

# DATA SHEET

**ER23/4/13**

Planar ER cores and accessories

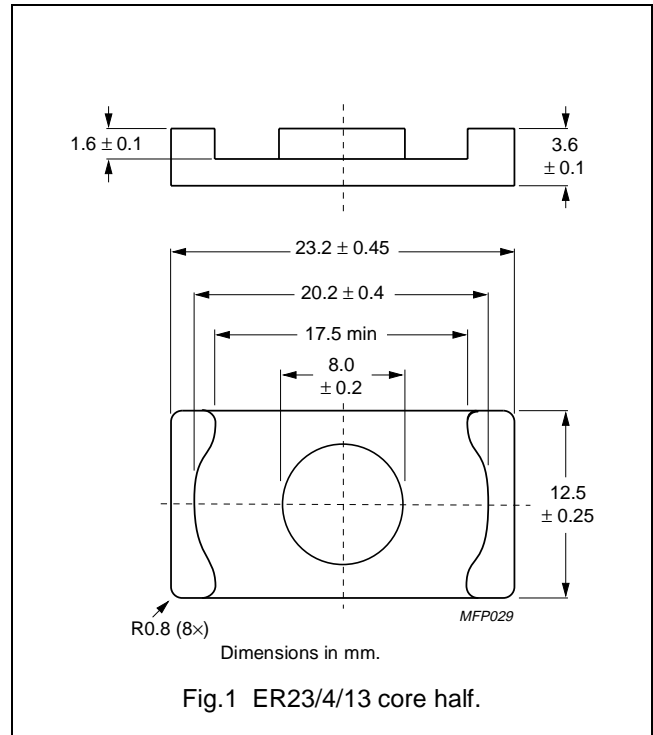
New data

2004 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.530	mm <sup>-1</sup>
$V_e$	effective volume	1340	mm <sup>3</sup>
$l_e$	effective length	26.6	mm
$A_e$	effective area	50.2	mm <sup>2</sup>
$A_{min}$	minimum area	50.0	mm <sup>2</sup>
$m$	mass of core half	≈ 3.2	g



**Core sets for general purpose transformers and power applications**

Clamping force for  $A_L$  measurements,  $20 \pm 10$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu$ m)	TYPE NUMBER
3C92 <b>des</b>	250 ± 3 %	≈ 105	≈ 260	ER23/4/13-3C92-A250-S
	400 ± 5 %	≈ 169	≈ 150	ER23/4/13-3C92-A400-S
	630 ± 8 %	≈ 266	≈ 85	ER23/4/13-3C92-A630-S
	2800 ± 25 %	≈ 1180	≈ 0	ER23/4/13-3C92-S
3C93 <b>des</b>	3200 ± 25 %	≈ 1350	≈ 0	ER23/4/13-3C93-S
3C96 <b>des</b>	250 ± 3 %	≈ 105	≈ 270	ER23/4/13-3C96-A250-S
	400 ± 5 %	≈ 169	≈ 155	ER23/4/13-3C96-A400-S
	630 ± 8 %	≈ 266	≈ 90	ER23/4/13-3C96-A630-S
	3400 ± 25 %	≈ 1180	≈ 0	ER23/4/13-3C96-S
3F35 <b>prot</b>	250 ± 3 %	≈ 105	≈ 260	ER23/4/13-3F35-A250-S
	400 ± 5 %	≈ 169	≈ 150	ER23/4/13-3F35-A400-S
	630 ± 8 %	≈ 266	≈ 85	ER23/4/13-3F35-A630-S
	2600 ± 25 %	≈ 1180	≈ 0	ER23/4/13-3F35-S
3F4 <b>des</b>	1850 ± 25 %	≈ 840	≈ 0	ER23/4/13-3F4-S
3F45 <b>prot</b>	1850 ± 25 %	≈ 840	≈ 0	ER23/4/13-3F45-S

Properties of core sets under power condition

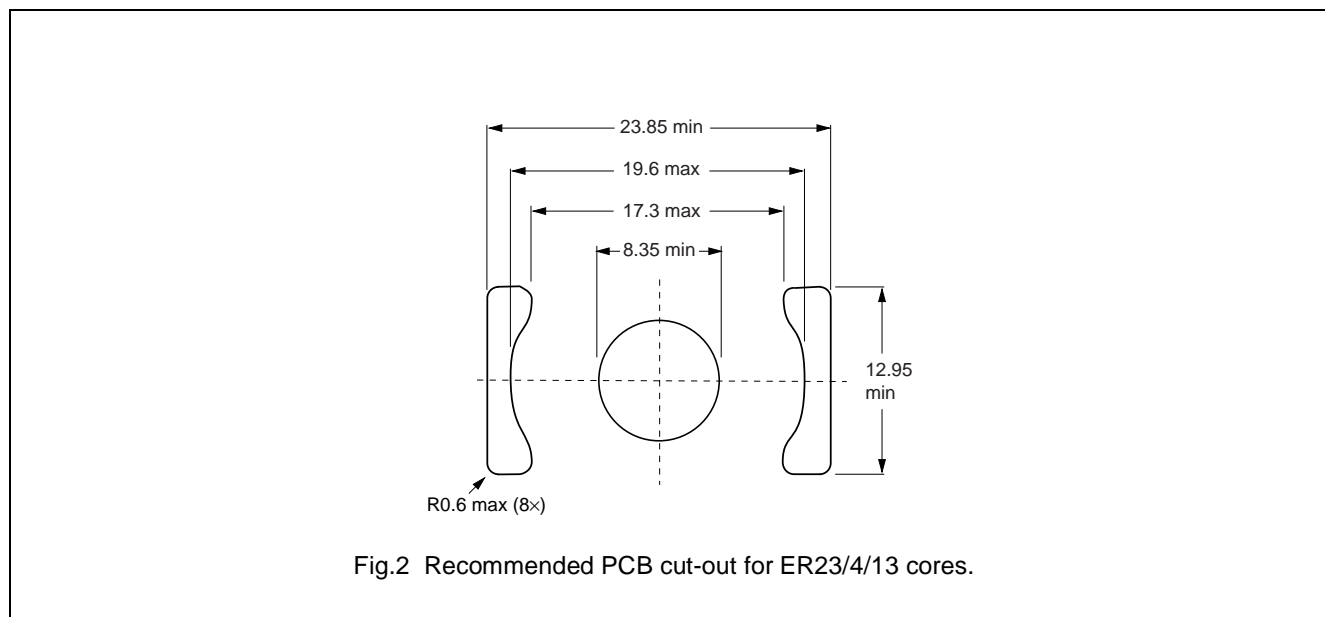
GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 kHz; T = 100 °C	f̂ = 100 kHz; B̂ = 100 mT; T = 100 °C	f̂ = 100 kHz; B̂ = 200 mT; T = 100 °C	f̂ = 500 kHz; B̂ = 50 mT; T = 100 °C	f̂ = 500 kHz; B̂ = 100 mT; T = 100 °C
3C92	≥ 370	≤ 0.11	≤ 0.70	–	–
3C93	≥ 320	≤ 0.11 <sup>(1)</sup>	≤ 0.70 <sup>(1)</sup>	–	–
3C96	≥ 340	≤ 0.070	≤ 0.52	≤ 0.44	–
3F35	≥ 300	–	–	≤ 0.16	≤ 1.2

1. Measured at 140 °C.

Properties of core sets under power condition (continued)

GRADE	B (mT) at	CORE LOSS (W) at		
	H = 1200 A/m; f = 25 kHz; T = 100 °C	f̂ = 1 MHz; B̂ = 30 mT; T = 100 °C	f̂ = 1 MHz; B̂ = 50 mT; T = 100 °C	f̂ = 3 MHz; B̂ = 10 mT; T = 100 °C
3F4	≥ 250	≤ 0.35	–	≤ 0.6
3F45	≥ 250	≤ 0.27	≤ 0.67	≤ 0.47

MOUNTING INFORMATION



Winding data for ER23/4/13 planar core

WINDING AREA (mm <sup>2</sup> )	AVERAGE TRACK LENGTH (mm)	FOOTPRINT AREA (mm <sup>2</sup> )
19.5	44.3	375




**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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