

# DATA SHEET

**TX10/5.1/4**

**Powder material toroids**

New data

2007 Jan 01

**RING CORES (TOROIDS)**

**Effective core parameters**

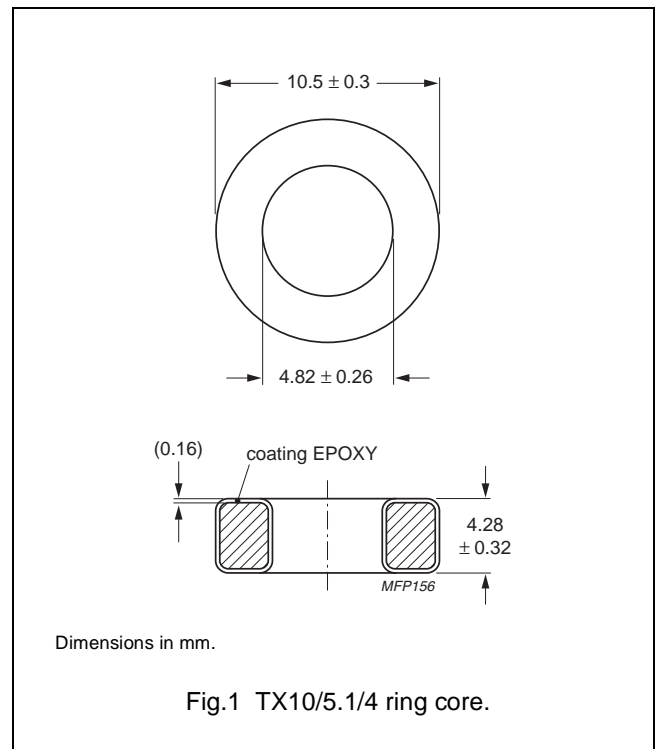
SYMBOL	PARAMETER	VALUE	UNIT	
$\Sigma(l/A)$	core factor (C1)	2.38	mm <sup>-1</sup>	
$V_e$	effective volume	238	mm <sup>3</sup>	
$l_e$	effective length	23.8	mm	
$A_e$	effective area	10.0	mm <sup>2</sup>	
m	mass of core (for $\mu_i$ 125)	MPP	1.91	g
		Sendust	1.46	g
		High-Flux	1.80	g

**Coating**

The cores are coated with epoxy. The colour is cream (Sendust), grey (MPP) or khaki (High-Flux). Maximum operating temperature is 200 °C. Parylene coating is also available (transparent, maximum operating temperature 130 °C).

**Isolation voltage**

AC isolation voltage : 1000 V (Parylene : 750 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
MPP	7 ± 8 %	14	TX10/4-M2-A7
	14 ± 8 %	26	TX10/4-M2-A14
	32 ± 8 %	60	TX10/4-M2-A32
	66 ± 8 %	125	TX10/4-M2-A66
	78 ± 8 %	147	TX10/4-M2-A78
	84 ± 8 %	160	TX10/4-M2-A84
	92 ± 8 %	173	TX10/4-M2-A92
	105 ± 8 %	200	TX10/4-M2-A105
Sendust	159 ± 8 %	300	TX10/4-M2-A159
	32 ± 12 %	60	TX10/4-S7-A32
	40 ± 12 %	75	TX10/4-S7-A40
	48 ± 12 %	90	TX10/4-S7-A48
	66 ± 12 %	125	TX10/4-S7-A66

## Powder material toroids

TX10/5.1/4

GRADE	$A_L$ (nH)	$\mu_i$	TYPE NUMBER
High-Flux	$7 \pm 8 \%$	14	TX10/4-H2-A7
	$14 \pm 8 \%$	26	TX10/4-H2-A14
	$32 \pm 8 \%$	60	TX10/4-H2-A32
	$66 \pm 8 \%$	125	TX10/4-H2-A66
	$78 \pm 8 \%$	147	TX10/4-H2-A78
	$84 \pm 8 \%$	160	TX10/4-H2-A84

## Properties of cores under power conditions

GRADE	$\mu_i$	B (mT) at	CORE LOSS (W) at
		H = 100 kA/m; f = 10 kHz; T = 25 °C	f = 100 kHz; $\hat{B} = 100$ mT; T = 25 °C
MPP	14	$\geq 640$	0.357
	26	$\geq 700$	0.286
	60	$\geq 760$	0.179
	125	$\geq 800$	0.179
	147	$\geq 800$	0.190
	160	$\geq 800$	0.190
	173	$\geq 800$	0.190
	200	$\geq 800$	0.357
	300	$\geq 800$	0.357
Sendust	60	$\geq 1030$	0.203
	75	$\geq 1040$	0.203
	90	$\geq 1050$	0.203
	125	$\geq 1060$	0.203
High-Flux	14	$\geq 890$	0.595
	26	$\geq 980$	0.476
	60	$\geq 1280$	0.428
	125	$\geq 1370$	0.476
	147	$\geq 1385$	0.524
	160	$\geq 1400$	0.833

**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.
<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.
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