

Förderverein für Elektrotechnische Normung (FEN) e. V.
Cenelec Electronic Components Committee

CECC



Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION PARTICULIERE CADRE:

TUBES PHOTOMULTIPLICATEURS

Harmonized System of Quality Assessment for
Electronic Components

BLANK DETAIL SPECIFICATION:

PHOTOMULTIPLIER TUBES

1
Edition
Issue
Ausgabe

CECC 14001

1984

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FOREWORD

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This specification has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to issue national harmonized specifications for PHOTOMULTIPLIER TUBES. It should be read in conjunction with document CECC 00 100: Basic Rules (1974).

At the date of printing of this document the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. Copies of it can be obtained from the addressees shown on the blue fly-sheet.

PREFACE

This blank detail specification was prepared by CECC Working Group 11: "Electro-optical devices".

It is a blank detail specification for photomultiplier tubes relating to the generic specification CECC 14 000.

The text of this specification was circulated to the CECC for voting in the document indicated below and was ratified by the President of the CECC for printing as a CECC Specification:

<u>Document</u>	<u>Voting Date</u>	<u>Report on the Voting</u>
CECC(Secretariat)994	June 1981	CECC(Secretariat)1078

It is recognized that the layout proposed cannot be applied to all detail specifications based on this document.

The CECC Management Committee at its meeting in Copenhagen in March 1979 decided that as the German National Authorized Institution would not be implementing the requirements of this CECC specification, the text should be published in the English and French versions only.

Key for page 3

The numbers between square brackets on page 3 correspond to the following indications which should be given:

Identification of the detail specification

- [1] The name of the National Standards Organization under whose authority the detail specification is published, and, if applicable, the organization from whom the detail specification is available
- [2] The CECC Symbol and the number allotted to the detail specification by the CECC General Secretariat
- [3] The number and issue number of the CECC generic or sectional specification as relevant; also national reference if different
- [4] If different from the CECC number the national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers.

Identification of the component

- [5] A short description of the type of component
- [6] Information on typical construction (where applicable)

For [5] and [6] the text to be given in the detail specification should be suitable for an entry in CECC 00 200 (QPL) and CECC 00 300 (Library List).

- [7] Outline drawing and/or reference to the relevant document for outlines
- [8] Application or group of applications covered (see Note below)
- [9] Reference data on the most important properties, to allow comparison between the various component types.

NOTE

When a device is so designed that it can satisfy several applications, this should be stated in the detail specification, in which case the characteristics and inspection requirements relevant to these applications should be met simultaneously (these may appear in different columns of a detail specification or in different detail specifications, as the case may be).

[1]	Page: of	CECC 14 001-XXX	[2] 
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH		[4]	
DETAIL SPECIFICATION FOR: PHOTOMULTIPLIER TUBES		[5]	
DESCRIPTION and CONSTRUCTION	Photocathode type, and window material Dimensions of photocathode window Number of stages, dynode geometry and type.		[6]
OUTLINE DRAWING (Not for inspection purposes)	[7]	[8]	
Overall length; Base - Reference to IEC 67 or REFERENCE TO THE INSPECTION DRAWING		APPLICATIONS LEVEL OF QUALITY ASSESSMENT	
DATA (Not for inspection purposes)		[9]	
Mechanical			
Mounting position and accessories			
Mass			
Environmental (where applicable)			
<u>LIMITING VALUES</u> (Absolute maximum rating system - IEC 134)		Min. Max. Unit	
Overall voltage (subject to not exceeding the rated anode luminous sensitivity)		* V	
Cathode to first dynode voltage		* V	
Anode to last dynode voltage		* V	
Voltage between successive dynodes		* V	
Anode sensitivity		* A/lm or A/W	
Anode current (mean)		* mA	
Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200: Qualified Products List.			

* Denotes that a value shall be inserted in the detail specification.

LIMITING VALUES (Contd.)

	Min.	Max.	Unit
Anode power dissipation		*	W
Cathode current		*	μ A
Storage temperature of specified duration	*	*	$^{\circ}$ C
Operating temperature of specified duration (ambient)	*	*	$^{\circ}$ C

The data and descriptions listed are examples only; the specification writer shall include data relevant to the tube application.

OPERATING CONDITIONS AND TYPICAL CHARACTERISTICS

(Specification writer to select from the following as required by the tube design).

When the tube is operated under the conditions given below, the characteristic values which follow them are attainable:

- Electrode voltages or dynode chain with total voltage *
- Anode sensitivity*

	Min.	Max.	Unit
Cathode sensitivity			μ A/lm or mA/W
Transit time		*	ns
Capacitance, anode to all dynodes		*	pF
Anode dark current		*	nA
Anode pulse rise time		*	ns

The characteristics listed are examples only, the specification writer shall include those characteristics which are relevant to the tube operation.

MARKINGORDERING INFORMATIONRELATED DOCUMENTSSTRUCTURAL SIMILARITYX-RADIATIONADDITIONAL INFORMATION

- recommended precautions.
- spectral/characteristic curves

* Indicates that a value/or values shall be inserted in the detail specification.