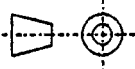
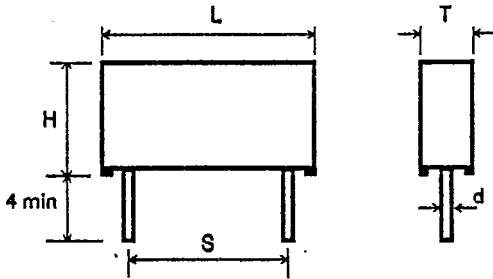


BRITISH STANDARDS INSTITUTION 2 PARK STREET, LONDON	BS CECC 30 501-029  ISSUE 1 FEB 1991
Specification available from: AS SHOWN IN PD 9002, CECC 00200 AND	MANUFACTURER'S TYPE NUMBER PCMR SEE PD 9002 AND CECC 00 200 For ordering information see clause 1.6
ELECTRONIC COMPONENTS OF ASSESSED QUALITY DETAIL SPECIFICATION IN ACCORDANCE WITH BS CECC 30 000: 1984 CECC 30 500: 1987	FIXED METALLIZED POLY- CARBONATE FILM DIELECTRIC D.C. CAPACITOR TYPICAL CONSTRUCTION: RECTANGULAR NON METALLIC CASE, RADIAL LEADS
Outline and dimensions First angle projection   All dimensions in mm: see Table 1 Marking information: see clause 1.5	ASSESSMENT LEVEL E

QUICK REFERENCE DATA

Capacitance range	10 nF to 15 μ F
Capacitance tolerance	$\pm 1\%$, $\pm 2\%$, $\pm 5\%$, $\pm 10\%$, $\pm 20\%$
Rated voltage ranges	40 V d.c. to 630 V d.c.
Climatic category	55/100/56
Performance grade	1 (Long life)

Refer to Qualified Products List PD 9002 and/or CECC 00 200 for details of manufacturers approved to this specification

1. General data

1.1 Recommended method of mounting

Each capacitor shall be mounted on a printed circuit board, the body being pressed firmly against the mounting surface and fixed by soldering the leads. Units of mass of 3g or greater shall also have their bodies clamped.

1.2 Dimensions (see figure on page 1)

Table 1

Case size reference	Case dimensions			Lead spacing			Lead diameter		
	L max	H max	T max	S min	S nom	S max	d min	d nom	d max
1	14.0	11.5	5.5	9.46	10.16	10.51	0.55 0.75	0.60 or 0.80	0.65 0.88
2	14.0	12.5	7.5	9.46	10.16	10.51	0.55 0.75	0.60 or 0.80	0.65 0.88
3	19.0	13.5	8.0	14.54	15.24	15.59	0.75	0.80	0.88
4	19.0	15.5	9.5	14.54	15.24	15.59	0.75	0.80	0.88
5	27.5	20.5	11.0	22.16	22.86	23.21	0.75	0.80	0.88
6	33.0	24.0	14.5	27.24	27.94	28.29	0.75	0.80	0.88
7	33.0	27.5	18.0	27.24	27.94	28.29	0.75	0.80	0.88

1.3 Ratings and characteristics

Capacitance range	10 nF to 15 μ F Preferably selected from the E6 values of IEC 63 (See Table 2). Where the use of other values is essential they shall be chosen from that document		
Tolerance on rated capacitance	$\pm 1\%$, $\pm 2\%$, $\pm 5\%$, $\pm 10\%$, $\pm 20\%$		
Rated voltage	40 Vd.c., 63 Vd.c., 100 Vd.c., 160 V, 250 Vd.c., 400Vd.c., 630 Vd.c. (See Table 2)		
Climatic category	55/100/56		
Rated temperature	85 °C		
Tangent of the loss angle	$C_R \leq 1 \mu\text{F}$	$\leq 30 \times 10^{-4}$	
	$C_R > 1 \mu\text{F}$	$\leq 50 \times 10^{-4}$	
Insulation resistance: Measuring point 1a (between leads)	$C_R \leq 330 \text{ nF}$	$U_R \leq 100 \text{ V}$	$\geq 15 \text{ G}\Omega$
		$U_R > 100 \text{ V}$	$\geq 30 \text{ G}\Omega$
	$C_R > 330 \text{ nF}$	$U_R \leq 100 \text{ V}$	$\geq 5 \text{ ks}$
		$U_R > 100 \text{ V}$	$\geq 10 \text{ ks}$
Measuring point 1c (between leads connected together and foil or V-block)	$\geq 30 \text{ G}\Omega$		

Table 2
Values of capacitance related to voltages and case sizes

Rated voltage (V @ 85°C)	40	63	100	160	250	400	630
Category voltage (V @ 100°C)	32	50	80	128	200	320	504
Rated capacitance	Case size reference						
10 nF						1	1
15 nF						1	1
22 nF					1	1	2
33 nF					1	2	3
47 nF			1	1	1	2	3
68 nF			1	1	2	3	4
100 nF		1	1	1	2	3	5
150 nF		1	2	2	3	4	5
220 nF		1	2	2	3	5	5
330 nF	1	2	3	3	4	5	6
470 nF	1	2	3	3	5	5	6
680 nF	1	3	4	4	5	6	7
1.0 µF	1	3	4	4	5	6	
1.5 µF	3	4	5	5	6	7	
2.2 µF	3	4	5	5	6		
3.3 µF	3	5	5	6	7		
4.7 µF	4	5	6	7			
6.8 µF	5	6	7	7			
10 µF	5	6					
15 µF		7					

Note: Numbers shown in columns 2 to 6 are preferred case size reference numbers. The next lower case size reference number is permitted. See 1.6 Ordering Information.

The preferred case size reference for values of rated capacitance lying between those given above is that corresponding to the next higher value.

1.4 Related documents

IEC 63 (BS 2488)	Schedule of preferred numbers for the resistance of resistors and the capacitance of capacitors for telecommunication equipment
IEC 68 (BS 2011)	Basic environmental testing procedures
IEC 410 (BS 6001)	Sampling procedures and tables for inspection by attributes
BS CECC 30 000	Generic specification for fixed capacitors
BS CECC 30 500	Sectional specification: Fixed metallized polycarbonate film dielectric capacitors for direct current
PD 9002	BS 9000 component selection guide
CECC 00'200	Qualified products list

1.5 Marking

The following information will be marked on the capacitor:

- 1) Rated capacitance
- 2) Rated voltage
- 3) Tolerance on rated capacitance (%)
- 4) Week and year of manufacture
- 5) Type number

The package containing the capacitor(s) shall be clearly marked with all the information listed in 1) to 5) above, together with the following:

- 6) Manufacturer's name
- 7) Climatic category
- 8) Category voltage
- 9) Reference to this detail specification

1.6 Ordering information

Orders for components to this specification shall contain the following minimum information:

- 1) Quantity
- 2) Manufacturer's type number
- 3) Rated capacitance
- 4) Tolerance on rated capacitance
- 5) Rated d.c voltage
- 6) This specification number, issue and date
- 7) Case size reference, if not the preferred size, see Table 2
- 8) Lead length (and diameter for case sizes 1 and 2)

Example: 100 off {Manufacturer's type number} 110 nF $\pm$ 10% 250 V d.c. to
BS CECC 30 501-029, Issue A May 1989, Case size 2, Lead length
20 mm minimum, diameter 0.8 mm

1.7 Certified test records

Not required

1.8 Additional information (not for inspection purposes)**1.8.1 Case size and mass**

Case size reference	1	2	3	4	5	6	7
Nominal mass (g)	1.2	1.7	2.2	4.4	7.7	14.5	16.0

- 1.8.2 This specification is intended to replace:
BS 9076 N004, BS 9076 F0025, BS 9076 F0034, BS 9076 F0037