

BRITISH STANDARDS INSTITUTION
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BS CECC 30301-034

Issue 1 NOVEMBER 1984



Specification available from;
BH Components (Weymouth) Limited,
20-21 Cumberland Drive,
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WEYMOUTH,
Dorset, DT4 9TE.



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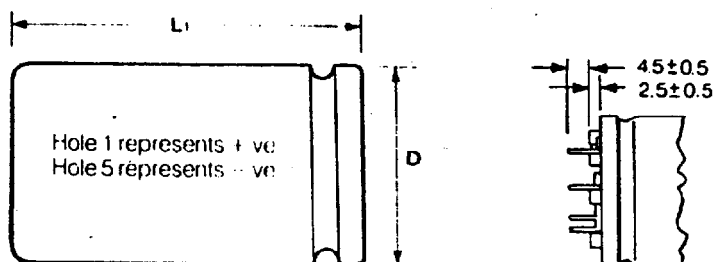
ELECTRONIC COMPONENTS OF ASSESSED QUALITY
DETAIL SPECIFICATION IN ACCORDANCE WITH
BSE 9070 1975
BS CECC 30300 1978

MANUFACTURERS TYPE
NUMBER;

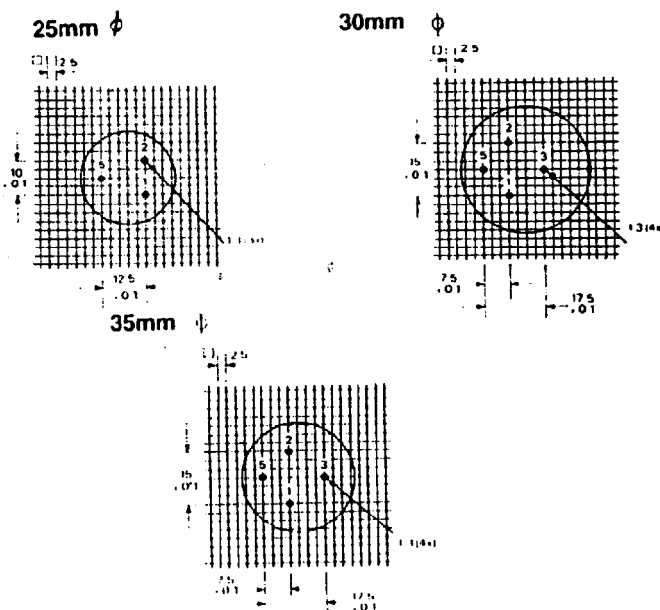
ALP 10

For ordering information see clause 6

Outline and dimensions - See also Table 1



Pin configuration and corresponding mounting
holes (viewed from component side). See note 1



All dimensions in mm.

ALUMINIUM
ELECTROLYTIC
CAPACITOR WITH NON-
SOLID ELECTROLYTE.

GENERAL PURPOSE GRADE.
CYLINDRICAL
INSULATED CASE.

INTENDED FOR PRINTED
CIRCUIT APPLICATION.

FULL ASSESSMENT PLUS
ADDITIONAL

NOTE 1

The pins other than 1 and 5 are for mounting purposes only and are not necessarily isolated from the negative terminal due to the presence of electrolyte.

Refer to Qualified Products List PD 9002 / CECC 00200 for details of manufacturers approved to this specification.

TABLE 1 DIMENSIONS AND RATINGS

Case Size	Capacitance (μF)	Voltage U_R (V dc)	Dimensions (mm)	
			$L1 \pm 2$	$D \pm 2$
1	100	385	35	25
2	150	385	45	30
3	220	385	55	35

2.0 SPECIFIED METHOD OF MOUNTING FOR BUMP AND VIBRATION TESTING

Capacitors shall be mounted by their body which shall be rigidly clamped to the work surface.

3.0 RATINGS AND CHARACTERISTICS

3.1 Application Grade	General Purpose Grade
3.2 Rated Capacitance	100 μF , 150 μF , 220 μF
3.3 Capacitance Tolerance	-10% + 30%
3.4 Rated Voltage (U_R)	385V dc
3.5 Category Voltage (U_C)	385V dc
3.6 Category Temperature Range	-40°C to +85°C
3.7 Climatic Category	40/56/85
3.8 Leakage Current	(0.006CV + 4) μA (See note 5)
3.9 Tangent of Loss Angle	See table 2
3.10 Impedance	See table 2
3.11 Maximum Ripple Current	See table 2

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TABLE 2 MAXIMUM VALUES OF RIPPLE CURRENT AT 100Hz AND 85°C
MAXIMUM VALUES OF TANGENT OF LOSS ANGLE AT 100Hz
MAXIMUM VALUES OF IMPEDANCE AT 10KHz

Capacitance (μF)	Voltage U_R (V dc)	Ripple Current (amps. max)	Tangent of Loss Angle (Max)	E.S.R. (ohms max)	Impedance (ohms max.)
100	385	0.6	0.2	T.B.A.	0.4
150	385	0.95	0.2	T.B.A.	0.26
220	385	1.3	0.2	T.B.A.	0.2

Note 4 : The capacitors may be used for any lower voltage rating.

Note 5 : Leakage current maximum permissible values are derived from the empirical term $(0.006CV + 4) \mu\text{A}$ where C is the rated capacitance of the capacitor in μF and V is the rated voltage of the capacitor in volts. The dimensions of C and V are not required for this derivation.

Note 6 : The ripple current ratings are the maximum permissible value at a frequency of 100Hz at 85°C.

To obtain the ripple current rating at 50Hz, the figure for 100Hz must be multiplied by $1/\sqrt{2}$.

It should be noted that the life of the capacitor is extended by operating at lower ripple currents and lower ambient temperatures.

Note 7 : A capacitor may be mounted in any position.

Note 8 : The capacitors are fitted with a non-breathing safety vent.

4.0 RELATED DOCUMENTS

B S 6001

Sampling procedures and Table for Inspection by Attributes.

B S E 9000

General requirements for Electronic Components of Assessed Quality.

CECC. 00200

Qualified Products List.

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4.0 RELATED DOCUMENTS (cont)

BS. CECC. 30000, 1975	Generic specification for fixed capacitors.
BS. CECC. 30300, 1978	Sectional specification Aluminium Electrolytic Capacitors.

P.D. 9002

Qualified Products List.

5.0 MARKING

Capacitors shall be marked with items 1-4 and as many of the remaining as is practical.

1. Rated Capacitance in microfarads.
2. Rated Voltage.
3. Polarity of termination.
4. Tolerance on rated capacitance.
5. Rated Ripple current.
6. Climatic category.
7. Manufacturers trade name or mark.
8. Year and Month (or week) of manufacture.
9. Manufacturers part number.
10. The number of this detail specification.

The package containing the capacitors shall be marked with all the information listed in clause 1.4 of BS CECC 30300 as far as applicable.

6.0 ORDERING INFORMATION

Orders for components to this specification shall include the following information:

1. Quantity.
2. Manufacturer's Type Number.
3. Capacitance and Rated Voltage.
4. Case size.
5. This BS CECC specification number, issue and date.

Example:

1000 off ALP10 220 μ F 385V Case size 1 to BS CECC 30301 Issue A March 1983.

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7.0 QUALIFICATION APPROVAL AND QUALITY CONFORMANCE INSPECTION

- 7.1. For Qualification Approval Tests and Quality Conformance Inspection the test schedule, severities and requirements are given in Table 4.
- 7.2. Qualification Approval Tests will be carried out in accordance with BS CECC 30300 Para. 3.3.
- 7.3. Quality Conformance Inspection will be carried out in accordance with BS CECC 30300 Para. 3.4.
- 7.4. Samples submitted to tests marked 'D' shall not be accepted for release.
- 7.5. The performance requirement for visual inspection shall be:
"There shall be no leakage of electrolyte or other visible damage that will affect the useability of the capacitor for its intended purpose".

8.0 CERTIFIED TEST RECORDS

Certified test records are required in accordance with BS CECC 30300.

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TABLE 4 LOT BY LOT INSPECTION (GROUP A & B)

CLAUSE NUMBER AND TEST (See Note 1)	D or ND (3)	CONDITIONS OF TEST	IL (2)	AQL (2)	PERFORMANCE REQUIREMENTS (See Note 1)
<u>GROUP A INSPECTION</u> To be conducted on a sampling basis lot by lot <u>Subgroup A1</u> 4.3 Visual examination Marking Dimensions	ND		S-4	2.5	See clause 7.5 of this specification See clause 5.0 of this specification As Table 1 of this specification
<u>Subgroup A2</u> 4.2 Preconditioning 4.4 Leakage Current 4.5 Capacitance 4.6 Tangent of the loss angle 4.7 Impedance	ND	$f = 100\text{Hz}$ $f = 1\text{MHz}$ $f = 10\text{KHz}$	II	1.0	$\leq (0.006CV + 4)\mu\text{A}$ (See note 5 of this specification) Within the specified tolerance 0.2 max See table 2 of this specification
<u>GROUP B INSPECTION</u> To be conducted on a sampling basis lot by lot. <u>Subgroup B1</u> 4.10.2 Solderability	ND	Method 1 of test Ta	S3	2.5	The terminations shall be uniformly tinned.