

DATA SHEET

E18/4/10/R

Planar E cores and accessories

Supersedes data of September 2004

2008 Sep 01

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E18/4/10/R

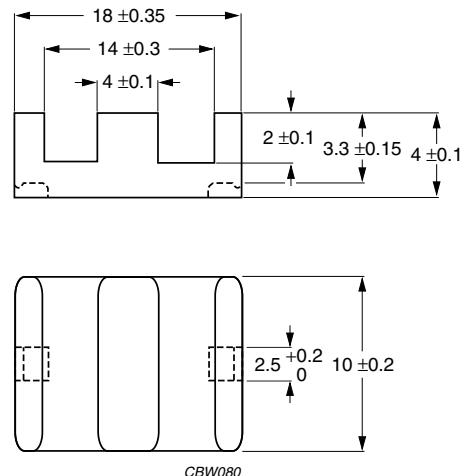
CORES

Effective core parameters of an E/PLT combination

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

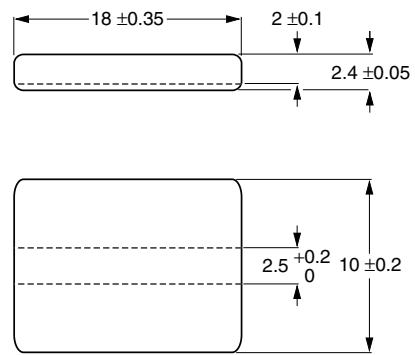
Ordering information for plates

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



Dimensions in mm.

Fig.1 E18/4/10/R core half.



Dimensions in mm.

Fig.2 PLT 18/10/2.

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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 ± 10 N;
measurement coil as for E18/4/10.

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

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Properties of core sets under power conditions

GRADE	B (mT) at $H = 250 \text{ A/m};$ $f = 10 \text{ kHz};$ $T = 100^\circ\text{C}$	CORE LOSS (W) at				
		$f = 100 \text{ kHz};$ $\hat{B} = 100 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 100 \text{ kHz};$ $\hat{B} = 200 \text{ mT};$ $T = 25^\circ\text{C}$	$f = 100 \text{ kHz};$ $\hat{B} = 200 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 400 \text{ kHz};$ $\hat{B} = 50 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 500 \text{ kHz};$ $\hat{B} = 50 \text{ mT};$ $T = 100^\circ\text{C}$
E18/R+PLT18/S-3C90	≥ 320	≤ 0.095	—	—	—	—
E18/R+PLT18/S-3C92	≥ 370	≤ 0.075	—	≤ 0.5	—	—
E18/R+PLT18/S-3C93	≥ 320	$\leq 0.075^{(1)}$	—	$\leq 0.5^{(1)}$	—	—
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)

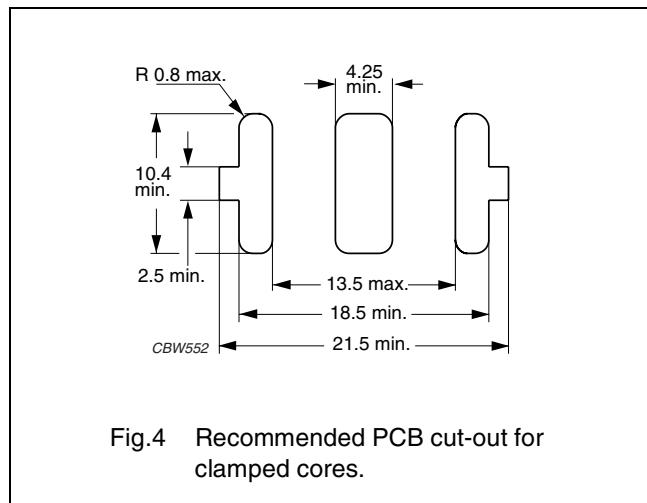
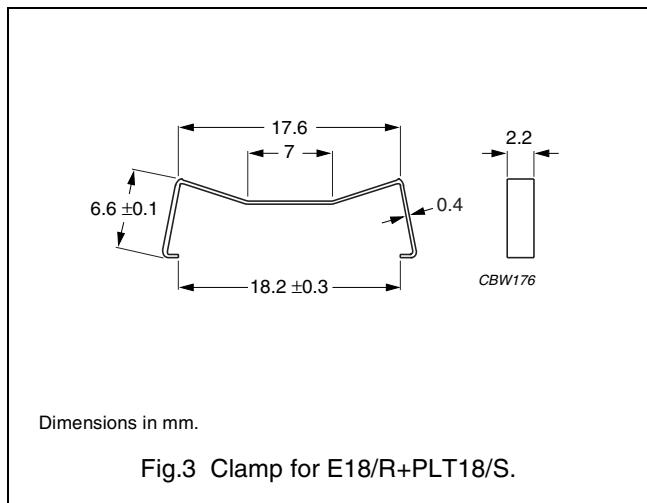
GRADE	B (mT) at $H = 250 \text{ A/m};$ $f = 10 \text{ kHz};$ $T = 100^\circ\text{C}$				
		$f = 500 \text{ kHz};$ $\hat{B} = 100 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 1 \text{ MHz};$ $\hat{B} = 30 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 1 \text{ MHz};$ $\hat{B} = 50 \text{ mT};$ $T = 100^\circ\text{C}$	$f = 3 \text{ MHz};$ $\hat{B} = 10 \text{ mT};$ $T = 100^\circ\text{C}$
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

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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".

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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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.