

# DATA SHEET

**E18/4/10/R**

**Planar E cores and accessories**

Supersedes data of September 2004

2008 Sep 01

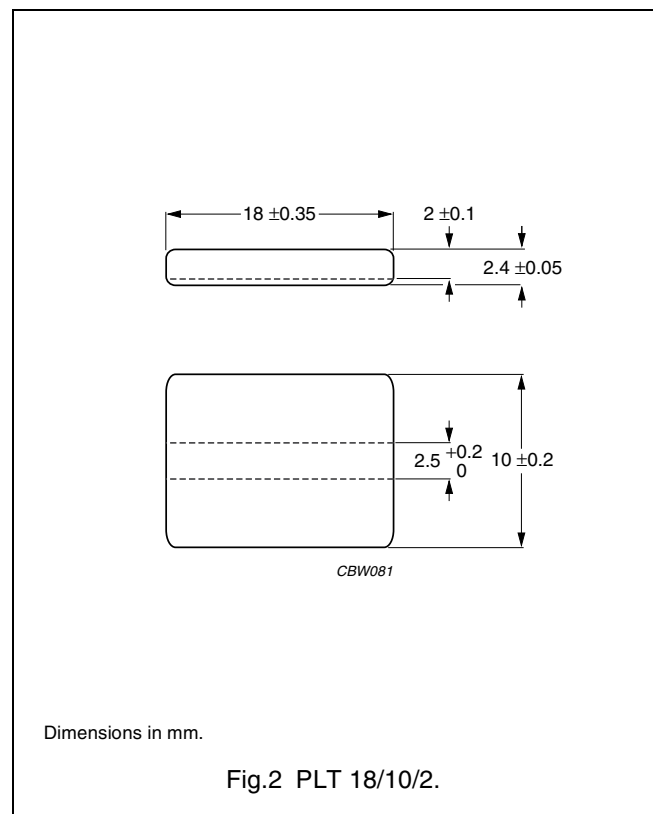
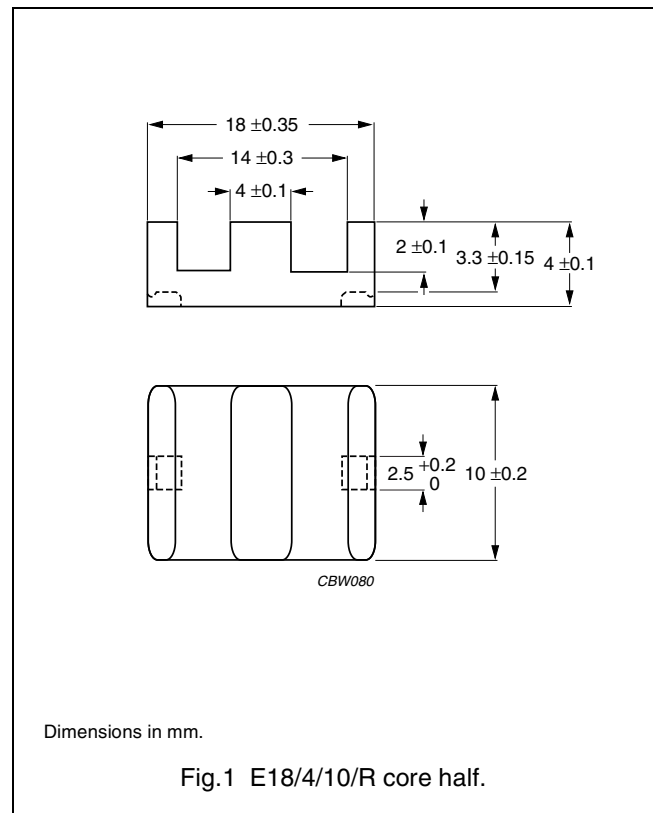
**CORES**

**Effective core parameters of an E/PLT combination**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.498	mm <sup>-1</sup>
$V_e$	effective volume	830	mm <sup>3</sup>
$l_e$	effective length	20.3	mm
$A_e$	effective area	39.5	mm <sup>2</sup>
$A_{min}$	minimum area	35.9	mm <sup>2</sup>
m	mass of E core half	≈ 2.4	g
m	mass of plate	≈ 1.7	g

**Ordering information for plates**

GRADE	TYPE NUMBER
3C90	PLT18/10/2/S-3C90
3C92 <small>des</small>	PLT18/10/2/S-3C92
3C93 <small>des</small>	PLT18/10/2/S-3C93
3C94	PLT18/10/2/S-3C94
3C95 <small>des</small>	PLT18/10/2/S-3C95
3C96 <small>des</small>	PLT18/10/2/S-3C96
3F3	PLT18/10/2/S-3F3
3F35 <small>des</small>	PLT18/10/2/S-3F35
3F4 <small>des</small>	PLT18/10/2/S-3F4
3F45 <small>prot</small>	PLT18/10/2/S-3F45
3E6	PLT18/10/2/S-3E6



## Planar E cores and accessories

E18/4/10/R

**Core halves for use in combination with a slotted plate (PLT/S)**

$A_L$  measured in combination with a slotted plate (PLT/S) clamping force for  $A_L$  measurements,  $20 \pm 10$  N; measurement coil as for E18/4/10.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	100 $\pm 3\%$	$\approx 41$	$\approx 870$	E18/4/10/R-3C90-A100-P
	160 $\pm 3\%$	$\approx 65$	$\approx 470$	E18/4/10/R-3C90-A160-P
	250 $\pm 5\%$	$\approx 102$	$\approx 240$	E18/4/10/R-3C90-A250-P
	315 $\pm 8\%$	$\approx 129$	$\approx 170$	E18/4/10/R-3C90-A315-P
	3680 $\pm 25\%$	$\approx 1500$	$\approx 0$	E18/4/10/R-3C90
3C92 <b>des</b>	2690 $\pm 25\%$	$\approx 1070$	$\approx 0$	E18/4/10/R-3C92
3C93 <b>des</b>	3100 $\pm 25\%$	$\approx 1230$	$\approx 0$	E18/4/10/R-3C93
3C94	100 $\pm 3\%$	$\approx 41$	$\approx 870$	E18/4/10/R-3C94-A100-P
	160 $\pm 3\%$	$\approx 65$	$\approx 470$	E18/4/10/R-3C94-A160-P
	250 $\pm 5\%$	$\approx 102$	$\approx 240$	E18/4/10/R-3C94-A250-P
	315 $\pm 8\%$	$\approx 129$	$\approx 170$	E18/4/10/R-3C94-A315-P
	3680 $\pm 25\%$	$\approx 1500$	$\approx 0$	E18/4/10/R-3C94
3C95 <b>des</b>	4340 $\pm 25\%$	$\approx 1780$	$\approx 0$	E18/4/10/R-3C95
3C96 <b>des</b>	3250 $\pm 25\%$	$\approx 1320$	$\approx 0$	E18/4/10/R-3C96
3F3	100 $\pm 3\%$	$\approx 41$	$\approx 870$	E18/4/10/R-3F3-A100-P
	160 $\pm 3\%$	$\approx 65$	$\approx 470$	E18/4/10/R-3F3-A160-P
	250 $\pm 5\%$	$\approx 102$	$\approx 240$	E18/4/10/R-3F3-A250-P
	315 $\pm 8\%$	$\approx 129$	$\approx 170$	E18/4/10/R-3F3-A315-P
	3100 $\pm 25\%$	$\approx 1270$	$\approx 0$	E18/4/10/R-3F3
3F35 <b>des</b>	2500 $\pm 25\%$	$\approx 1020$	$\approx 0$	E18/4/10/R-3F35
3F4 <b>des</b>	100 $\pm 3\%$	$\approx 41$	$\approx 870$	E18/4/10/R-3F4-A100-P
	160 $\pm 3\%$	$\approx 65$	$\approx 470$	E18/4/10/R-3F4-A160-P
	250 $\pm 5\%$	$\approx 102$	$\approx 240$	E18/4/10/R-3F4-A250-P
	315 $\pm 8\%$	$\approx 129$	$\approx 170$	E18/4/10/R-3F4-A315-P
	1800 $\pm 25\%$	$\approx 740$	$\approx 0$	E18/4/10/R-3F4
3F45 <b>prot</b>	1800 $\pm 25\%$	$\approx 740$	$\approx 0$	E18/4/10/R-3F45
3E6	15500 $+40/-30\%$	$\approx 6400$	$\approx 0$	E18/4/10/R-3E6

## Planar E cores and accessories

E18/4/10/R

## Properties of core sets under power conditions

GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 10 kHz; T = 100 °C	f = 100 kHz; $\hat{B}$ = 100 mT; T = 100 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 25 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C	f = 500 kHz; $\hat{B}$ = 50 mT; T = 100 °C
E18/R+PLT18/S-3C90	≥320	≤ 0.095	–	–	–	–
E18/R+PLT18/S-3C92	≥370	≤ 0.075	–	≤ 0.5	–	–
E18/R+PLT18/S-3C93	≥320	≤ 0.075 <sup>(1)</sup>	–	≤ 0.5 <sup>(1)</sup>	–	–
E18/R+PLT18/S-3C94	≥320	≤ 0.075	–	≤ 0.5	–	–
E18/R+PLT18/S-3C95	≥320	–	≤ 0.46	≤ 0.43	–	–
E18/R+PLT18/S-3C96	≥320	≤ 0.06	–	≤ 0.4	≤ 0.15	≤ 0.3
E18/R+PLT18/S-3F3	≥300	≤ 0.09	–	–	≤ 0.16	–
E18/R+PLT18/S-3F35	≥300	–	–	–	≤ 0.08	≤ 0.12
E18/R+PLT18/S-3F4	≥250	–	–	–	–	–
E18/R+PLT18/S-3F45	≥250	–	–	–	–	–

1. Measured at 140 °C.

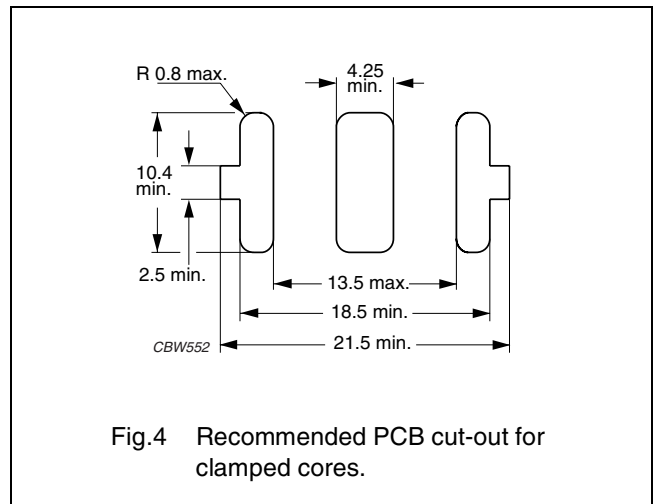
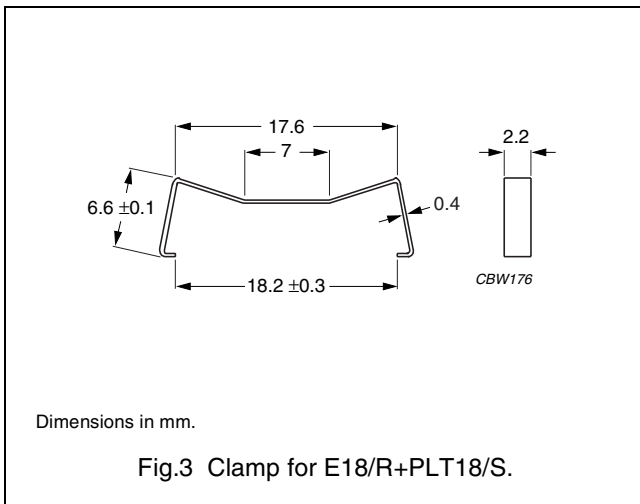
## Properties of core sets under power conditions (continued)

GRADE	B (mT) at				
	H = 250 A/m; f = 10 kHz; T = 100 °C	f = 500 kHz; $\hat{B}$ = 100 mT; T = 100 °C	f = 1 MHz; $\hat{B}$ = 30 mT; T = 100 °C	f = 1 MHz; $\hat{B}$ = 50 mT; T = 100 °C	f = 3 MHz; $\hat{B}$ = 10 mT; T = 100 °C
E18/R+PLT18/S-3C90	≥320	–	–	–	–
E18/R+PLT18/S-3C92	≥370	–	–	–	–
E18/R+PLT18/S-3C93	≥320	–	–	–	–
E18/R+PLT18/S-3C94	≥320	–	–	–	–
E18/R+PLT18/S-3C95	≥320	–	–	–	–
E18/R+PLT18/S-3C96	≥320	–	–	–	–
E18/R+PLT18/S-3F3	≥300	–	–	–	–
E18/R+PLT18/S-3F35	≥300	≤ 0.9	–	–	–
E18/R+PLT18/S-3F4	≥250	–	≤ 0.24	–	≤ 0.39
E18/R+PLT18/S-3F45	≥250	–	≤ 0.18	≤ 0.67	≤ 0.32

**MOUNTING PARTS**

**General data and ordering information**

ITEM	MATERIAL	FIGURE	TYPE NUMBER
Clamp	stainless steel (CrNi)	3	CLM-E18/PLT18



**BLISTER TAPE AND REEL**

For blister tape dimensions and construction and reel dimensions, see data sheet "E18/4/10".

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E18/4/10/R

**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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<b>Design-in</b>		These products are recommended for new designs.
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