

CUSTOMER ACCEPTANCE SPECIFICATION

CUSTOMER :

PRODUCT : TX13/7.5/5

MATERIAL: 3C96

Ferroxcube 12NC : 4341 020 62971

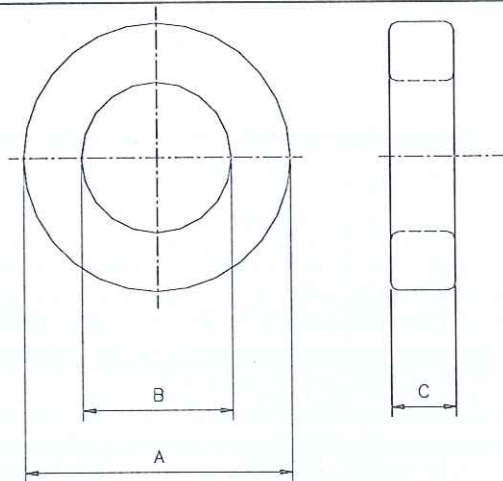
DATE : 2021/12/7

CUSTOMER APPROVAL

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FERROXCUBE (DGG) Ltd.

Product Drawing and Specification



Type Name	12NC	Treatment	A	B	C	Weight
T13/7.5/5	----	No Coating	12.50±0.30	7.50±0.30	5.00±0.30	~1.88g/pcs
TX13/7.5/5	----	Epoxy Coating	13.40max	6.60min	5.90max	~1.94g/pcs

Magnetic dimensions according to IEC 60205

$\Sigma l/A : 2.46 \text{ mm}^{-1}$	$\Sigma l/A^2 : 0.2 \text{ mm}^{-3}$	$A_e : 12.2 \text{ mm}^2$	$L_e : 30.1 \text{ mm}$	$V_e : 368 \text{ mm}^3$
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Electrical Specifications

Property	Specification	Unit	Test Conditions				
			Frequency (KHz)	Induction (mT)	Turns (1)	Temperature (°C)	Field strength (AM)
AL	1000±25%	nH/N ²	10	0.1V	10	25±3	----
Bs	≥340	mT	25	----	----	100	250
Pv	≤0.17	W	100	200	----	100	----
Color	White						----

(1) Wire diameter Φ0.5mm

Other Specifications

Visual requirements according to: GUV-4-0-0/1

High voltage insulation ≥ 1.0 kV.

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ROUGHNESS	UNIT	SCALE	PROJ EUROP	UN-D 28	TOLERANCES: UNLESS OTHERWISE STATED	UN-D 603
	mm	2:1		 Ra in mikron(μm)	DIMENSION: ACC: TO DIN 406 TEIL 4	

CORE- FAMILY

TX13/7.5/5-3C96

Toroid Coated with EPOXY(UL 94 V-0)

4341 020 62971

BG5TX01307051U000P

Name: Cain	Check: Carl	Approve: 傅炯貴	110 - 02	010	SH 1	A 4
Product Type	Standard	Property of Ferroxcube Dongguan Ltd-China				

Customer:

Part No: BG5TX01307051U000P

Type: 4341 020 62971

Material Specification of 3C96

• Standard Characteristics of 3C96

ITEM	UNIT	VALUE
Initial permeability, μ_i (25°C, $\leq 10\text{KHz}$, 0.25mT)		2000 $\pm$ 20%
Amplitude permeability, μ_a (100°C, 25KHz, 200mT)		$\approx$ 5500
Saturation magnetic flux density, B_s (25°C, 10KHz, 1200A/m)	mT	$\approx$ 500
Saturation magnetic flux density, B_s (100°C, 10KHz, 1200A/m)	mT	$\approx$ 440
Curie Temperature, T_c	°C	$\geq$ 240
Power Loss 100 °C, 100KHz, 100mT, P_v	KW/m ³	$\approx$ 40
Power Loss 100 °C, 100KHz, 200mT, P_v	KW/m ³	$\approx$ 300
Power Loss 100 °C, 500KHz, 50mT, P_v	KW/m ³	$\approx$ 250
Specific resistivity, ρ DC: 25 °C	Ω m	$\approx$ 5
Sintered Density, D_s	g/cm ³	$\approx$ 4.8

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These properties refer to ring core with dimensions $\Phi 25 \times \Phi 15 \times 10$ mm.

Actual properties depend on shape and dimensions of the core.

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Specification of TX13/7.5/5-3C96

12NC : 4341 020 62971

Specifications

Charact eristics		Testing Condition
Inductance Factor (AL value)	1000±25% (nH/N ²)	Equipment:Hewlett Packard 4263B Number of turns : 10 turns Wire diameter : 0.5mm (single-line conductor) Temperature : 25±3°C Measuring frequency : 10 kHz Voltage : 0.1V Effective dimension: Ae=12.2mm² Le=30.1mm
Saturation Flux Density,Bsat	≥ 340 mT	Equipment : EMMA (Philips equipment) Number of turns: 5 turns Wire diameter : 0.35mm (multi-line strand) Temperature : 100°C Measuring frequency : 25 KHz (sinusoidal) Field intensity : 250 A/m Assembly in measurement: Two magnetic core. Reference surface : Amin =12.2 mm²
Power Loss (Pv)	≤ 0.17W	Equipment : EMMA (Philips equipment) Number of turns: 5 turns Wire diameter : 0.35mm (multi-linestrand) Temperature : 100°C Measuring frequency: 100KHz (sinusoidal)Flux density: 200mT
Insulation	≥ 1000 V _{DC}	Equipment: Ztech High pulse tester Temperature : 25°C DC Voltage : 1000 Volt The core to be tested via direct contact with two probes where 1000 V_{DC} is applied.
Dimension	See Drawing	Caliper or Gauge
Coating	Powder Coating	----

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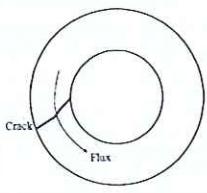
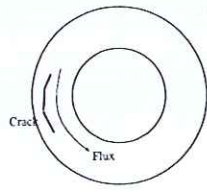
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Specification of TX13/7.5/5-3C96

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Mechanical defect:

Location of Defect	Maximum area of chipping		Maximum length of crack	
	Single Chipping	Sum over Chippings	Single crack	Sum over cracks
Crack ⊥ Flux Path 	<4 mm ²	<10 mm ²	<1 mm	<2 mm
Crack // Flux Path 	<4 mm ²	<10 mm ²	<3 mm	<15 mm

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Inspection Criteria

All the inspections are executed according to the regulations of DIN ISO 2859 and MIL STD-414

Item	AQL in DIN ISO 2859	Level In DIN ISO 2859	AQL In MIL-414	Level In MIL-414
Dimensions	1.0%	II	----	----
A _L value	----	----	1.0%	II
Mechanical defect Chips, Cracks	1.0%	II	----	----

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