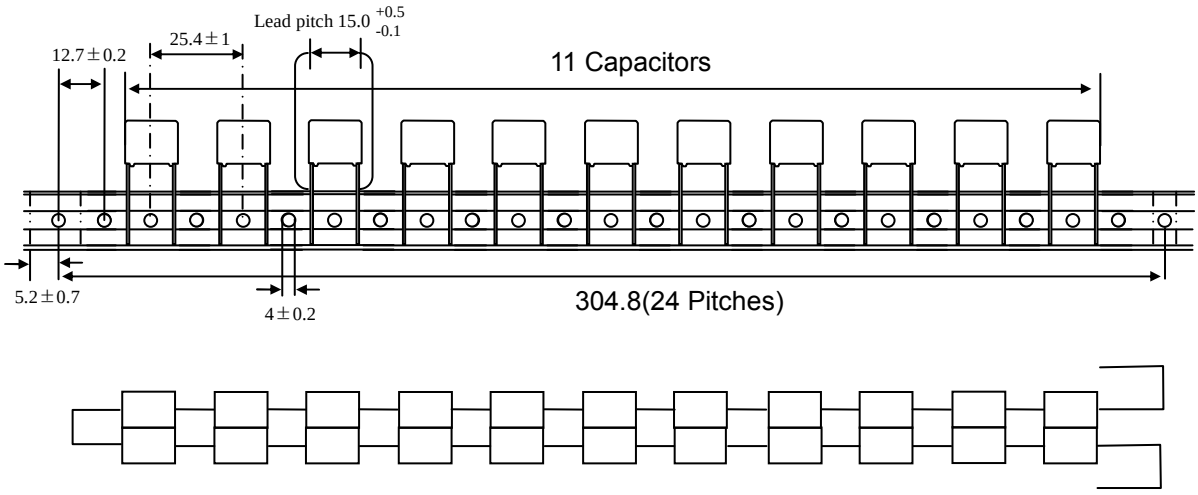
AMMOPACK

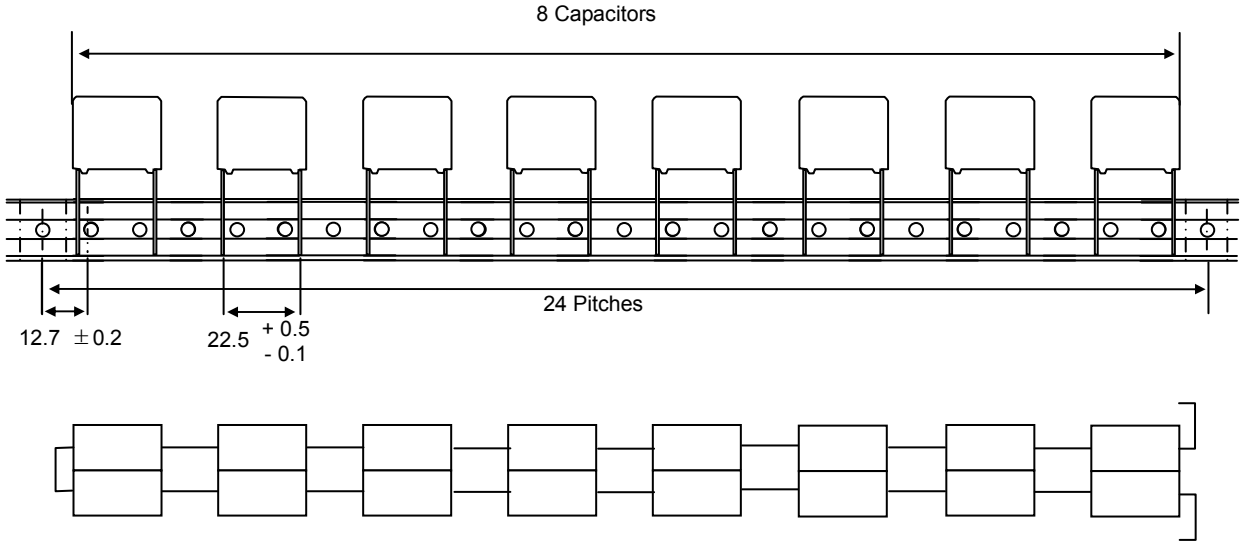
Capacitor with terminal pitch P = 10 mm.



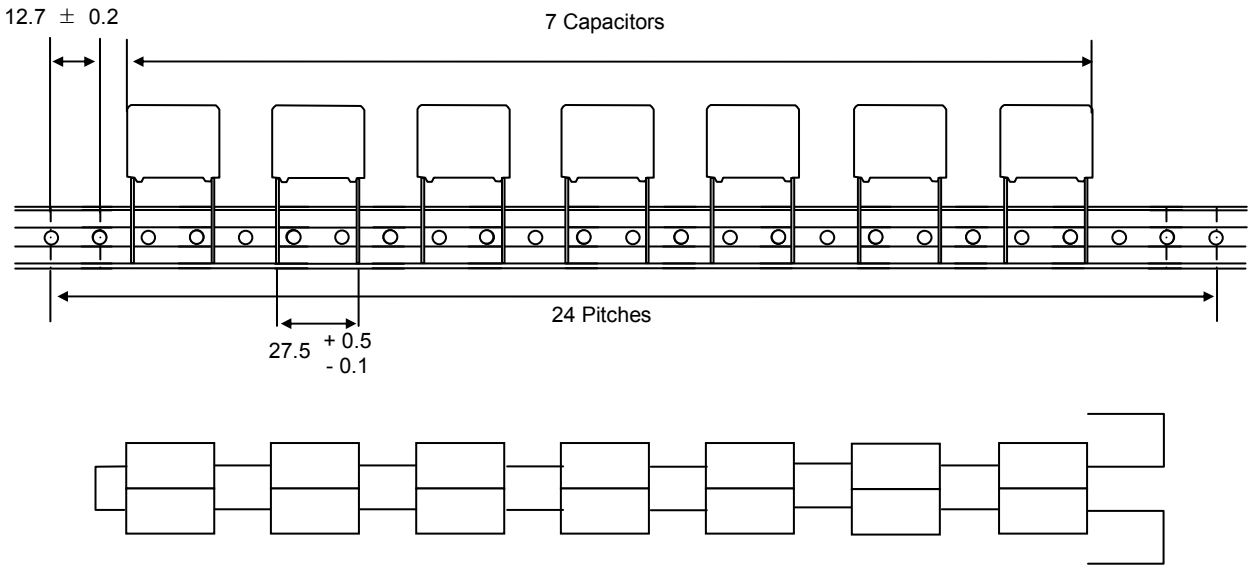
Capacitor with terminal pitch P = 15 mm.



Capacitor with terminal pitch P = 22.5 mm.



Capacitor with terminal pitch P = 27.5 mm.

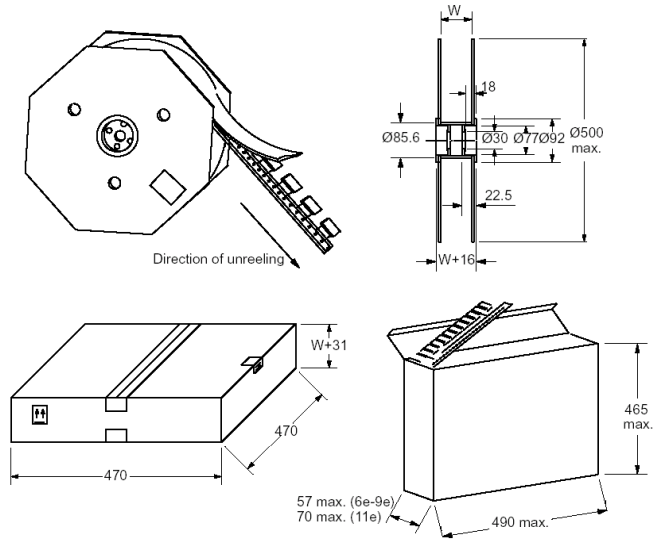


CHARACTERRISTICS OF TAPED PRODCUTS

Cumulative pitch error 1.0mm/20 pitches	
Pull-out force of the component	**≥ 5 N**
Pull-out force of the adhesive tape	**≥ 6 N**
Tearing force of tape	**≥ 15 N**
Storage temperature	**- 25 to + 40 ℃**
Relative humidity	**max. 80 % without condensation**

The max. number of empty places per reel shall not exceed 0.5% of the total number of components per reel, but no more than 2 consecutive positions may be vacant.

Outlines of reel & ammo packing (dimensions in mm)



W as function of product dimensions

l = 12.5 or 18.0 mm		l = 26 or 31 mm	
b (mm)	W 2 (mm)	b (mm)	W 2 (mm)
4.0	40	6.0	50
5.0	45	7.0	50
6.0	45	8.5	50
7.0	45	9.0	50
8.5	45	10.0	50
10.0	50	11.0	55
		13.0	55
		15.0	60
		18.0	60

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INSPECTION REQUIREMENTS

Note 1 : Sub-clause numbers of tests and performance requirements refer to the Sectional Specification, IEC 384-14 and Section One this specification.
Note 2 : Inspection levels are selected from IEC-Publication 410: Sampling Plans and Procedures for inspection by attributes.
Note 3 : In this table : p = periodicity in months
n = sample size
D = destructive
ND = non-destructive
IL = inspection level) IEC 410
AQL = acceptance quality level)

Note 4 : For this capacitors, considered as a solid construction, the periodicity of the vibration and shock test is reduced from 36 months to 6 months.

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	IL	n	PERFORMANCE REQUIREMENTS
Group A inspection (lot by lot)					
Sub-group A1	ND				
4.1 Visual examination			S4	1)	No visual damage Legible marking and as specified in MARKING specification
4.1 Dimensions 2)		Detail	S3	1)	AS specified in Table 1 of this specification.
Sub-group A2 3)	ND				
4.2.2 capacitance		at 1 khz			Within specified tolerance
4.2.3 Tangent of loss angle		at 10 khz C ≤ 1 uF			As in RATINGS AND CHARACTERISTICS of this specification
4.2.1 Voltage proof (test A)		at 1500 V(a.c) for 1 min.			No permanent breakdown or flashover. Self healing allowed
4.2.5 Insulation resistance (test A)		at 100 V 1min.			As in RATINGS AND CHARACTERISTICS of this specification

1) Number to be tested : Sample size as directly allotted to the code letter for IL in Table 2A of IEC 410 (Single sampling plan for normal inspection)
The acceptance number complies with AQL value : 0.65 %

2) This test may be replaced by in-production testing, if SPC on dimensional measurements or other mechanisms to avoid parts exceeding the limits is installed.

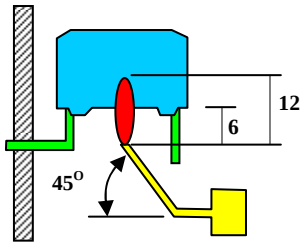
3) The 100% End-of-line testing is followed by re-inspection by sampling in order to monitor outgoing quality level by defectives per million (DPM). The sampling level and the calculation of DPM values is in accordance with CECC 00 014, counting any parametric failure as a defective. In case one or more defectives occur in a lot, this lot shall be rejected.

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
Group C inspection (periodic)	D		6	6	
Sub-group C1A part of a sample of sub-group C1					
4.1 Dimensions (detail)					As specified in Table 1 of this specification
4.3.1 Initial measurements		Capacitance			
		Tangent of loss angle at 10 khz C ≤ 1 uF			
4.3 Robustness of terminations		Tensile and bending			No visible damage
4.4 Resistance to soldering heat		Method : 1A Solder bath : 260℃ Duration : 10 s			
4.14 Component solvent resistance		Isopropylalcohol at room temperature. Method : 2 Immersion time: 5± 0.5 min Recovery time : min 1 hour max 2 hours			
					No visible damage
4.4.2 Final measurements		Visual examination			Legible marking
		Capacitance			Δ C/C ≤ 5% of the value measured initially
		Tangent of loss angle at 10 khz C ≤ 1 uF			Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
		Insulation resistance			As in RATINGS AND CHARACTER-ISTICS of this specification
Sub-group C1B Other part of sample of sub-group C1	D		6	12	
4.6.1 Initial measurements		Capacitance			
		Tangent of loss angle at 10 khz C ≤ 1 uF			
4.6 Rapid change of temperature		θ A=lower category temperature θ B=upper category temperature 5 cycles Duration t = 30 min.			
4.6.1 Inspection		Visual examination			No visible damage

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
4.7 Vibration (see note 4)		Method of mounting : see MOUNTING of this specification Procedure B4 Frequency range : 10Hz to 55 Hz Amplitude : 0.75mm or acceleration 98m/s^2 (whichever is less severe) Total duration : 6h			
4.7.2 Final inspection		Visual examination			No visible damage
4.9 Shock (see note 4)		Method of mounting : see MOUNTING of this specification Pulse shape : half sine Acceleration : 490 m/s^2 Duration of pulse : 11 ms			
4.9.3 Final measurements		Visual examination Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF Insulation resistance			No visible damage Δ C/C ≤ 5% of the value measured initially Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080 As in RATINGS AND CHARACTER -ISTICS of this specification
Sub-group C1 Combined sample of specimens of sub-groups C1A and C1B	D		6	18	
4.11 Climatic sequence					
4.11.2 Dry heat		T = $T_{upp-cat}$ Duration ; 16 hours			
4.11.3 Damp heat cyclic, test Db, first cycle					
4.11.4 Cold		T = $T_{low-cat}$ Duration ; 2 hours			
4.11.6 Damp heat cyclic, test Db, remaining cycle					
4.11.6.2 Final measurements		Visual examination			No visible damage Legible marking

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
		Capacitance			Δ C/C ≤ 5% of the value measured initially
		Tangent of loss angle at 10 khz C ≤ 1 uF			Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
		Voltage proof 1500 Vac 1 min			No permanent breakdown or flashover
		Insulation resistance			≥ 50% of values in RATINGS AND CHARACTERISTICS of this specification
Sub-group C2	D		6	10	
4.12 Damp heat steady state					
4.12.1 Initial measurement		Capacitance			
		Tangent of loss angle at 10 khz C ≤ 1 uF			
4.12.3 Final measurements		Visual examination			No visible damage Legible marking
		Capacitance			Δ C/C ≤ 5% of the value measured initially
		Tangent of loss angle at 10 khz C ≤ 1 uF			Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
		Voltage proof 1500 Vac, 1 min			No permanent breakdown or Flash over
		Insulation resistance			≥ 50% of values in RATINGS AND CHARACTERISTICS of this specification
Sub-group C3	D		3	12	
4.13.1 Initial measurements		Capacitance			
		Tangent of loss angle at 10 khz C ≤ 1 uF			
4.13 Peak impulse voltage		3 succesive impulses, full wave, peak voltage : 5 kV. Max. 24 pulses			No self healing breakdown or Flash over

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
4.14 Endurance		Duration : 1000 hours 1.7 x V_{Rac} at 105℃ Once in every hour the voltage is increased to 1000V (RMS) for 0.1 s via a resistor of 47Ω 5 %.			
4.14.6 Final measurements		Visual examination			No visible damage Legible marking
		Capacitance			Δ C/C ≤ 10% of the value measured initially
		Tangent of loss angle at 10 khz C ≤ 1 uF			Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
		Insulation resistance			≥ 50% of values in RATINGS AND CHARACTERISTICS of this specification
		Voltage proof 1500 Vac, 1 min			No permanent breakdown or Flash over
Sub-group C4	D		6	6	
4.15 Charge and discharge		10000 cycles : (50c/s) charge to V_R half sine wave Duration : 5 ms Discharge resistance $R = \frac{V_{Rac} \cdot \sqrt{2}}{1.5 \times C\,(dU/dt)}$ With a minimum resistance of 2.2 Ω			
4.15.1 Initial measurement		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			
4.15.3 Final measurements		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			Δ C/C ≤ 10% of the value measured initially Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
		Insulation resistance			≥ 50% of values in RATINGS AND CHARACTERISTICS of this specification

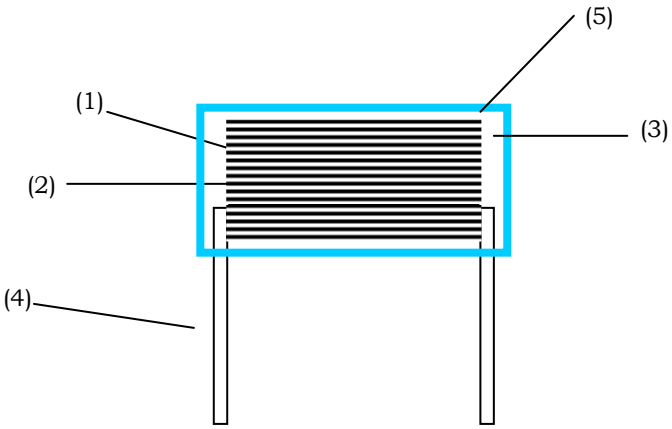
CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
Sub-group C6			12	18	
4.17 Passive flammability Class C		Bore of gas jet : ϕ 0.5 mm Fuel : Butane Test duration for actual volume V in mm^3 V ≤ 250 : 5s 250 < V ≤ 500 : 10s 500 < V ≤ 1750 : 20s V > 1750 : 30s One flame application  			After removing test flame from capacitor, the capacitor must not continue burn for more than 3 s. No burning particle must drop from the sample.
Sub-group C7			12	24	
4.18 Active flammability		Ui = 5kV for class Y2 20 discharges in tank capacitor (3uF) when discharged, places Ui across the capacitor under test. The discharging interval : 5s. The test capacitor during the discharges connected to V_R (16A). V_R shall be maintained for 2 min after the last discharge.			The chees cloth around the capacitor shall not burn with a flame. Not electrical measurements are required.

CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	P	n	PERFORMANCE REQUIREMENTS
Sub-group ADD1	D		3	10	
A.1 Solderability		Without ageing Method : 1 Non-activated colophiny flux 501 Solder bath 245℃ Dwell time : 3 s			Good tinning as evidenced by free flowing of the solder with wetting of the terminations (〉 95 %)
Solvent resistance of the marking		Isopropylalcohol at room temperature. Method : 1 Rubbing material cotton wool immersion time : 5± 0.5 min.			Legible marking
Sub-group ADD2	D		3	12	
A.2 Heat storage		Duration : 1000 h Temperature : upper Category temperature			
A.2.1 Initial measurements		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			
4.2.2 Final measurements		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF Insulation resistance			Δ C/C ≤ 5% of the value measured initially Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080 As in RATINGS AND CHARACTER-ISTICS of this specification
Sub-group ADD3			3	9	
A.3 Detergent resistance		Density 20g/L dishwasher detergent. Temperature 70℃ during 3 minutes followed by rinsing in clear water for 1 minute. Recovery time 1 to 2 hours			
A.3.1 Initial measurement		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			
A.3.2 Final measurements		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF Insulation resistance			Δ C/C ≤ 5% of the value measured initially Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080 〉 50% of values in RATINGS AND CHARACTERISTICS of this specification

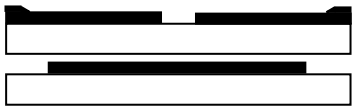
CLAUSE NUMBER AND TEST	D OR ND	CONDITIONS	IL	n	PERFORMANCE REQUIREMENTS
Sub-group ADD4	D		6	10	
A.4 Resistance to soldering heat with preheating		Capacitors mounted on a 1.6 mm board with nonplated holes. Body temp. : 100 ℃ Bath temp : < 260 ℃ Dwell time : 10 s.			
A.4.1 Initial measurement		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			
A.4.2 Final measurements		Capacitance Tangent of loss angle at 10 khz C ≤ 1 uF			Δ C/C ≤ 5% of the value measured initially Increase of tan-delta : for C ≤ 1 uF Δ tan d 〈 0.0080
Sub-group ADD5	D		12	10	
A.5 Thermal Shock		θA = lower category temperature θB = upper category temperature 100 cycles Duration t = 30 min			ΔC/C ≤ 10% Δtanδ(1KHz) < 0.005 R_{ins} ≥ 50% specified value

CONSTRUCTION

- Product type ; Metallized Polypropylene film capacitors
  - Model name ; PCY2 130



Metallized Polypropylene film



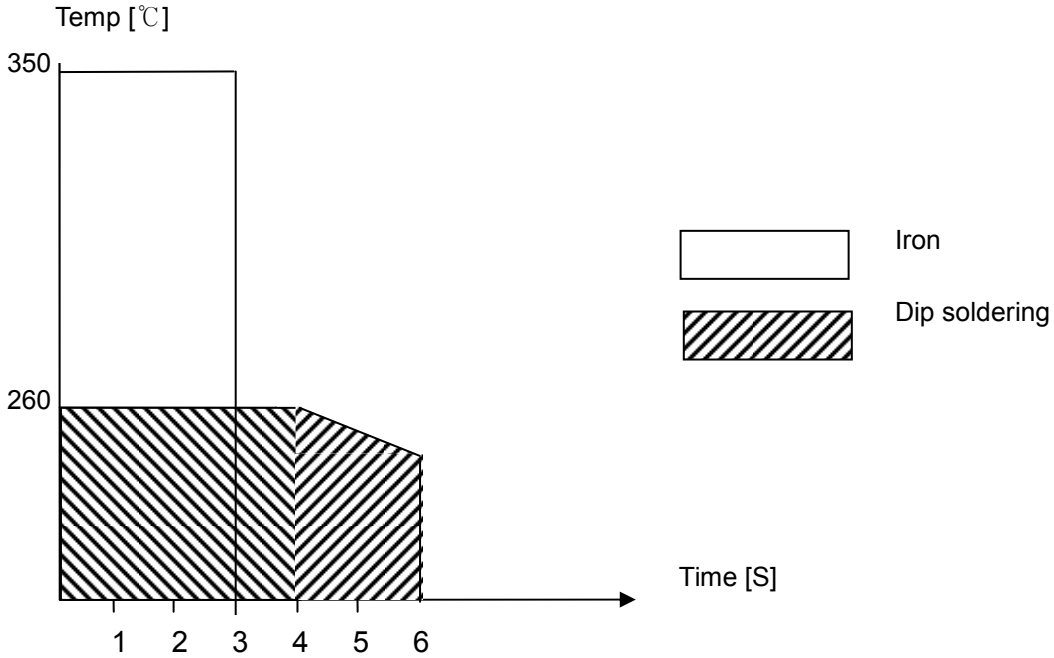
	Description	Material
1	MKP Film	Metallized polypropylene film
2	Metal Spray	Tin-Zinc
3	Epoxy	UL94V-0
4	Lead Wire	Tin plated Copper wire 0.6/0.8mm [Sn100%:10 ㎛]
5	PP Case	POLYPROPYLENE UL94-V0

Soldering conditions

- Heat resisting temperature (Capacitor inside)
  MKT : 160℃ KP/MKP : 110℃

  When mounting, set the soldering temperature so that the capacitor inside peak temperature is to be lower than the given above heat resisting temperature.

- Preheating temp : Max 110℃, 1min

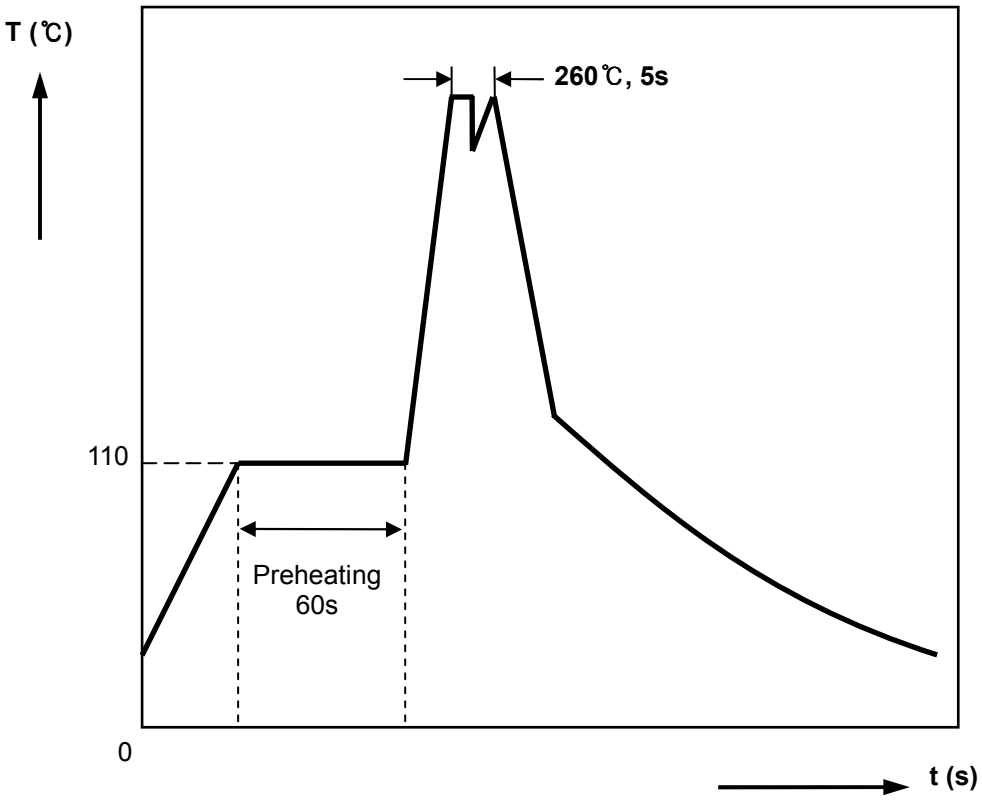


[If dipping a capacitor into solder twice, the second dipping shall be carried after the capacitor itself has returned to normal temperature]

Not passing through adhesive curing oven in order to fix the SMD parts in combination with leads parts.
- Not reflow soldering by combine the lead parts with SMD parts.

When cleaning right after soldering, make sure the capacitor surface temperature is lower than 50℃

Wave soldering profile (Recommendation)



- Solder bath Temperature : 260 ℃ Max.
- Shield : Heat-absorbing board, (1.5±0.5)mm thick, between capacitor body and liquid solder
- Visual inspection : No visible damage
- △C/C : 5%