



# **Film Capacitors**

## Taping and packing

Date: May 2009

## Taping and packing

### 1 Capacitors with radial leads

Taping to IEC 60286-2.

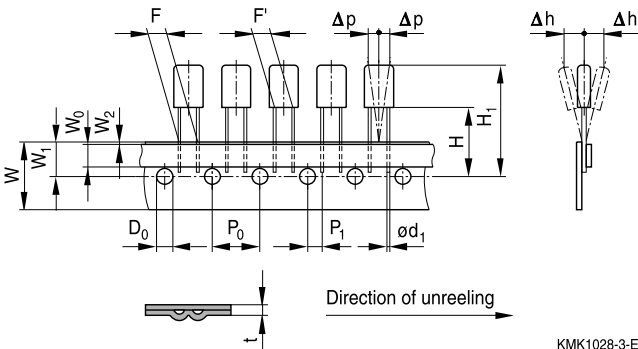
#### 1.1 Tape dimensions

##### Lead spacing 5 mm

Types: B32529 (MKT), B32559C/S (MKT)

Standard 5 mm

$P_0 = 12.7$  mm



KMK1028-3-E

#### Dimensions

Symbol	$\varnothing d_1$	$D_0$	F	F'	H	$H_1$	$P_0$	$P_1$
Dimension (mm)	0.5	4.0	5.0	5.0	18.5	32.2	12.7	3.8
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.5$	max.	$\pm 0.2^{*)}$	$\pm 0.7$

Symbol	W	$W_0$	$W_1$	$W_2$	t	$\Delta h$	$\Delta p$
Dimension (mm)	18.0	6.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$\pm 2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

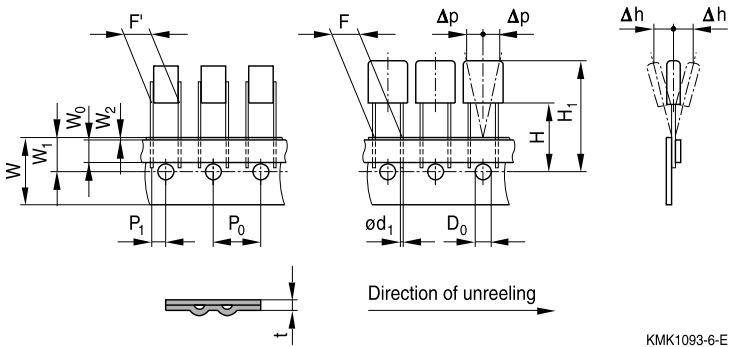
$^{*)} \pm 1$  per  $20 \times P_0$

## Taping and packing

### Lead spacing 7.5 mm

Types:	B32520, B32560 (MKT) B32620 (MKP)
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Standard 7.5 mm  
 $P_0 = 12.7$  mm



### Dimensions

Symbol	$\varnothing d_1$	$D_0$	$F$	$F'$	$H$	$H_1$	$P_0$	$P_1$
Dimension (mm)	0.5	4.0	7.5	7.5	18.5	32.2	12.7	3.8
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.5$	max.	$\pm 0.2^{*)}$	$\pm 0.7$

Symbol	$W$	$W_0$	$W_1$	$W_2$	$t$	$\Delta h$	$\Delta p$
Dimension (mm)	18.0	6.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$+2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

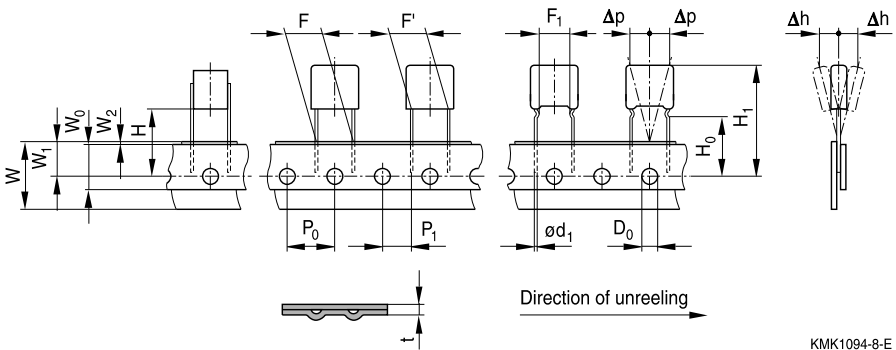
\*)  $\pm 1$  per  $20 \times P_0$

## Taping and packing

### Lead spacing 10 mm

Types:	B32521, B32561, B32591 (MKT) B32621, B32651, B32671 (MKP) B32921, B32021, B32911 (EMI suppression)
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Standard 10 mm  
 $P_0 = 12.7$  mm



KMK1094-8-E

### Dimensions

Symbol	$\varnothing d_1$	$D_0$	F	F'	$F_1$	H	$H_0$	$H_1$
Dimension (mm)	0.5; 0.6	4.0	10.0	10.0	7.1	18.5	16.0	32.2
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.1$	$\pm 0.5$	$\pm 0.5$	max.

Symbol	$P_0$	$P_1$	W	$W_0$	$W_1$	$W_2$	t	$\Delta h$	$\Delta p$
Dimension (mm)	12.7	7.7	18.0	12.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.2^*)$	$\pm 0.7$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$+2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

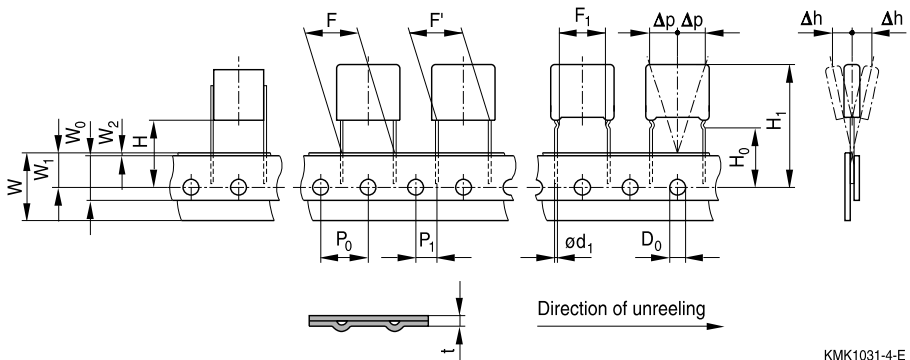
\*)  $\pm 1$  per  $20 \times P_0$

## Taping and packing

### Lead spacing 15 mm

Types:	B32522, B32562, B32592 (MKT) B32612, B32652, B32672 (MKP) B32632 (MFP) B32922, B32022, B32912, B81123 (EMI suppression)
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Standard 15 mm  
 $P_0 = 12.7$  mm



KMK1031-4-E

### Dimensions

Symbol	$\varnothing d_1$	$D_0$	F	F'	$F_1$	H	$H_0$	$H_1$
Dimension (mm)	0.6; 0.8	4.0	15.0	15.0	12.1	18.5	16.0	37.5
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.1$	$\pm 0.5$	$\pm 0.5$	max.

Symbol	$P_0$	$P_1$	W	$W_0$	$W_1$	$W_2$	t	$\Delta h$	$\Delta p$
Dimension (mm)	12.7	5.2	18.0	12.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.2^*)$	$\pm 0.7$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$+2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

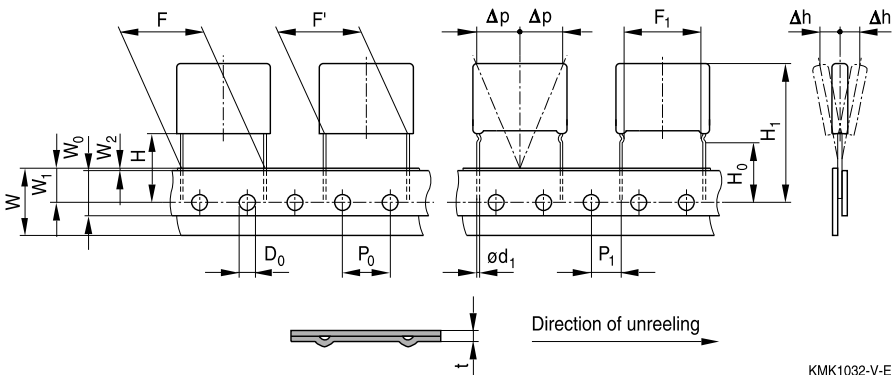
\*)  $\pm 1$  per  $20 \times P_0$

## Taping and packing

### Lead spacing 22.5 mm

Types:	B32523, B32593 (MKT) B32613, B32653, B32673 (MKP) B32633 (MFP) B32923, B32023, B32913, B81123 (EMI suppression)
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Standard 22.5 mm  
 $P_0 = 12.7$  mm



KMK1032-V-E

### Dimensions

Symbol	$\varnothing d_1$	$D_0$	F	F'	$F_1$	H	$H_0$	$H_1$
Dimension (mm)	0.8	4.0	22.5	22.5	19.6	18.5	16.0	39.5
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.1$	$\pm 0.5$	$\pm 0.5$	max.

Symbol	$P_0$	$P_1$	W	$W_0$	$W_1$	$W_2$	t	$\Delta h$	$\Delta p$
Dimension (mm)	12.7	7.8	18.0	12.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.2^*)$	$\pm 0.7$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$+2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

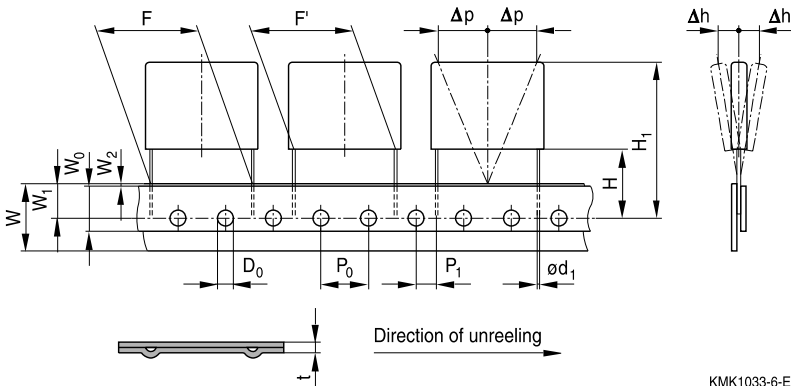
\*)  $\pm 1$  per  $20 \times P_0$

## Taping and packing

### Lead spacing 27.5 mm

Types:	B32524 (MKT) B32654 (MKP) B32924, B32024, B32914 (EMI suppression)
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Standard 27.5 mm  
 $P_0 = 12.7$  mm



KMK1033-6-E

### Dimensions

Symbol	$\varnothing d_1$	$D_0$	$F$	$F'$	$H$	$H_1$
Dimension (mm)	0.8	4.0	27.5	27.5	18.5	42.0
Tolerance (mm)	$\pm 0.05$	$\pm 0.2$	$+0.6/-0.1$	$\pm 0.4$	$\pm 0.5$	max.

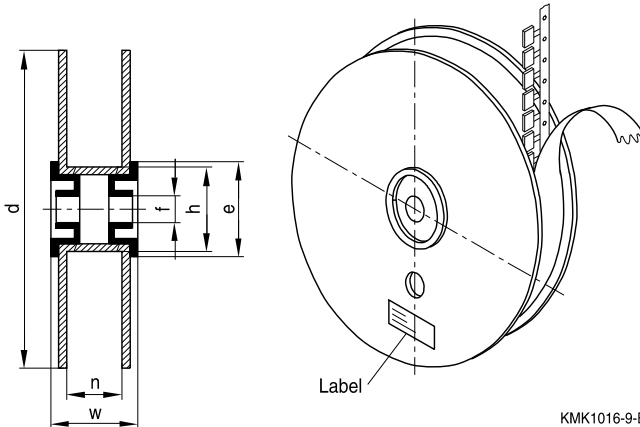
Symbol	$P_0$	$P_1$	$W$	$W_0$	$W_1$	$W_2$	$t$	$\Delta h$	$\Delta p$
Dimension (mm)	12.7	5.3	18.0	12.0	9.0	0.5	0.7	0	0
Tolerance (mm)	$\pm 0.2^*)$	$\pm 0.7$	$\pm 0.5$	$\pm 0.5$	$\pm 0.5$	$\pm 2.5$	$\pm 0.2$	$\pm 2.0$	$\pm 1.3$

\*)  $\pm 1$  per  $20 \times P_0$

## Taping and packing

### 1.2 Packing

#### Reel

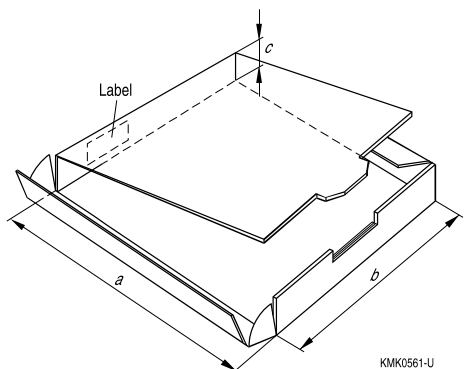


KMK1016-9-E

Dimensions (mm)	n	w	∅ d	∅ e	∅ f	∅ h
Lead spacing ≤7.5	42 +1	52 max.	360 -1	90	30.5 ±0.2	82 +1
Lead spacing 10, 15, 27.5 (22.5 for B32523 + EMI suppression)	54 +1	70 max.	500 -1	130	30.5 ±0.2	126 +1
Lead spacing 22.5 (for B32613 / B32633 / B32593)	54 +1	70 max.	360 -1	90	30.5 ±0.7	82 +1
<i>On request:</i>						
Lead spacing ≥10	54 +1	70 max.	360 -1	90	30.5 ±0.7	82 +1

#### Ammo pack

Dim.	Lead spacing (mm)	
approx.	5, 7.5, 10	15, 22.5
a mm	340	480
b mm	340	355
c mm	50	60



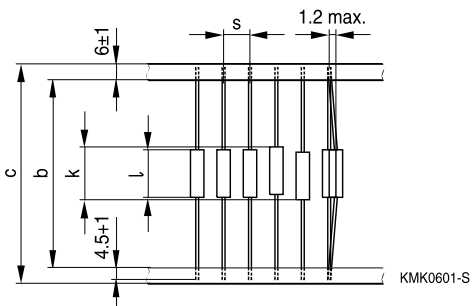
KMK0561-U

### 2 Capacitors with axial leads

Taping to IEC 60286-1.

Types: B32232

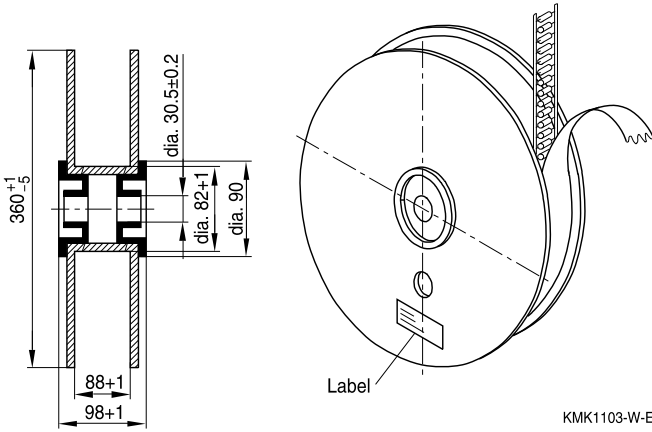
#### 2.1 Tape dimensions



		B32232	
Capacitor diameter d	mm	5.1 ... 9.5	9.6 ... 15.0
Component spacing s	mm	10.0	15.0
Tol. over 10 spaces $\Delta s$	mm	$\pm 2$	$\pm 3$
Inner tape spacing b	mm	73 $\pm 3.0$	
Total tape width c	mm	88 max.	
Body location k (perm. lateral deviation)	mm	$l_{\max} + 1.6$	

## 2.2 Packing

### Reel packing (B32232)



### 3 General notes on packing

When packing our products, we pay attention to the needs of the environment by reducing the amount of packing to an absolute minimum and using environmentally compatible materials for packing. In doing so we are also complying with the German packaging legislation which came into force on the 1st December 1991.

In order to further comply with the aims of this legislation concerning the reduction of commercial waste, we have implemented the following measures:

- The use of "Euro" pallets.
- Goods are secured on the pallets using straps and edge protectors made of environmentally compatible plastics (PE or PP).
- The shipping cartons (transport packing) qualify for and carry the RESY logo.
- Separating layers are of paper.
- The shipping cartons are sealed with paper adhesive tape in order to ensure that only a single, uniform material needs to be disposed of.
- We are prepared, on principle, to take back the packing material (especially product-specific plastic packages, e.g. magazines). However, we ask our customers to send cardboard cartons, corrugated cardboard, paper etc. to recycling or disposal companies in order to avoid unnecessary transportation of empty packing materials.