SLOVENSKI STANDARD
SIST EN 113001:2002

01-september-2002

Blank detail specification: Camera tubes

Blank Detail Specification: Camera tubes

Vordruck für Bauartspezifikation: Eine deutsche Version liegt zur Zeit nicht vor

Spécification particulière cadre: Tubes de prise de vues

Ta slovenski standard je istoveten z: EN 113001:1991

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment

SIST EN 113001:2002 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 113001

December 1991

UDC:

Descriptors: Quality, electronic components, tubes

English version

Blank Detail Specification: Camera tubes

Spécification Particulière Cadre:
Tubes de prise de vues

Vordruck für Bauartspezifikation:
*Eine deutsche Version liegt zur Zeit nicht vor**

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 20 November 1991. The text of this standard consists of the text of CECC 13001 Issue 1 1980 of the corresponding CECC Specification. CENELEC members are bound to comply with CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the General Secretariat of the CECC or to any CENELEC member.

This European Standard exists in three official versions (English, French, German*). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.

CECC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Ref. No. EN 113001:1991 E

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 recognised Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This document has been formally approved by the CECC, and has been prepared for those member countries, taking part in the System who wish to issue national harmonized specifications for CAMERA TUBES. It should be read in conjunction with document CECC 00100: Basic Rules (1974).

Preface

This blank detail specification was proposed by CECC Working Group 11: "ELECTRO-OPTICAL DEVICES".

It is a blank detail specification for camera tubes relating to the generic specification CECC 13000.

The text of this specification was circulated to the CECC, for voting, in document CECC (Secretariat)302 in September 1974 and following ratification of the Report on the Voting in CECC (Secretariat)444 in October 1975 was approved by the CECC Management Committee for printing as a CECC Specification.

It is recognised 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 blank detail specification, the text should be published in the English and French versions only.

Key for page 4

The numbers between square brackets on page 4 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 drafted

[2] The CECC Symbol and the number allotted to the national detail specification by the CECC General Secretariat

[3] The number and issue number of the national generic and sectional specifications

[4] The national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers if issued.

Identification of the component

[5] A short description of the type of component

[6] Information on typical construction (where applicable)

[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:	[2] CECC 13001 — XXX
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH: [3]		[4]

[5]

DETAIL SPECIFICATION FOR: PHOTOCONDUCTIVE CAMERA TUBES

TYPE NUMBER(S)

DESCRIPTION and CONSTRUCTION	Diameter of faceplate Spectral range (visible, ultra violet or infra red etc.) Methods of focusing and deflection Mesh connection (that is separate or internal)	[6]

OUTLINE DRAWING (not for inspection purposes) CONNECTIONS AND ELECTRODE DESIGNATIONS	[7]	APPLICATION(S) LEVEL OF QUALITY ASSESSMENT	[8]

DATA (not for inspection purposes) [9]

Mechanical

Mounting position and accessories and magnetic shielding

Mass

Environmental (where appropriate)

Limiting values (absolute maximum rating system — IEC 134)

	Min	Max	Units
Heater voltage	a	a	V
Heater to cathode, positive voltage		a	V
negative voltage		a	V
First anode (accelerator electrode) voltage		a	V
Focus electrode voltage		a	V
Control grid voltage	a	a	V
Mesh voltage		a	V
Faceplate illuminance		a	lx
Faceplate temperature	a	a	°C
Signal electrode voltage		a	V

See the relevant Qualified Products List for availability of components qualified under this detail specification.

[a] denotes that a value shall be inserted in the detail specification.

Operating conditions and typical characteristics

	Min	Max	Units
Heater current at V_f = [a]V	[a]	[a]	mA
Scanned area dimensions	[a]x[a]		mm
Alignment coil current or field		[a]	[a]

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

V_{g_1}	= [a]V	focus field = [a]Tesla	
V_{g_2}	= [a]V	scan standards[a]	
V_{g_3}	= [a]V	faceplate temperature = [a] °C	
V_{g_4}	= [a]V		

(or electrodes as designated on Page 4)

At least one of the following conditions shall be inserted in the detail specification:

(1) Signal electrode voltage set to obtain dark current

I_d = [a]nA	[a]	[a]	V
Faceplate illuminance, E = [a]lx			
Signal current	[a]	[a]	nA
Resolution, expressed as the percentage modulation of a grating pattern given in line pairs per mm, TV lines or MHz	[a]		%
Decay lag, expressed as the percentage of the signal amplitude ...[a]ms after termination of illumination		[a]	%

(2) Signal electrode voltage set to obtain signal current

I_S = [a]nA at faceplate illuminance E = [a]lx	[a]	[a]	V
Dark current		[a]	nA
Resolution, expressed as the percentage modulation of a grating pattern given in line pairs per mm, TV lines or MHz	[a]		%
Decay lag, expressed as the percentage of the signal amplitude ...[a]ms after termination of illumination		[a]	%

(3) Signal electrode voltage set to [a]volts
Faceplate illuminance E = [a]lx

Signal current	[a]	[a]	nA
Dark current		[a]	nA
Resolution, expressed as the percentage modulation of a grating pattern given in line pairs per mm, TV lines or MHz.	[a]		%
Decay lag, expressed as the percentage of the signal amplitude ...[a]ms after termination of illumination		[a]	%

[a] denotes that a value or unit shall be inserted in the detail specification.

Marking See **2.4** of CECC 13000.

Ordering information

Related document — CECC 13000: Camera Tubes.

Structural similarity

X-radiation A warning note on hazards to health, and recommended safeguards

Additional information A manufacturer may, at his discretion, give Advice on mounting the tube

Deflection coil position

Recommendation on impedance of associated circuits

Recommendations for shielding from magnetic fields and for location and orientation of magnetic components in the vicinity of the tube

Advice on the operation of the tube for correct or best performance, including alignment procedure

Graphs on characteristic relationships and, (if applicable), optical characteristics of the faceplate.

TEST CONDITIONS AND INSPECTION REQUIREMENTS

These are given in the following tables. The test conditions to be used shall be specified in the detail specification as required for a given type, in line with the requirements given in CECC 13000 for the relevant test.

All references to clause numbers are made with respect to CECC 13000 unless otherwise stated.

Group A — Lot-by-lot

General test conditions [a] (unless otherwise specified for particular tests).

See also sub-clauses **4.1** to **4.8** of IEC 151-26.

All potentials are defined with respect to the cathode.

All tests are non destructive AQL: given in %

Inspection or Test	Reference CECC 13000	Conditions of Test	Inspection requirements Min	Max	Units	IL	AQL
Sub-group A1						100 %	
— Visual inspection	**4.3**	As specified	**4.3**				
— Gas test	**4.5.16**	As specified		[a]	nA/µA		
— Signal current/sensitivity	**4.5.4**	At least one of the following conditions shall be selected:					
(1) Signal electrode voltage, Signal current	**4.5.4.1**	(1) Dark current I_d = [a]nA E = [a]lx	[a] [a]	[a] [a]	V nA		
or	or	or					
(2) Signal electrode voltage, Dark current	**4.5.4.2**	(2) Signal current I_S = [a]nA E = [a]lx	[a]	[a] [a]	V nA		
or	or	or					
(3) Signal current, Dark current	**4.5.4.3**	(3) Signal electrode voltage = [a]V E = [a]lx	[a]	[a] [a]	nA nA		
— Picture blemishes	**4.5.5**	As specified	As specified in detail specification				

[a] denotes that a value shall be inserted in the detail specification.

Group A — Lot-by-lot							
Inspection or Test	Reference CECC 13000	Conditions of Test	Inspection requirements				
			Min	Max	Units	IL	AQL
Sub-group A2						II	1,5
— Picture cut-off control grid voltage	4.5.6	As specified	[a]	[a]	V		
— Signal current uniformity	4.5.9	As specified		[a]	%		
— Alignment coil current or field	4.5.10	As specified		[a]	[a]		
Sub-group A3						S4	6,5
— Heater current or voltage	4.5.1	As specified	[a]	[a]	[a]		
— Heater-to-cathode leakage current	4.5.2	As specified		[a]	µA		

[a] denotes that a value shall be inserted in the detail specification.

Group B — Lot by lot							
General test conditions — as for Group A							
Only tests marked (D) are destructive. AQL: given in %							
Inspection or Test	Reference CECC 13000	Conditions of Test	Inspection requirements				
			Min	Max	Units	IL	AQL
— Dimensions, major	4.4	See 4.4	See inspection drawing			S4	4,0
If the detail specification includes additional tests which are destructive tests, these shall be marked (D).							