Ferrite ring cores (toroids) TN36/23/15

RING CORES (TOROIDS)

Effective core parameters

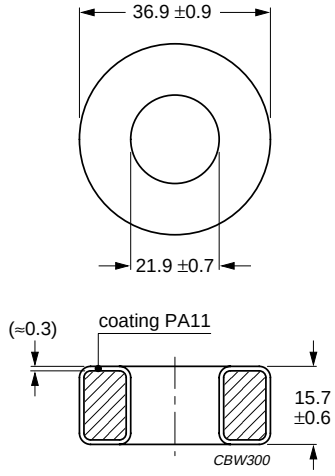
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.935	mm^{-1}
V_e	effective volume	8600	mm^3
l_e	effective length	89.6	mm
A_e	effective area	95.9	mm^2
m	mass of core	≈42	g

Coating

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

Isolation voltage

2. 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 TN36/23/15 ring core.

Ring core data

GRADE	A_L (nH)	μ_i	COLOUR CODE	TYPE NUMBER
4C65	170 ±25%	≈125	violet	TN36/23/15-4C65
4A11 des	940 ±25%	≈700	uncoated	T36/23/15-4A11(1)
3R1(2) sup	–	≈800	black	TN36/23/15-3R1
3S4 des	2285 ±25%	≈1700	uncoated	T36/23/15-3S4(1)
3F3 sup	2420 ±25%	≈1800	blue	TN36/23/15-3F3
3C90 sup	3090 ±25%	≈2300	ultramarine	TN36/23/15-3C90
3C11	5800 ±25%	≈4300	white	TN36/23/15-3C11
3E25	7390 ±25%	≈5500	orange	TN36/23/15-3E25
3E5(3)	11400 ±30%	≈8500	yellow/white	TL36/23/15-3E5
3E6(3)	13600 ±30%	≈1000	purple/white	TL36/23/15-3E6

Notes

1. Uncoated ring cores have the following dimensions: outside diameter = 36 ±0.7 mm; inside diameter = 23 ±0.5 mm; height = 15 ±0.3 mm.
2. 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.
3. Ring cores in 3E5 and 3E6 are lacquered (polyurethane) and have different dimensions: outside diameter = 36.25 ±0.9 mm; inside diameter = 22.75 ±0.7 mm; height = 15.25 ±0.6 mm; flame retardant in accordance with *"UL 94V-2"*; UL file number E 192048.

WARNING
Do not use 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	≤0.96	≤0.96	–
3F3	≥320	–	≤0.95	≤1.7