SLOVENSKI STANDARD

SIST EN 136002:2004

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Okvirna podrobna specifikacija: magnetroni C.W. za RF ogrevanje ali kuhinjsko uporabo

Blank detail specification: C.W. magnetrons for RF heating or cooking applications

ICS 31.100

Referenčna številka
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EUROPEAN STANDARD
NORME EUROPÉENNE
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UDC:

Descriptors: Quality, electronic components, magnetrons

English version

Blank Detail Specification:

C.W. magnetrons for RF heating or cooking applications

Spécification Particulière Cadre:
Magnétrons à onde entretenue utilisés pour le chauffage en hyperfréquences ou la cuisson des aliments

Vordruck für Bauartspezifikation:
Dauerstrich-Magnetrons für HF-Erwärmung oder Kochanwendung

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 14 January 1992. The text of this standard consists of the text of CECC 36 002 Issue 1 1978 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

CENELEC Electronic Components Committee
Comité des Composants Electroniques du CENELEC
CENELEC Komitee für Bauelemente der Elektronik
General Secretariat: Gartenstr. 179, D- 6000 Frankfurt/Main 70

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 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 document has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to prepare and issue national harmonized detail specifications for CW MAGNETRONS FOR RF HEATING OR COOKING APPLICATIONS. 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 Belgium, Denmark, Germany, France, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom, and copies of it can be obtained from the National Committees of the CENELEC in these countries.

PREFACE

This blank detail specification was prepared by CECC Working Group 13: "Microwave Tubes".

It is one of a series of blank detail specifications for magnetrons, all relating to the generic specification printed as CECC 36 000.

In accordance with the requirements of document CECC 00 100 it is based, wherever possible, on the Recommendations of the International Electrotechnical Commission and in particular on IEC Publication 235: Measurement of the electrical properties of microwave tubes.

The text of this specification was circulated to the CECC for voting in document CECC(Secretariat)479 in June 1976 and was ratified by the CECC for printing as a CECC Specification.

1 General

This blank detail specification shows the layout and contents to be followed in the preparation of harmonized detail specifications for CW magnetrons for rf heating or cooking applications (see Appendix A).

These requirements include the following:

- Identification of the harmonized detail specification
- Identification of the tube
- Supplementary information
- Test schedule and inspection requirements
- Information on application of the tube (if required)

2 Identification of the harmonized detail specification

2.1 The name of the National Standards Organization under whose authority the detail specification is drafted.

2.2 The CECC symbol and the number allotted to the national detail specification by the CECC General Secretariat.

2.3 The number and issue number of the national generic specification.

2.4 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.

3 Identification of the tube

3.1 A short description of the type of tube and type number.

3.2 Information on typical construction (where applicable).

3.3 An outline drawing with main dimensions which are of importance for interchangeability. Alternatively, this drawing may be given in an appendix to the detail specification.

3.4 The application or group of applications covered, or, preferably, the level of quality assessment covered by the detail specification.

3.5 Brief information on the most important properties of the component (extracted from paragraph 6 of this specification) to allow comparison between the various component types intended for the same, or for similar application.

4 Supplementary information (not for inspection puposes)

Following the information given in accordance with 2 and 3 , space shall be allocated for the following information:

- Structural similarity features of the tube which may be relevant for inspection purposes.
- Requirements for certified test records.
- Marking requirements (in accordance with 2.5 of CECC 36 000).
- Ordering information.

5 Additional information (not for inspection purposes)

Following the information given in accordance with 4, space may then be allocated for any additional information which may be of help to the user of the tube.

This information may include:

- Any requirements of a precautionary nature
- Mounting requirements
- Cooling requirements
- Any special setting up or switching requirements.

6 Data (not for inspection purposes)

Detail specifications shall include data on the following properties, but not necessarily in the order given:

6.1 Mechanical and environmental data

- Dimensioned engineering drawing
- Mass of the tube (including magnet if integral with tube)
- Mounting position and accessories
- Precautions to be taken with respect to external magnetic influences; ambient magnetic fields and distance from ferromagnetic materials.
- Cooling requirements
- Maximum temperatures of specified reference points
- Limiting values for shock and vibration (if required by the application)
- Ambient temperature range, storage and operating.

6.2 Electrical characteristics

- Frequency range — min and max
- Power output under stated conditions
- Anode voltage under stated conditions — min and max
- Filament (or heater) voltage or current reduction scheme (if required)
- Filament (or heater) cold resistance (if required) — min
- Characteristic curves
  - (1) Load diagram
  - (2) Power output/mean current
  - (3) Performance chart

  } If required by the application

6.3 Electrical limiting values

Absolute maximum rating system in accordance with IEC 134.

- Cathode preheating time at minimum heater voltage or current — min
- Heater surge current (if applicable) — max
- Heater starting voltage or current — min and max
- Heater operating voltage or current — min and max
- Anode mean current or mean anode input power — min and max
- Anode peak current (where applicable) — max
- Peak anode voltage — max
- Load mismatch (v.s.w.r.) — max
- h.t. delay time (if required) — min

Inspection Requirements for Quality Conformance

(see Note 1)

Group A Inspection (lot by lot)

Examination or Test	D ND See Note 2	Ref. in CECC 36 000	Conditions of Test	Limits		Units	IL	AQL
				min	max			%
Sub-group A 1	ND						100%	
Visual inspection		4.4.1	No voltages					
Holding period 24 h (min)			No voltages					
Post holding period test:								
Moding		4.5.9	Magnetic field(for unpackaged magnetrons)	no moding				
			Heater voltage .....V or A or current					
			Anode mean current .....A					
			Anode peak current (where applicable) .....A					
			stated load conditions					
Frequency		4.5.3	Magnetic field (for unpackaged magnetrons)	✓	✓	GHz		
			Heater voltage ....V or A or current					
			Anode mean current .....A					
			Anode peak current (where applicable) .....A					
			stated load conditions					
Mean r.f. output power		4.5.2	As for frequency	✓		W		
Anode voltage		4.5.8	As for frequency	✓	✓	kV		
Sub-group A 2	ND							
Major dimensions (those affecting mechanical interchangeability)		4.4.2	See drawing on page				II	2,5
Heater current or voltage			Heater voltage.....V or A or current	✓	✓	A or V	II	2,5
			No anode voltage					

Group B Inspection - not applicable

Group C Inspection (12 monthly)								
Examination or Test	D ND See Note 2	Ref. in CECC 36 000	Conditions of Test	Limits		Units	Inspection requirements	
				min	max		n	c
Detailed dimensions	ND	4.4.2	See drawing on page				5	1
Robustness of terminations (if required by the application)	ND	4.7.1	No voltages				5	1
Group D Inspection (Qualification approval only)								
Electrical endurance	D	4.8	Magnetic field (for unpackaged magnetrons)				See 3.3 of CECC 36 000	
			Heater voltage .....V or A or current					
			Anode mean current .....A					
			Anode peak current (where applicable) .....A					
			stated load conditions					
			Duration ....h					
Post electrical endurance tests:								
Mean r.f. output power		4.5.2	As for Sub-group A1 (see note 3)			W		