SLOVENSKI STANDARD

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Okvirna podrobna specifikacija: impulzni magnetroni (razen magnetronov s spreminjajočo se frekvenco)

Blank detail specification: pulsed magnetrons (excluding frequency agile magnetrons)

ICS 31.100

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Blank Detail Specification:

Pulsed magnetrons
(Excluding frequency agile magnetrons)

Spécification Particulière Cadre:
Magnétrons à impulsions
(à l'exclusion des magnétrons agiles en fréquence)

Vordruck für Bauartspezifikation:
Pulsmagnetrons
(ausschließlich Springfrequenz-Magnetrons)

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 36 001 Issue 1 1977 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 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 the 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 PULSED MAGNETRONS (excluding frequency agile magnetrons). 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)319 in April 1975 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 harmonised detail specifications for pulsed magnetrons, including coaxial types, tunable and adjustable types, but excluding frequency agile types. (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 Organisation 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.

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 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 applications. This shall include a hazard warning if applicable.

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:

- Structurally similar 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)

- Minimum ambient air pressure (if required by the application)

- Ambient temperature range, storage and operating

6.2 Electrical characteristics

- Frequency range

- Power output under stated conditions

- Pulse voltage under stated mean current and duty factor

- Frequency pushing figure under stated conditions (if required by the application)

- Frequency pulling figure under stated conditions

- Heater voltage reduction scheme (where applicable)

- Characteristic curves

(1) Load diagram
(2) Power output/mean current
(3) Performance Chart
} If required by the application

- Spectrum width (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 peak current	min and max
- Pulse duration	min and max
- Duty factor	max
- Rate of rise of anode voltage	max (and min where applicable)
- Load v.s.w.r	max

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 Min	Limits Max	Units	I L	AQL %
Sub-group A1	ND						100%	
Visual inspection		4.4.1.	No voltages					
Holding period 24 h (min)			No voltages					
Post holding period test:								
Mean r.f. output power		4.5.2.	Magnetic field (for unpackaged magnetrons)	√	√ (where applicable)	W		
			Heater voltage V					
			Anode mean current ..... A					
			Rate of rise of voltage pulse ..... kV/μs					
			Pulse duration ..... μs					
			Duty factor					
			Load v.s.w.r. ≤ 1,05					
			Frequency (for tunable magnetrons) ..... GHz					
Frequency (for fixed frequency magnetrons)		4.5.3.	Magnetic field (for unpackaged magnetrons)	√	√	GHz		
			Heater voltage V					
			Anode mean current ..... A					
			Rate of rise of voltage pulse ..... kV/μs					
			Pulse duration ..... μs					
			Duty factor					
			Load v.s.w.r. ≤ 1,05					

Examination or Test	D ND See Note 2	Ref. in CECC 36 000	Conditions of Test	Limits Min	Limits Max	Units	I L.	AQL %
Frequency tuning range (for tunable magnetrons)		4.5.4.	Magnetic field (for unpackaged magnetrons) Heater voltage ..... V Anode mean current ..... A Rate of rise of voltage pulse ..... kV/μs Pulse duration ..... μs Duty factor ..... Load v.s.w.r. ≤ 1,05 Mean & output power(min) ....W	√	√	GHz		
Spectrum width (if required by the application)		4.5.3.	Magnetic field (for unpackaged magnetrons) Heater voltage ..... V Anode mean current ..... A Rate of rise of voltage pulse ..... kV/μs Pulse duration ..... μs Duty factor ..... Frequency ..... GHz (for tunable magnetrons) Measure between ..... dB points Load v.s.w.r.		√	MHz		
Sub-group A2	ND							
Major dimensions (those affecting mechanical interchangeability)		4.4.2	See drawing on page				II	1,0