

APPLICATIONS

Non-inductive, insulated capacitor for professional use. Cylindrical axial leads, polyester wrapped, epoxy resin sealed.

Some examples of use:

Oscillating circuit, LF filter, coupling and decoupling, frequency discriminator.

STANDARDIZATION

Generic specifications:

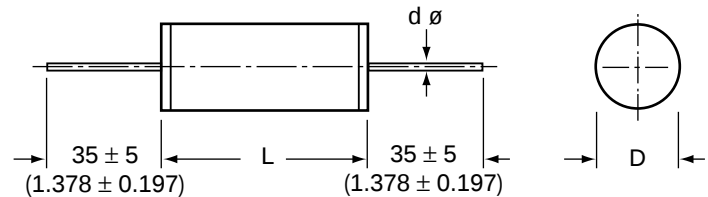
CEI 384-1/CECC 30000/UTE 83100

Sectional specifications:

CEI 384-2/CECC 30400/UTE 83151

On the LNZ 44-04 list:

Complies with type CPM72



PERFORMANCE CHARACTERISTICS

Protection: Cylindrical axial leads, polyester wrapped, epoxy resin sealed

Temperature range: -55°C to +100°C with voltage derating of 1.25%/°C between 85°C and 100°C

Climatic category: 55/100/56

Voltage range: 63 VDC to 1000 VDC

Capacitance range: 10 nF to 22 µF

Tolerances on C_R : ±5%, ±10%, ±20%

Test voltage: 1.6 $V_n/2$ s

Insulation resistance:

Measurement condition:

Temperature: 25°C ± 5°C

Duration: 1 minute

Measurement Voltage: 100 V for $V_n \geq 100$ V
50 V for $V_n < 100$ V

Requirements:

For $U_n \leq 100$ V: $C \leq 0.33 \mu F \geq 15\ 000\ M\Omega$
 $C > 0.33 \mu F \geq 5\ 000\ S$

For $U_n > 100$ V: $C \leq 0.33 \mu F \geq 30\ 000\ M\Omega$
 $C > 0.33 \mu F \geq 10\ 000\ S$

Tangent of loss angle:

LIMIT VALUES

	$C \leq 0.1 \mu F$	$0.1 \mu F < C \leq 1 \mu F$	$C > 1 \mu F$
1 kHz	8×10^{-3}	8×10^{-3}	10×10^{-3}
10 kHz	15×10^{-3}	15×10^{-3}	
100 Hz	30×10^{-3}		

millimeters (inches)

D max.	≤ 8mm	> 8mm	≥ 15mm
Ø d ± 0.05 (0.002)	0.6 (0.024)	0.8 (0.031)	1.0 (0.039)

millimeters (inches)

Capacitance	63 V DC / 40 V AC			100 V DC / 63 V AC			250 V DC / 160 V AC		
	Size Code	D	L	Size Code	D	L	Size Code	D	L
0.01 μ F									
0.015 μ F									
0.022 μ F									
0.033 μ F									
0.047 μ F							13	6.5 (0.256)	13.0 (0.512)
0.068 μ F				13	6.5 (0.256)	13.0 (0.512)	13	7.0 (0.276)	13.0 (0.512)
0.1 μ F				13	6.5 (0.256)	13.0 (0.512)	13	7.0 (0.276)	13.0 (0.512)
0.15 μ F				13	6.5 (0.256)	13.0 (0.512)	13	7.5 (0.295)	13.0 (0.512)
0.22 μ F	13	6.5 (0.256)	13.0 (0.512)	13	6.5 (0.256)	13.0 (0.512)	13	8.0 (0.315)	13.0 (0.512)
0.33 μ F	13	6.5 (0.256)	13.0 (0.512)	18	6.0 (0.236)	18.0 (0.709)	18	8.0 (0.315)	18.0 (0.709)
0.47 μ F	13	7.0 (0.276)	13.0 (0.512)	18	7.0 (0.276)	18.0 (0.709)	18	9.0 (0.354)	18.0 (0.709)
0.68 μ F	13	7.0 (0.276)	13.0 (0.512)	18	8.0 (0.315)	18.0 (0.709)	18	10.0 (0.394)	18.0 (0.709)
0.68 μ F	18	6.5 (0.256)	18.0 (0.709)						
1 μ F	13	8.0 (0.315)	13.0 (0.512)	13	11.0 (0.433)	13.0 (0.512)	18	12.0 (0.472)	18.0 (0.709)
1 μ F	18	7.5 (0.276)	18.0 (0.709)	18	9.0 (0.354)	18.0 (0.709)	25	10.0 (0.394)	25.0 (0.984)
1.5 μ F	13	8.0 (0.315)	13.0 (0.512)	18	11.0 (0.433)	18.0 (0.709)	25	10.0 (0.394)	25.0 (0.984)
1.5 μ F	18	8.5 (0.335)	18.0 (0.709)	25	9.0 (0.354)	25.0 (0.984)	30	11.0 (0.433)	30.0 (1.181)
2.2 μ F	18	9.5 (0.374)	18.0 (0.709)	18	13.0 (0.512)	18.0 (0.709)	25	14.0 (0.551)	25.0 (0.984)
2.2 μ F	25	8.5 (0.335)	25.0 (0.984)	25	11.0 (0.433)	25.0 (0.984)	30	13.0 (0.512)	30.0 (1.181)
3.3 μ F	18	11.0 (0.433)	18.0 (0.709)	18	15.0 (0.591)	18.0 (0.709)	25	17.0 (0.669)	25.0 (0.984)
3.3 μ F	25	10.0 (0.394)	25.0 (0.984)	25	12.0 (0.472)	25.0 (0.984)	30	14.0 (0.551)	30.0 (1.181)
4.7 μ F	18	13.0 (0.512)	18.0 (0.709)	25	15.0 (0.591)	25.0 (0.984)	30	18.0 (0.709)	30.0 (1.181)
4.7 μ F	25	12.0 (0.472)	25.0 (0.984)	30	14.0 (0.551)	30.0 (1.181)	40	11.0 (0.433)	40.0 (1.575)
6.8 μ F	25	15.0 (0.591)	25.0 (0.984)	25	17.0 (0.669)	25.0 (0.984)	30	21.0 (0.827)	30.0 (1.181)
6.8 μ F	30	12.0 (0.472)	30.0 (1.181)	30	16.0 (0.630)	30.0 (1.181)	40	13.0 (0.512)	40.0 (1.575)
10 μ F	25	17.0 (0.669)	25.0 (0.984)	30	18.0 (0.709)	30.0 (1.181)	30	23.0 (0.906)	30.0 (1.181)
10 μ F	30	14.5 (0.571)	30.0 (1.181)	40	16.0 (0.630)	40.0 (1.575)	40	14.0 (0.551)	40.0 (1.575)
15 μ F	upon request			upon request					
22 μ F	upon request			upon request					

Capacitance	400 V DC / 200 V AC			630 V DC / 220 V AC			1000 V DC / 250 V AC		
	Size Code	D	L	Size Code	D	L	Size Code	D	L
0.01 μ F				13	6.5 (0.256)	13.0 (0.512)	13	8.0 (0.315)	13.0 (0.512)
0.015 μ F				13	7.0 (0.276)	13.0 (0.512)	18	8.0 (0.315)	18.0 (0.709)
0.022 μ F	13	6.5 (0.256)	13.0 (0.512)	13	8.0 (0.315)	13.0 (0.512)	18	9.0 (0.354)	18.0 (0.709)
0.033 μ F	13	6.5 (0.256)	13.0 (0.512)	18	6.5 (0.256)	18.0 (0.709)	18	11.0 (0.433)	18.0 (0.709)
0.047 μ F	13	7.5 (0.276)	13.0 (0.512)	18	7.0 (0.276)	18.0 (0.709)	18	12.0 (0.472)	18.0 (0.709)
0.068 μ F	13	8.0 (0.315)	13.0 (0.512)	18	8.0 (0.315)	18.0 (0.709)	25	11.0 (0.433)	25.0 (0.984)
0.1 μ F	18	7.0 (0.276)	18.0 (0.709)	18	10.0 (0.394)	18.0 (0.709)	25	13.0 (0.512)	25.0 (0.984)
0.15 μ F	18	8.5 (0.335)	18.0 (0.709)	25	10.0 (0.394)	25.0 (0.984)	30	14.0 (0.551)	30.0 (1.181)
0.22 μ F	25	9.0 (0.354)	25.0 (0.984)	25	12.5 (0.492)	25.0 (0.984)	30	16.0 (0.630)	30.0 (1.181)
0.33 μ F	25	9.5 (0.374)	25.0 (0.984)	25	13.0 (0.512)	25.0 (0.984)	40	16.0 (0.630)	40.0 (1.575)
0.47 μ F	25	11.0 (0.433)	25.0 (0.984)	25	14.0 (0.551)	25.0 (0.984)	40	19.0 (0.748)	40.0 (1.575)
0.68 μ F	30	10.0 (0.394)	30.0 (1.181)	30	12.0 (0.472)	30.0 (1.181)	40	21.0 (0.827)	40.0 (1.575)
0.68 μ F									
1 μ F	25	16.0 (0.630)	25.0 (0.984)	30	14.0 (0.551)	30.0 (1.181)			
1 μ F	30	11.0 (0.433)	30.0 (1.181)	40	15.0 (0.591)	40.0 (1.575)			
1.5 μ F	30	12.0 (0.472)	30.0 (1.181)	30	16.0 (0.630)	30.0 (1.181)			
1.5 μ F	40	14.0 (0.551)	40.0 (1.575)	40	16.0 (0.630)	40.0 (1.575)			
2.2 μ F	30	13.0 (0.512)	30.0 (1.181)	30	17.0 (0.669)	30.0 (1.181)			
2.2 μ F	40	17.0 (0.669)	40.0 (1.575)	40	18.0 (0.709)	40.0 (1.575)			
3.3 μ F	30	16.0 (0.630)	30.0 (1.181)						
3.3 μ F	40	20.0 (0.787)	40.0 (1.575)						
4.7 μ F									
4.7 μ F									
6.8 μ F									
6.8 μ F									
10 μ F									
10 μ F									
15 μ F									
22 μ F									

BULK: Quantity Per Voltage

Suffix --

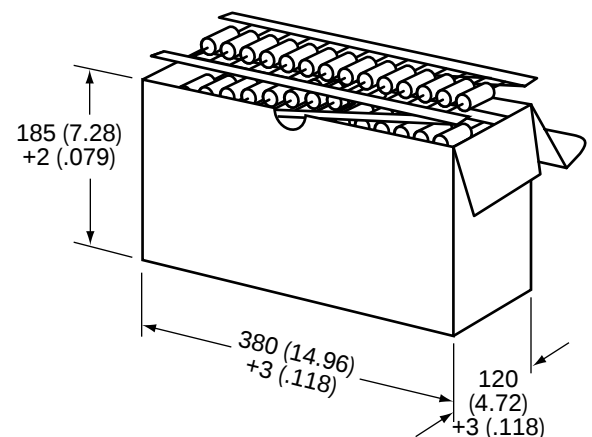
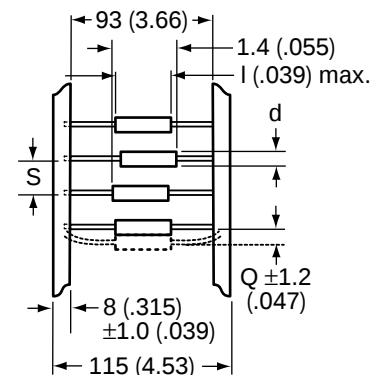
Capacitance	Voltage					
	63 V	100 V	250 V	400 V	630 V	1000 V
0.01 μ F					2000	1250
0.015 μ F					2000	1000
0.022 μ F				2000	1250	750
0.033 μ F				2000	1250	500
0.047 μ F			2000	1500	1250	750
0.068 μ F		2000	2000	1250	1000	500
0.10 μ F		2000	2000	1250	1000	500
0.15 μ F		2000	1500	1000	500	300
0.22 μ F	2000	2000	1250	500	300	200
0.33 μ F	2000	1250	1000	500	300	150
0.47 μ F	2000	1250	750	500	300	150
0.68 μ F	2000	1000	750	400	400	100
1 μ F	1500	750	750	400	300	
1.5 μ F	1500	500	500	400	200	
2.2 μ F	900	400	300	300	200	
3.3 μ F	800	400	300	150		
4.7 μ F	800	400	200			
6.8 μ F	250	400	150			
10 μ F	250	200	150			

AMMOPACK (upon request)

Suffix EN

Ø Capacitor (mm)	5.0 ... 9.0	10.0 ... 14.0	15.0 ... 19.0
Space between capacitors	10 $\pm$ 0.5	15 $\pm$ 0.75	20 $\pm$ 1.0

Capacitance	Voltage					
	63 V	100 V	250 V	400 V	630 V	1000 V
0.01 μ F					1000	800
0.015 μ F					950	800
0.022 μ F				1000	800	700
0.033 μ F				1000	1000	400
0.047 μ F			1000	900	950	300
0.068 μ F		1000	950	800	800	400
0.10 μ F		1000	950	950	450	300
0.15 μ F		1000	900	800	450	300
0.22 μ F	1000	1000	800	700	350	200
0.33 μ F	1000	1100	800	700	300	200
0.47 μ F	950	950	700	400	300	
0.68 μ F	1000	800	450	450	350	
1 μ F	1000	400	300	200	300	
1.5 μ F	800	400	450	350	200	
2.2 μ F	700	300	300	300	200	
3.3 μ F	400	300	200	200		
4.7 μ F	300	300	400			
6.8 μ F	200	200	300			
10 μ F	200	200	300			



Metallized Polyester Film Dielectric Capacitors



Type Selection Guide

Presentation	Type		Nominal Voltage		Capacitance Range (C_R)	Tolerance on C_R (Series)	Lead Spacing mm (inches)
	TPC	UTE	$V_R(V)$	$V_R(V)$			
Radial Leads	BF	CPM-83 C83151	63 ... 400	40 ... 200	1 nF ... 2.2 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12)	5.08 (0.200)
		CPM-N C83151	63 ... 400	40 ... 200	1 nF ... 2.2 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12)	5.08 (0.200)
	BT	CPM85 C83151	63 ... 630	40 ... 220	1 nF ... 22 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	7.5 (0.295) 10.0 (0.394) 15.0 (0.591) 22.5 (0.886) 27.5 (1.083)
		CPM85 C83151	63 ... 1,000	40 ... 250	1 nF ... 22 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	7.5 (0.295) 10.0 (0.394) 15.0 (0.591) 22.5 (0.886) 27.5 (1.083)
	BC / BD		250	—	0.47 μ F ... 2.2 μ F	$\pm 5\%$ $\pm 10\%$	15.0 (0.591)
	BO	CPM50 C83151	40 ... 400	25 ... 200	1 nF ... 22 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	7.5 (0.295) 10.0 (0.394) 15.0 (0.591) 27.5 (1.083)
		CPM13 C83151	63 ... 400	40 ... 200	1 nF ... 10 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	7.62 (0.300) 10.16 (0.400) 15.24 (0.600) 27.94 (1.100)

Axial Leads	S8	CPM8 C83151	63 ... 400	40 ... 200	1 nF ... 10 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	
	SH	CPM8 C83151	63 ... 1,000	40 ... 250	1 nF ... 22 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	
	S9	CPM72 C83151	100 ... 630	40 ... 220	1 nF ... 10 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	
	SG	CPM72 C83151	63 ... 1,000	40 ... 250	1 nF ... 22 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	
	ST		630 ... 10,000		100 pF ... 1.5 μ F	$\pm 5\%$ (E6 - E12) $\pm 10\%$ (E6 - E12) $\pm 20\%$ (E6 - E12)	

Metallized Polyester Film Dielectric Capacitors



HOW TO ORDER

Example of an order: how to order a CPM85 100 nF $\pm 10\%$ 100 V.

BT07	4	E	0104	K	--
Identification Code	Dielectric Class	Voltage Code	Capacitance (EIA code)	Tolerance Code	Suffix
	4			J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$	DA - DB - DC - DD: lead spacing 5.08 mm taped on reel or ammpack EN Radial types: lead spacing 7.5/10/15 mm taped on reel H=16.5 mm Axial type: (SG series only) Ammpack EP: Taped on reel H=18.5 mm (only for BG type) GA or GB: standard axial taped (S8, S9, ST types) -- Bulk
Radial Leads		C = 25/40 V D = 50/63 V E = 100 V F = 160/200 V G = 250 V H = 275/300 V I = 400 V J = 500 V K = 600/630 V L = 1000 V M = 1600 V N = 2000 V P = 2500 V Q = 3000 V R = 4000 V S = 5000 V T = 6000/6300 V U = 8000 V V = 10 kV	Capacitance expressed by 2 significant figures 1st digit: 0 (zero) 2nd and 3rd digit: the 2 significant figures of the capacitance value 4th digit: - for values ≥ 10 pF and ≤ 990 μ F: the number of zeros to be added to the capacitance values - for values ≥ 1 pF and ≤ 9.9 pF: the numerical 9 signifying that the capacitance value is to be multiplied by 0.1 - for values < 1 pF: the numerical 8 signifying that the capacitance value is to be multiplied by 0.01 Example: 1000 pF = 0102 8.2 pF = 0829 0.47 pF = 0478		
CPM83 BF 01 CPM83 BF 02 CPM83 BF 05 CPM83 BF 06 CPM83 BF 07 CPM-N BH 01 CPM-N BH 02 CPM-N BH 05 CPM-N BH 06 CPM-N BH 07 CPM85 BT 07 CPM85 BT 10 CPM85 BT 15 CPM85 BT 22 CPM85 BT 27 CPM85 BG 07 CPM85 BG 10 CPM85 BG 15 CPM85 BG 22 CPM85 BG 27 -- BC 15 -- BD 15 CPM50 BO 07 CPM50 BO 10 CPM50 BO 15 CPM50 BO 27 CPM13 S4 07 CPM13 S4 10 CPM13 S4 15 CPM13 S4 27			Capacitance expressed by 3 significant figures 1st, 2nd and 3rd digit: the 3 significant figures of the capacitance value 4th digit: - for values > 100 pF and ≤ 999 μ F: the number of zeros to be added to the capacitance values - for values > 10 pF and < 100 pF: the numerical 9 signifying that the capacitance value is to be multiplied by 0.1 - for values > 1 pF and < 10 pF: the numerical 8 signifying that the capacitance value is to be multiplied by 0.1 Example: 196 pF = 1960 47.2 pF = 4729 8.28 pF = 8288		
Axial Leads					
CPM8 S8 10 CPM8 S8 14 CPM8 S8 18 CPM8 S8 31 CPM8 SH 13 CPM8 SH 18 CPM8 SH 25 CPM8 SH 30 CPM8 SH 40 CPM72 S9 10 CPM72 S9 14 CPM72 S9 18 CPM72 S9 27 CPM72 S9 31 CPM72 SG 13 CPM72 SG 18 CPM72 SG 25 CPM72 SG 30 CPM72 SG 40 -- ST 22 -- ST 36					