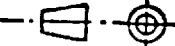
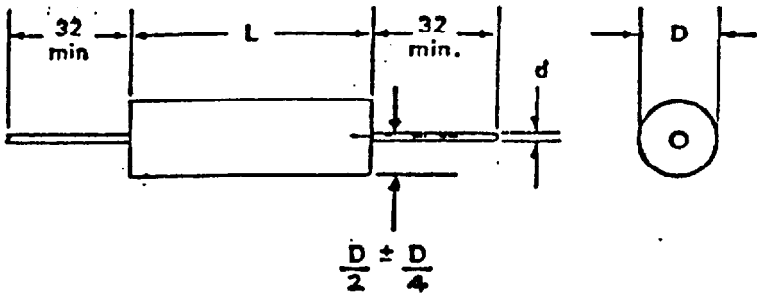


BRITISH STANDARDS INSTITUTION 2, PARK STREET, LONDON, W1A 2BS	CECC 31 201-002 												
Specification also available from: as shown in PD 9002, CECC 00 200 and ASHCROFT ELECTRONICS LTD., SOMERFORD ROAD, CIRENCESTER, GLOS. GL7 1TW TELEPHONE 0285 68567 TELEX 43619	BS CECC 31 201-002 ISSUE 1 MAR. 1986 Page 1 of 16 pages												
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: BS E9070 : 1975 (CECC 30 000) BS CECC 31 200 : 1981	DETAIL SPECIFICATION FOR FIXED METALLIZED POLYPROPYLENE FILM DIELECTRIC D.C. CAPACITORS												
Outline and dimensions First angle projection  All dimensions in mm See Table 1  Marking information - see clause 5	TYPICAL CONSTRUCTION: Cylindrical, non metallic case axial terminations Complies with the requirements of Tables 2 and 3 of BS CECC 31 200												
QUICK REFERENCE DATA <table> <tr> <td>Capacitance range</td><td>2.2 nF to 1000 nF</td></tr> <tr> <td>Capacitance tolerance</td><td>± 5%, ± 10%, ± 20%</td></tr> <tr> <td>Rated voltage range</td><td>1 250 V d.c.</td></tr> <tr> <td>Climatic category</td><td>55/085/56</td></tr> <tr> <td>Performance grade</td><td>Grade 2 (general use)</td></tr> <tr> <td>Manufacturer's Type No.</td><td>LB3 - LD3</td></tr> </table>		Capacitance range	2.2 nF to 1000 nF	Capacitance tolerance	± 5%, ± 10%, ± 20%	Rated voltage range	1 250 V d.c.	Climatic category	55/085/56	Performance grade	Grade 2 (general use)	Manufacturer's Type No.	LB3 - LD3
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See the relevant Qualified Products List for the availability of components qualified to this detail specification.													

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1. Dimensions

- TABLE 1

Dimensions (mm)

Pattern reference	L max	D max	min	d nom	max	Typical mass (g)
A	18.5	9.5	0.55	0.6	0.66	3.0
B	21.5	12.5				3.8
C	28.5	12.5				5.0
D	31.5	14.0				7.0
E	31.5	17.5				8.0
F	46.0	13.0				9.0
G	46.0	15.0	0.75	0.8	0.88	14.0
H	46.0	16.0				20.0
I	46.0	20.0				30.0
K	46.0	23.0				45.0
L	46.0	27.0				60.0
M	46.0	32.0				90.0

2. Specified method of mounting for vibration and shock testing

Each capacitor shall be mounted on a rigid surface plate to simulate a printed circuit board, the body being pressed firmly against the mounting surface and fixed by soldering the leads, which shall be bent through 90°C at a point 6 mm to 6.5 mm from the emergence of the termination. In addition, the body shall be clamped.

3.. Ratings and characteristics

Performance grade	Grade 2 (general use)
Capacitance range	See Table 1 The preferred values are those of the E6 series of BS 2488. Where the use of intermediate values is essential, they should be chosen from that document
Capacitance tolerance	$\pm 5\%$, $\pm 10\%$, $\pm 20\%$
Rated voltage	1 250 V d.c.
Climatic category	55/085/56
Rated temperature	85°C
Tangent of loss angle	$\leq 20 \times 10^{-4}$ at 1 kHz
Insulation resistance	
$C_R \leq 0.33 \mu F$	$\geq 25 \text{ G}\Omega$
$C_R > 0.33 \mu F$	$\geq 7 \text{ 500s}$
Pulse rating	5 GV/s or $\frac{1}{C}$ GV/s whichever is less

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TABLE 1

Values of capacitance related to case sizes

Rated capacitance (nF)	Pattern reference	Type
2.2	A	LB3
3.3	A	
4.7	A	
6.8	A	
10	B	
15	B	
22	C	
33	C	
47	D	
68	E	
100	F	LD3
150	G	
220	H	
330	I	
470	K	
680	L	
1000	M	

Note: The preferred pattern reference for intermediate values of rated capacitance is that corresponding to the next higher value. That corresponding to the next lower value is permitted.

TABLE 3

Other characteristics

(Not for inspection purposes)	
A.C. rating (low frequency)	250 V a.c. (To Y Class of BS 6201 Part 3)

4. Related documents

BS 2011 (IEC 68)	Basic environmental testing procedures
BS 2488	Schedule of preferred numbers for the resistance of resistors and the capacitance of capacitors
BS 6001	Sampling procedures and tables for inspection by attributes
BS E9070 (CECC 30 000)	Generic specification for fixed capacitors
BS CECC 31 200	Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors
CECC 00 200	Qualified products list
PD 9002	BS 9000 and BS CECC qualified products list

5. Marking

The following information will be marked on the capacitor:

- (a) Rated capacitance
- (b) Tolerance on rated capacitance (%)
- (c) Rated voltage
- (d) Type number
- (e) Week and year of manufacture

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

- (f) Manufacturer's name
- (g) Climatic category
- (h) Reference to this detail specification