

# DATA SHEET

**TX36/23/15**  
Ferrite toroids

Supersedes data of February 2002

2004 Sep 01

## Ferrite toroids

TX36/23/15

## RING CORES (TOROIDS)

## Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.919	$\text{mm}^{-1}$
$V_e$	effective volume	8740	$\text{mm}^3$
$l_e$	effective length	89.7	mm
$A_e$	effective area	97.5	$\text{mm}^2$
m	mass of core	$\approx 40$	g

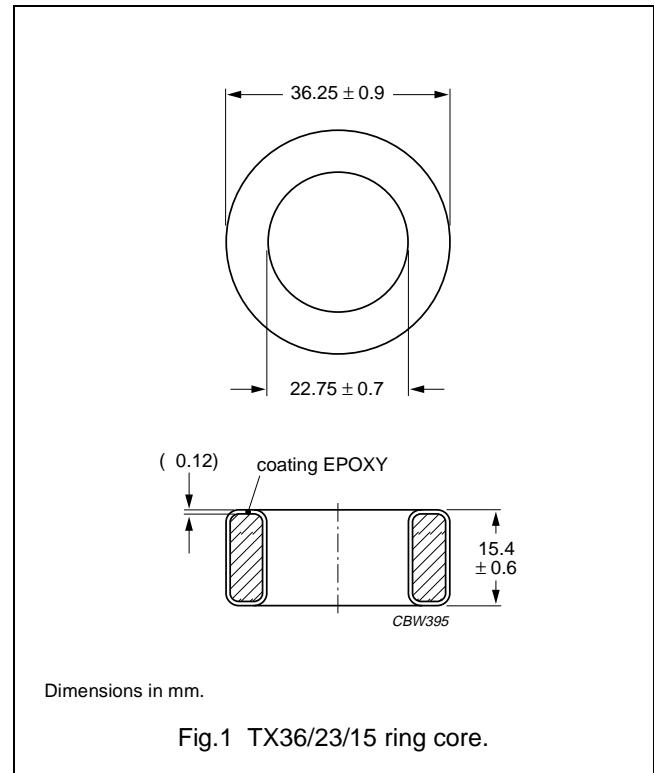
## Coating

The cores are coated with epoxy, flame retardant in accordance with "UL 94V-0"; UL file number E 228348. The colour is white.

## 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)	$\mu_i$	TYPE NUMBER
4C65	$170 \pm 25\%$	$\approx 125$	TX36/23/15-4C65
4A11	$1140 \pm 25\%$	$\approx 700^{(1)}$	TX36/23/15-4A11
3R1 <sup>(2)</sup>	—	$\approx 800$	TX36/23/15-3R1
3S4 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	$2285 \pm 25\%$	$\approx 1700$	TX36/23/15-3S4
3F3	$2420 \pm 25\%$	$\approx 1800$	TX36/23/15-3F3
3C90	$3090 \pm 20\%$	$\approx 2300$	TX36/23/15-3C90
3C81	$3670 \pm 20\%$	$\approx 2700$	TX36/23/15-3C81
3C11	$5800 \pm 25\%$	$\approx 4300$	TX36/23/15-3C11
3E25	$7390 \pm 25\%$	$\approx 5500$	TX36/23/15-3E25
3E27 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	$6800 \pm 20\%$	$\approx 5000$	TX36/23/15-3E27
3E5	$11400 \pm 30\%$	$\approx 8500$	TX36/23/15-3E5
3E6	$13600 \pm 30\%$	$\approx 10400$	TX36/23/15-3E6

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.

## Ferrite toroids

TX36/23/15

**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
3C81	≥320	≤ 1.7	–	–
3C90	≥320	≤ 0.96	≤ 0.96	–
3F3	≥320	–	≤0.95	≤1.7

## Ferrite toroids

TX36/23/15




## 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.

## DISCLAIMER

**Life support applications** — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

## PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
<b>Prototype</b>		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.
<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.