

DATA SHEET

TX6.9/4/5.1

Powder material toroids

New data

2007 Jan 01



FERROXCUBE
A YAGEO COMPANY

RING CORES (TOROIDS)

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT	
$\Sigma(I/A)$	core factor (C1)	2.28	mm ⁻¹	
V_e	effective volume	120	mm ³	
l_e	effective length	16.5	mm	
A_e	effective area	7.25	mm ²	
m	mass of core (for μ_i 125)	MPP	1.00	g
		Sendust	0.74	g
		High-Flux	0.94	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.

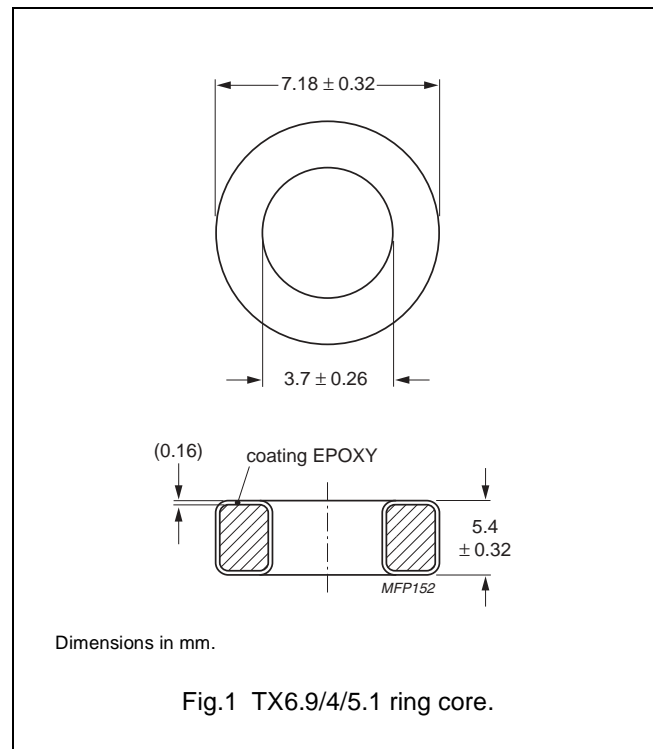


Fig.1 TX6.9/4/5.1 ring core.

Ring core data

GRADE	A_L (nH)	μ_i	TYPE NUMBER
MPP	$8 \pm 8 \%$	14	TX6.9/5.1-M2-A8
	$14 \pm 8 \%$	26	TX6.9/5.1-M2-A14
	$33 \pm 8 \%$	60	TX6.9/5.1-M2-A33
	$70 \pm 8 \%$	125	TX6.9/5.1-M2-A70
	$81 \pm 8 \%$	147	TX6.9/5.1-M2-A81
	$89 \pm 8 \%$	160	TX6.9/5.1-M2-A89
	$95 \pm 8 \%$	173	TX6.9/5.1-M2-A95
	$112 \pm 8 \%$	200	TX6.9/5.1-M2-A112
Sendust	$166 \pm 8 \%$	300	TX6.9/5.1-M2-A166
	$33 \pm 12 \%$	60	TX6.9/5.1-S7-A33
	$42 \pm 12 \%$	75	TX6.9/5.1-S7-A42
	$50 \pm 12 \%$	90	TX6.9/5.1-S7-A50
	$70 \pm 12 \%$	125	TX6.9/5.1-S7-A70

Powder material toroids

TX6.9/4/5.1

GRADE	A_L (nH)	μ_i	TYPE NUMBER
High-Flux	$8 \pm 8 \%$	14	TX6.9/5.1-H2-A8
	$14 \pm 8 \%$	26	TX6.9/5.1-H2-A14
	$33 \pm 8 \%$	60	TX6.9/5.1-H2-A33
	$70 \pm 8 \%$	125	TX6.9/5.1-H2-A70
	$81 \pm 8 \%$	147	TX6.9/5.1-H2-A81
	$89 \pm 8 \%$	160	TX6.9/5.1-H2-A89

Properties of cores under power conditions

GRADE	μ_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	≥ 640	0.179
	26	≥ 700	0.144
	60	≥ 760	0.090
	125	≥ 800	0.090
	147	≥ 800	0.096
	160	≥ 800	0.096
	173	≥ 800	0.096
	200	≥ 800	0.179
	300	≥ 800	0.179
Sendust	60	≥ 1030	0.102
	75	≥ 1040	0.102
	90	≥ 1050	0.102
	125	≥ 1060	0.102
High-Flux	14	≥ 890	0.299
	26	≥ 980	0.239
	60	≥ 1280	0.215
	125	≥ 1370	0.239
	147	≥ 1385	0.263
	160	≥ 1400	0.419

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