

DATA SHEET

E18/4/10/R

Planar E cores and accessories

Supersedes data of September 2004

2008 Sep 01



FERROXCUBE
A YAGEO COMPANY

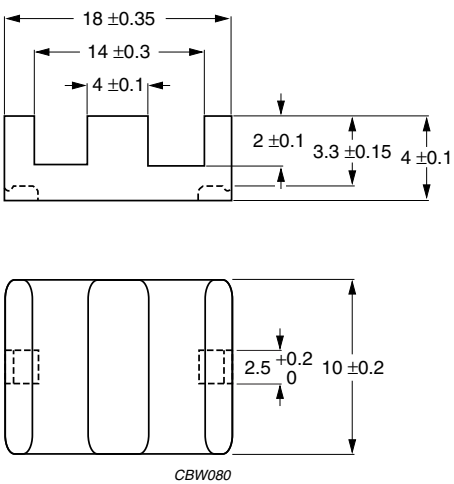
CORES

Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	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

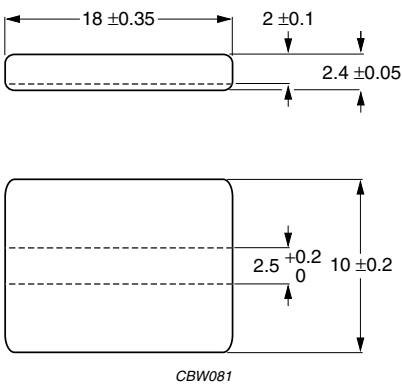
Ordering information for plates

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.

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 ± 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 des	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

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 ⁽¹⁾	–	≤ 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.

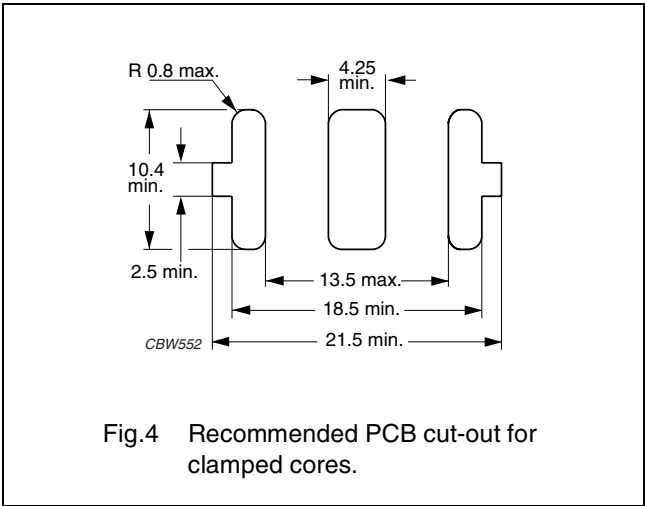
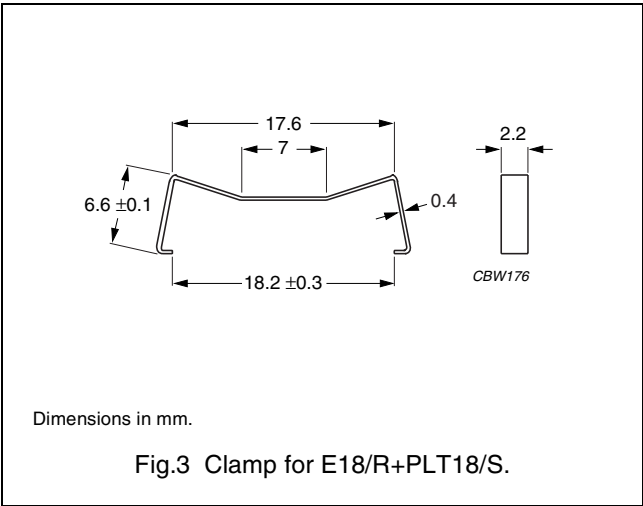
Properties of core sets under power conditions (continued)

GRADE	B (mT) at				
	H = 250 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".

Planar E cores and accessories

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.

DISCLAIMER

Life support applications — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

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.