Ferrite ring cores (toroids) TN23/14/7

RING CORES (TOROIDS)

Effective core parameters

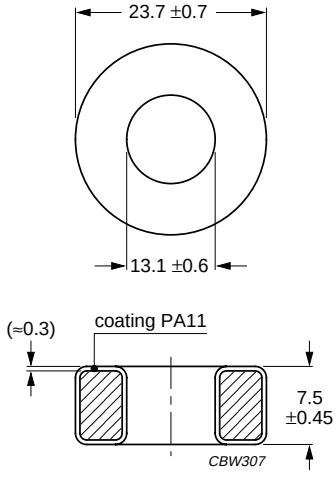
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.81	mm^{-1}
V_e	effective volume	1722	mm^3
l_e	effective length	55.8	mm
A_e	effective area	30.9	mm^2
m	mass of core	≈8.4	g

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.



Dimensions in mm.

Fig.1 TN23/14/7 ring core.

Ring core data

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

Note

1. 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 grade 3R1 cores close to their mechanical resonant frequency. For more information refer to *"3R1"* material specification in this data handbook.

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; $\hat{B}$ = 200 mT; T = 100 °C**	**f = 100 kHz; $\hat{B}$ = 100 mT; T = 100 °C**	**f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C**
3C90	≥320	≤0.19	≤0.19	–
3F3	≥320	–	≤0.19	≤0.33