

European Committee for Electrotechnical Standardization (CENELEC)
Cenelec Electronic Components Committee

CECC

Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION PARTICULIERE:

VARISTANCES BASSE TENSION POUR MATERIEL TELEPHONIQUE

Disque avec sorties unidirectionnelles par fils: protégé
1,0 W: Niveau d'assurance de qualité P

Harmonized System of Quality Assessment for
Electronic Components

DETAIL SPECIFICATION:

LOW VOLTAGE VARISTORS PRIMARILY FOR TELEPHONY APPLICATIONS

Disc type, with unidirectional wire terminations: protected
1,0 W: Assessment level P

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

BAUARTSPEZIFIKATION: NIEDERSPANNUNGS- VARISTOREN VORZUGSWEISE FÜR TELEPHONIE-ANWENDUNGEN

Scheibenbauform mit einseitig herausgeführten
Anschlußdrähten: lackumhüllt
1,0 W: Gütebestätigungsstufe P



1 Edition
Issue
Ausgabe

CECC 42 101-802

1982

Information about the System may be obtained from:



FEN e.V. Secretariat
and
CECC General Secretariat
Gartenstraße 179
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or from the National Authorized Institutions
of the participating countries listed
who can supply copies of:

- 1 The Internal Regulations of the FEN e.V.
- 2 The Rules of Procedure of the System
- 3 CECC Specifications of the FEN and National Specifications for the System
- 4 CECC 00 200: Qualified Products List (QPL)
- 5 CECC 00 300: CECC Publications and their related national documents
- 6 Other CECC Publications and publicity documents

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Cette page bleue doit être insérée après la page de garde de la CECC 42 101-802 (Edition 1)

ERRATA A LA CECC 42 101-802:

SPECIFICATION PARTICULIERE:

VARIANCES BASSE TENSION POUR MATERIEL TELEPHONIQUE

La correction suivante doit être effectuée à l'Edition 1 (1982) de la CECC 42 101-802:

Remplacer la présente page 1 (Edition 1) par la nouvelle page 1 (Edition 1) Errata.

CECC 42 101-802 Edition 1 Errata 1982

This blue page shall be inserted after the title page of CECC 42 101-802 (Issue 1)

ERRATA TO CECC 42 101-802:

DETAIL SPECIFICATION:

LOW VOLTAGE VARISTORS PRIMARILY FOR TELEPHONY APPLICATIONS

The following correction to Issue 1 (1982) of CECC 42 101-802 shall be made:

Remove existing page 1 (Issue 1) and insert new page 1 (Issue 1) Errata.

CECC 42 101-802 Issue 1 Errata 1982

Dieses blaue Blatt ist nach dem Titelblatt der CECC 42 101-802 (Ausgabe 1) einzusetzen

ERRATA ZU CECC 42 101-802:

BAUARTSPEZIFIKATION:

NIEDERSpannungSVarISTOREN VORZUGSWEISE FÜR TELEPHONIE-ANWENDUNGEN

Die folgende Korrektur ist in Ausgabe 1 (1982) von CECC 42 101-802 vorzunehmen:

Vorhandene Seite 1 (Ausgabe 1) herausnehmen und durch neue Seite 1 (Ausgabe 1) Errata ersetzen.

CECC 42 101-802 Ausgabe 1 Errata 1982

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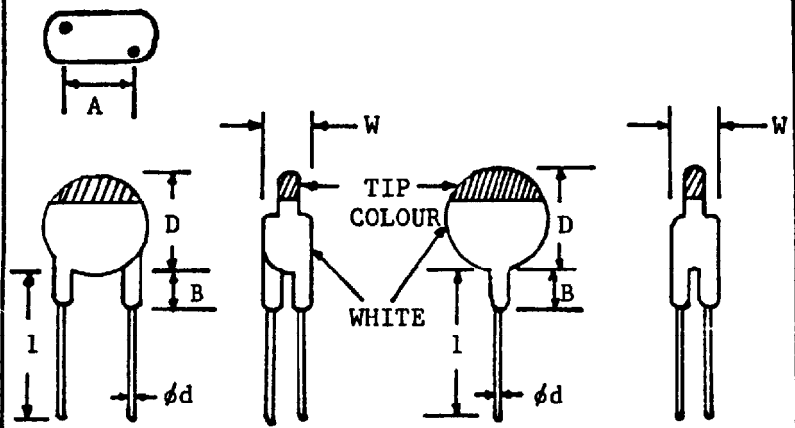
PREFACE

This detail specification was prepared by CECC Working Group 4 : "Resistors".

It is one of a series of detail specifications for low voltage varistors primarily for telephony applications, all relating to the generic specification printed as CECC 42 000, the sectional specification printed as CECC 42 100 and the blank detail specification printed as CECC 42 101.

The text of this specification was circulated to the CECC for voting in the document listed below and was ratified by the CECC for publishing as a CECC Specification.

<u>Document</u>	<u>Voting date</u>	<u>Report on the voting</u>
CECC(Secretariat)824	October 1979	CECC(Secretariat)953

Copies of this specification can be obtained from : CECC General Secretariat Stresemannallee 15 D-6000 Frankfurt/Main 70 or from the addresses shown on the inside cover.	CECC 42 101- 802 1981
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH CECC 42 000, GENERIC SPECIFICATION FOR VARISTORS AND CECC 42 100, SECTIONAL SPECIFICATION FOR LOW VOLTAGE VARISTORS PRIMARILY FOR TELEPHONY APPLICATION.	Issue 1
Outline and dimensions :- (See Table 1)  Style A- Style B-	LOW VOLTAGE VARISTORS PRIMARILY FOR TELEPHONY APPLICATIONS TYPICAL CONSTRUCTION : SILICON CARBIDE DISC TYPE, WITH UNIDIRECTIONAL TERMINATIONS PROTECTED 1,0 W ASSESSMENT LEVEL 'P'

For ordering information, see Clause 4.

NOTE 1 : Other shapes are permitted within the dimensional envelope shown.

NOTE 2 : The non-dimensioned details do not affect the use of the device.

TABLE 1

Style	Colour of disc tip	Max. Current at reference voltage (48 V) (mA)	Peak Current for voltage (145 V) under pulse conditions (mA)	Dimensions (mm)					
				D max.	W max.	d nom (See IEC 301)	l min.	B max.	A
*A	black	0,5	42	19	6	0,8	35	6	**
*B	maroon	0,9	76	19	6	0,8	35	6	**
*C	red	1,7	115	19	6	0,8	35	6	**
*D	orange	3	180	19	6	0,8	35	6	**
*E	yellow	5	268	19	6	0,8	35	6	**
*F	green	9	360	19	6	0,8	35	6	**
*G	blue	15	455	19	6	0,8	35	6	**

** To be in accordance with ordering information

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

*Style in accordance with outline drawing to be inserted

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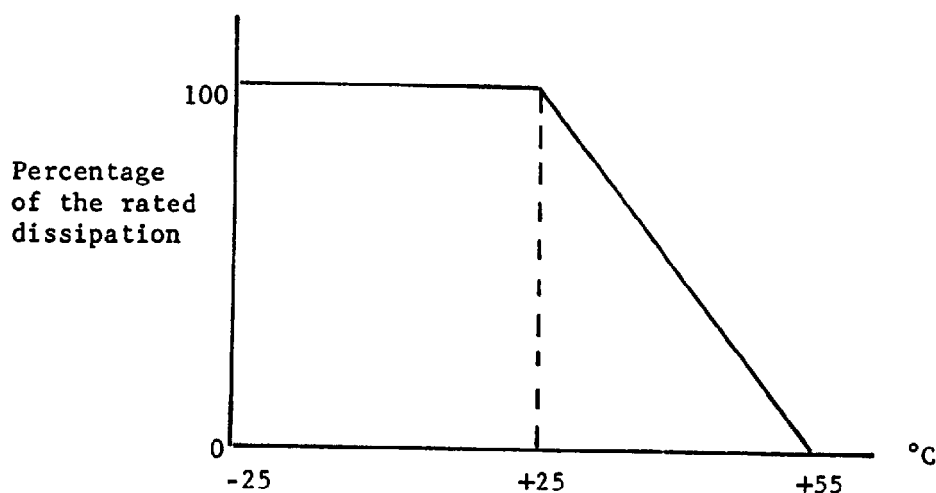
Issue 1

1 RATINGS AND CHARACTERISTICS

Climatic category	25/055/21
Reference voltage	48 V d.c.
Rated dissipation (at 25 °C)	1,0 W
Temperature coefficient of current (Measured at 48 V)	0,8 %/°C max.
Non-linearity	145 V _{max.}

1.1 De-rating curve

Varistors covered by this specification are derated according to the curve :

2 MARKING

The marking of the component and the package shall be in accordance with the requirements of CECC 42 000.

3 RELATED DOCUMENTS

CECC 00 006	19	Basic specification : Environmental test procedures
CECC 42 000	1978	Generic specification : Varistors
CECC 42 100	1978	Sectional specification : Low voltage varistors primarily for telephony applications.
IEC 68-2-20	1979	Basic environmental testing procedures. Test T : Soldering.
IEC 301	1971	Preferred diameters of wire terminations of capacitors and resistors.
IEC 410	1973	Sampling plans and procedures for inspection by attributes.

4 ORDERING INFORMATION

Orders for varistors covered by this specification shall contain the following information in clear or coded form :

- reference voltage
- maximum current at reference voltage
- number of this detail specification and style reference
- dimension "l" if other than that in Table 1
- the value of dimension "A"

5 CERTIFIED TEST RECORDS (RCE)

Certified Test Records shall be prepared in accordance with 3.5 of CECC 42 000.

6 INSPECTION REQUIREMENTS (See Table 2)

When it is desired to obtain qualification approval by adopting the fixed sample size procedure (see 3.3.3 of CECC 42 000), use shall be made of the test schedule given for that purpose in CECC 42 100.

The conditions of test and the performance requirements shall be identical to those prescribed for quality conformance inspection in the detail specification.

(See Notes 1 and 2)

Clause Number and Test	Conditions of Test	IL	AQL	Performance Requirements
<u>GROUP A INSPECTION</u>				
To be conducted on a sampling basis, lot-by-lot				
<u>Sub-Group A1</u> (Non-destructive)		II	4%	As in 4.2.1
4.2.1	Visual examination			
<u>Sub-Group A2</u> (Non-destructive)		II	1%	As in 4.2.2 As specified in Table 1
4.2.2	Marking			
4.2.3	Dimensions (gauging)	Dimension D		
<u>Sub-Group A3</u> (Non-destructive)		II	1,5%	V _{max.} : 145 V I : $\leq$ --- mA As specified in Table 1
4.1.2	Voltage under pulse conditions	For peak current see Table 1		
4.3	Current at reference voltage	Reference voltage : 48 V		
<u>Sub-Group A4</u> (Non-destructive)		S-1	4%	As specified in Table 1
4.2.4	Dimensions (detail)	Dimensions ϕ d, l, W		
<u>GROUP B INSPECTION</u>				
(See Note 6)				
To be conducted on a sampling basis, lot-by-lot				
<u>Sub-Group B1</u> (Destructive)		S-3	2,5%	As in 4.11.6 $\Delta I : \leq 10\%$ The terminations shall be uniformly tinned.
4.11	Robustness of terminations	Tensile and bending tests (See Note 5) Visual examination Current at reference voltage Reference voltage : 48 V		
4.10.1	Soldering - solderability	Solder bath method : $230 \pm 10^{\circ}\text{C}$		

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(See Notes 1, 2 and 3)

Clause Number and Test	Conditions of Test	IL	AQL	Performance Requirements
<u>Sub-Group B3 (Destructive)</u>		S-2	1,5%	As in Cl.1.4 $\Delta I : \leq 15\%$ $V_{max.} : 145 V$
Cl.1 Overload	Visual examination Current at reference voltage Reference voltage : 48 V Voltage under pulse conditions			
<u>GROUP C INSPECTION</u>		Sample size & criterion of acceptability		
		P	n	c
To be conducted on a sampling basis at the periodicity given in column 'P'				
<u>Sub-Group C1 (Destructive)</u>		6	8	1
Cl.3 Pulse endurance	Visual examination Current at reference voltage Reference voltage : 48 V Voltage under pulse conditions			As in Cl.3.4 $\Delta I : \leq 10\%$ $V_{max.} : 145 V$
<u>Sub-Group C2 (Destructive)</u>		6	13	1
4.10.2 Soldering - Resistance to solder heat	Method 1A of IEC 68-2-20 Visual examination Current at reference voltage Reference voltage : 48 V			As in 4.10.2.4 $\Delta I : \leq 10\%$
4.12 Rapid change of temperature	$T_A : - 25^{\circ}C$ $T_B : 55^{\circ}C$ Visual examination Current at reference voltage Reference voltage : 48 V			As in 4.12.4 $\Delta I : \leq 10\%$

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See Notes 1 and 3

Clause Number and Test	Conditions of Test	Sample size & criterion of acceptability			Performance Requirements						
		P	n	c							
GROUP D INSPECTION											
To be conducted on a sampling basis at the periodicity given in column 'P'											
Sub-Group D1 (Destructive)		12	8	1							
4.16	Climatic sequence -Dry heat -Damp heat, cyclic, first cycle -Cold -Damp heat, cyclic, remaining cycles -Final measurements	(Low air pressure test not applicable) 55 °C Reference voltage : 48 V - 25 °C Reference voltage : 48 V Visual examination Current at reference voltage Reference voltage : 48 V			As in 4.16.9.1 $\Delta I : \leq 30\%$						
Sub-Group D2 (Destructive)		24	8	1							
4.17	Damp heat, steady state	4 specimens no applied voltage Other 4 specimens with applied voltage: 0,8 to 1,0 times reference voltage Visual examination Current at reference voltage Reference voltage : 48 V			As in 4.17.3.1 $\Delta I : \leq 30\%$						
Sub-Group D3 (Non-destructive)		24	8	1							
4.5	Temperature coefficient of current	Reference voltage : 48 V			<table><tr><td>25/-25</td><td>25/55</td></tr><tr><td colspan="2">$\Delta I : \leq$</td></tr><tr><td>0,8%/°C</td><td>0,8%/°C</td></tr></table>	25/-25	25/55	$\Delta I : \leq$		0,8%/°C	0,8%/°C
25/-25	25/55										
$\Delta I : \leq$											
0,8%/°C	0,8%/°C										

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Issue 1

(See Notes 1 and 3)

See Notes 1 and 5/

Clause Number and Test	Conditions of Test	Sample size & criterion of acceptability			Performance Requirements
		P	n	c	
<u>Sub-Group D4 (Destructive)</u>		24	6	1	
4.14 Shock	Pulse shape : half sine Acceleration : 490 m/s ² Pulse duration : 11 ms (See Note 4) Visual examination Current at reference voltage Reference voltage : 48 V				As in 4.14.3 $\Delta I : \leq 30\%$
<u>Sub-Group D5 (Destructive)</u>		24	5	0	
4.18 Flammability	(In accordance with the conditions and requirements of the national method)				

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