

# DATA SHEET

**TX39/20/13**  
Ferrite toroids

Supersedes data of September 2004

2008 Sep 01

**RING CORES (TOROIDS)**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.76	mm <sup>-1</sup>
$V_e$	effective volume	9513	mm <sup>3</sup>
$l_e$	effective length	84.9	mm
$A_e$	effective area	112	mm <sup>2</sup>
m	mass of core	≈ 45	g

**Coating**

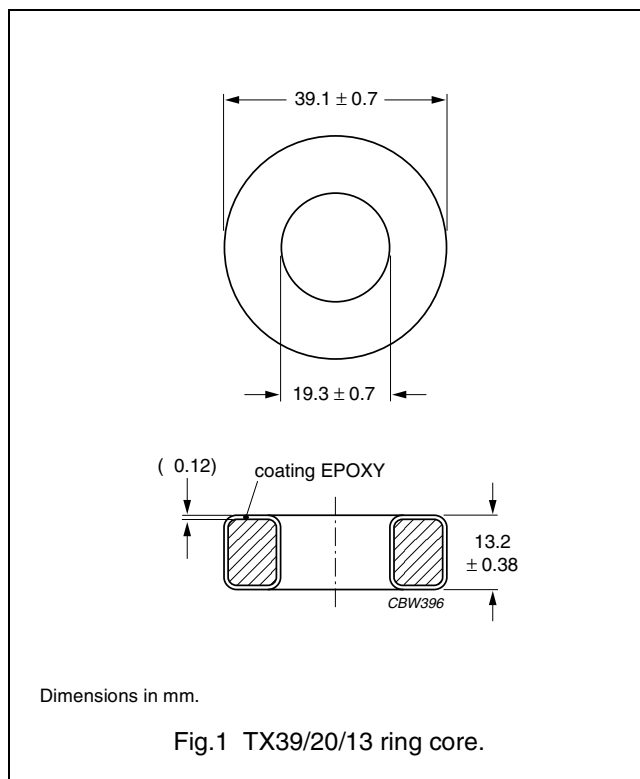
The cores are coated with epoxy, flame retardant in accordance with "UL 94V-0"; UL file number E 228348. The colour is white.

Maximum operating temperature is 200 °C.

**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
3F3	3150 ± 20%	≈ 1800	TX39/20/13-3F3
3C90	3800 ± 20%	≈ 2300	TX39/20/13-3C90
3C81	4700 ± 20%	≈ 2700	TX39/20/13-3C81
3E27	8720 ± 20%	≈ 5000	TX39/20/13-3E27
3E6 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	16700 ± 30%	≈ 9600	TX39/20/13-3E6

**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; B = 200 mT; T = 100 °C	f = 100 kHz; B = 100 mT; T = 100 °C	f = 400 kHz; B = 50 mT; T = 100 °C
3C81	≥320	≤1.9	–	–
3C90	≥320	≤1.1	≤1.1	–
3F3	≥320	–	≤1.1	≤1.8




**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
<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.
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