

# DATA SHEET

**TN23/14/7**

**Ferrite ring cores (toroids)**

Product specification  
Supersedes data of 1997 Nov 21  
File under Ferrite Ceramics, MA01

2000 Apr 20

# Ferrite ring cores (toroids)

TN23/14/7

## RING CORES (TOROIDS)

### Effective core parameters

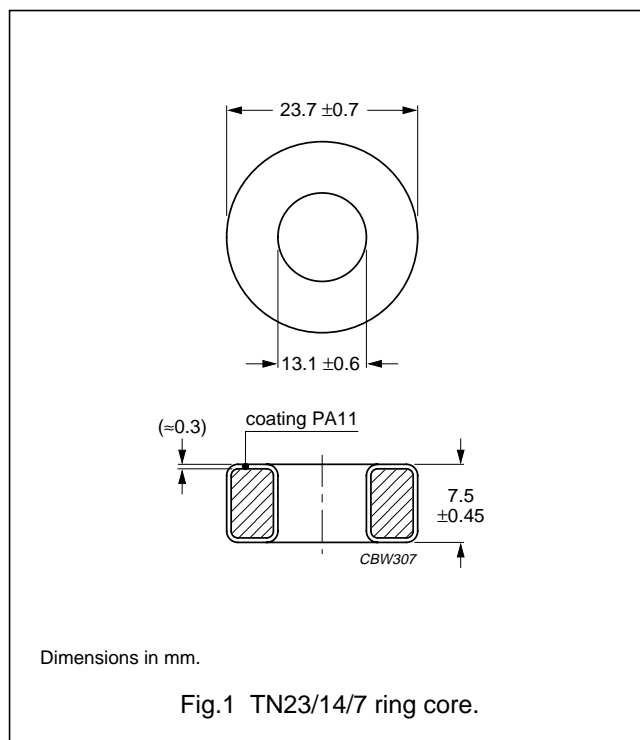
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	1.81	mm <sup>-1</sup>
$V_e$	effective volume	1722	mm <sup>3</sup>
$l_e$	effective length	55.8	mm
$A_e$	effective area	30.9	mm <sup>2</sup>
m	mass of core	≈8.4	g

### Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with "UL 94V-2"; UL file number E 45228 (M).

### Isolation voltage

DC isolation voltage: 2000 V.  
 Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



### Ring core data

GRADE	$A_L$ (nH)	$\mu_i$	COLOUR CODE	TYPE NUMBER
4C65	87 ±25%	≈125	violet	TN23/14/7-4C65
4A11	485 ±25%	≈700	pink	TN23/14/7-4A11
3R1 <sup>(1)</sup>	–	≈800	black	TN23/14/7-3R1
3F3	1250 ±25%	≈1800	blue	TN23/14/7-3F3
3C90 <small>des</small>	1600 ±25%	≈2300	ultramarine	TN23/14/7-3C90
3C11	3000 ±25%	≈4300	white	TN23/14/7-3C11
3E25	3820 ±25%	≈5500	orange	TN23/14/7-3E25

### Note

- Due to the rectangular BH-loop of 3R1, inductance values strongly depend on the magnetic state of the ring core and measuring conditions. Therefore no  $A_L$  value is specified. For the application in magnetic amplifiers  $A_L$  is not a critical parameter.

### WARNING

Do not use 3R1 cores close to their mechanical resonant frequency. For more information refer to "3R1" material specification in this data handbook.

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TN23/14/7

## Properties of cores under power conditions

GRADE	B (mT) at	CORE LOSS (W) at		
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 25 kHz; B̂ = 200 mT; T = 100 °C	f = 100 kHz; B̂ = 100 mT; T = 100 °C	f = 400 kHz; B̂ = 50 mT; T = 100 °C
3C90	≥320	≤0.19	≤0.19	–
3F3	≥320	–	≤0.19	≤0.33

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TN23/14/7




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DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
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