DATA SHEET

TN13/7.5/5
Ferrite toroids

Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

Ferrite toroids TN13/7.5/5

RING CORES (TOROIDS)

Effective core parameters

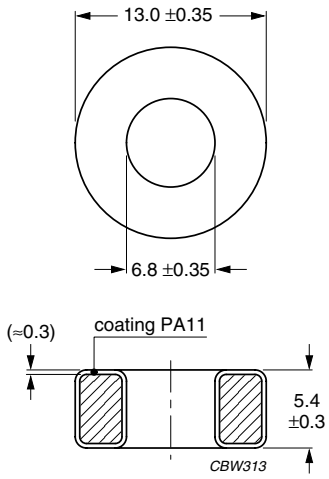
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	2.46	mm^{-1}
V_e	effective volume	368	mm^3
l_e	effective length	30.1	mm
A_e	effective area	12.2	mm^2
m	mass of core	≈ 1.8	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with *"UL 94V-2"*; UL file number E 45228 (M). The colour is white.
Maximum operating temperature is 160 °C.

Isolation voltage

DC isolation voltage: 1500 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 TN13/7.5/5 ring core.

Ring core data

GRADE	A_L (nH)	μ_i	TYPE NUMBER
4C65	64 ± 25%	≈ 125	TN13/7.5/5-4C65
4A11	358 ± 25%	≈ 700(1)	TN13/7.5/5-4A11
3F4	460 ± 25%	≈ 900	TN13/7.5/5-3F4
4A15	610 ± 25%	≈ 1200	TN13/7.5/5-4A15
3F3	900 ± 25%	≈ 1800	TN13/7.5/5-3F3
3C90	1170 ± 25%	≈ 2300	TN13/7.5/5-3C90
3C11	2200 ± 25%	≈ 4300	TN13/7.5/5-3C11
3E25	2810 ± 30%	≈ 5500	TN13/7.5/5-3E25
3R1(2)	–	–	TN13/7.5/5-3R1

1. Old permeability specification maintained.
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.

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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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	≤ 0.041	≤ 0.041	–
3F3	≥320	–	≤ 0.04	≤ 0.07

DATA SHEET STATUS DEFINITIONS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

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PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
Prototype	prot	These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change.
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