DATA SHEET

E14/3.5/5/R
Planar E cores and accessories

Supersedes data of September 2004 2008 Sep 01

FERROXCUBE
A YAGEO COMPANY

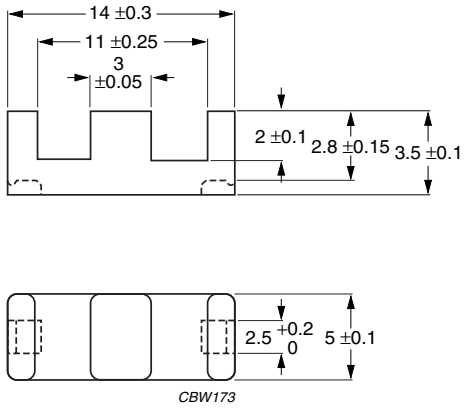
CORES

Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	1.15	mm^{-1}
V_e	effective volume	230	mm^3
l_e	effective length	16.4	mm
A_e	effective area	14.2	mm^2
A_{min}	minimum area	10.9	mm^2
m	mass of E core half	≈ 0.6	g
m	mass of plate	≈ 0.5	g

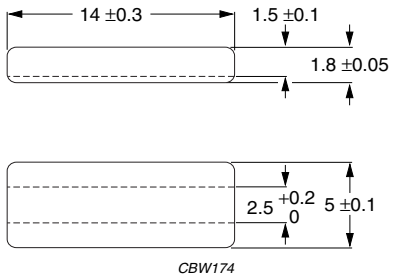
Ordering information for plates

GRADE	TYPE NUMBER
3C90	PLT14/5/1.5/S-3C90
3C92 des	PLT14/5/1.5/S-3C92
3C93 des	PLT14/5/1.5/S-3C93
3C94	PLT14/5/1.5/S-3C94
3C95 des	PLT14/5/1.5/S-3C95
3C96 des	PLT14/5/1.5/S-3C96
3F3	PLT14/5/1.5/S-3F3
3F35 des	PLT14/5/1.5/S-3F35
3F4 des	PLT14/5/1.5/S-3F4
3F45 prot	PLT14/5/1.5/S-3F45
3E6	PLT14/5/1.5/S-3E6



Dimensions in mm.

Fig.1 E14/3.5/5/R core.



Dimensions in mm.

Fig.2 PLT14/5/1.5/S.

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 10 ±5 N; measurement coil as for E14/3.5/5.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	63 ±3%	≈ 58	≈ 600	E14/3.5/5/R-3C90-A63-P
	100 ±5%	≈ 92	≈ 300	E14/3.5/5/R-3C90-A100-P
	160 ±8%	≈ 148	≈ 150	E14/3.5/5/R-3C90-A160-P
	1500 ±25%	≈ 1380	≈ 0	E14/3.5/5/R-3C90
3C92 des	1130 ±25%	≈ 1040	≈ 0	E14/3.5/5/R-3C92
3C93 des	1300 ±25%	≈ 1200	≈ 0	E14/3.5/5/R-3C93
3C94	63 ±3%	≈ 58	≈ 600	E14/3.5/5/R-3C94-A63-P
	100 ±5%	≈ 92	≈ 300	E14/3.5/5/R-3C94-A100-P
	160 ±8%	≈ 148	≈ 150	E14/3.5/5/R-3C94-A160-P
	1500 ±25%	≈ 1380	≈ 0	E14/3.5/5/R-3C94
3C95 des	1740 ±25%	≈ 1600	≈ 0	E14/3.5/5/R-3C95
3C96 des	1350 ±25%	≈ 1240	≈ 0	E14/3.5/5/R-3C96
3F3	63 ±3%	≈ 58	≈ 600	E14/3.5/5/R-3F3-A63-P
	100 ±5%	≈ 92	≈ 300	E14/3.5/5/R-3F3-A100-P
	160 ±8%	≈ 148	≈ 150	E14/3.5/5/R-3F3-A160-P
	1300 ±25%	≈ 1200	≈ 0	E14/3.5/5/R-3F3
3F35 des	1050 ±25%	≈ 970	≈ 0	E14/3.5/5/R-3F35
3F4 des	63 ±3%	≈ 58	≈ 600	E14/3.5/5/R-3F4-A63-P
	100 ±5%	≈ 92	≈ 300	E14/3.5/5/R-3F4-A100-P
	160 ±8%	≈ 148	≈ 150	E14/3.5/5/R-3F4-A160-P
	780 ±25%	≈ 710	≈ 0	E14/3.5/5/R-3F4
3F45 prot	780 ±25%	≈ 710	≈ 0	E14/3.5/5/R-3F45
3E6	6400 +40/–30%	≈ 5900	≈ 0	E14/3.5/5/R-3E6

Properties of core sets under power conditions

GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 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
E14/R+PLT14/S-3C90	≥320	≤ 0.026	–	–	–	–
E14/R+PLT14/S-3C92	≥370	≤ 0.021	–	≤ 0.15	–	–
E14/R+PLT14/S-3C93	≥320	≤ 0.021[1]	–	≤ 0.15[1]	–	–
E14/R+PLT14/S-3C94	≥320	≤ 0.021	–	≤ 0.15	–	–
E14/R+PLT14/S-3C95	≥320	–	≤ 0.13	≤ 0.12	–	–
E14/R+PLT14/S-3C96	≥340	≤ 0.016	–	≤ 0.12	≤ 0.045	≤ 0.09
E14/R+PLT14/S-3F3	≥300	≤ 0.027	–	–	≤ 0.047	–
E14/R+PLT14/S-3F35	≥300	–	–	–	≤ 0.024	≤ 0.035
E14/R+PLT14/S-3F4	≥250	–	–	–	–	–
E14/R+PLT14/S-3F45	≥250	–	–	–	–	–

1. Measured at 140 °C.

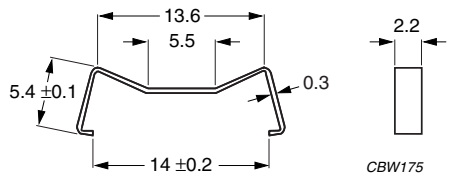
Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 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
E14/R+PLT14/S-3C90	≥320	–	–	–	–
E14/R+PLT14/S-3C92	≥370	–	–	–	–
E14/R+PLT14/S-3C93	≥320	–	–	–	–
E14/R+PLT14/S-3C94	≥320	–	–	–	–
E14/R+PLT14/S-3C95	≥320	–	–	–	–
E14/R+PLT14/S-3C96	≥340	–	–	–	–
E14/R+PLT14/S-3F3	≥300	–	–	–	–
E14/R+PLT14/S-3F35	≥300	≤ 0.027	–	–	–
E14/R+PLT14/S-3F4	≥250	–	≤ 0.07	–	≤ 0.11
E14/R+PLT14/S-3F45	≥250	–	≤ 0.055	≤ 0.2	≤ 0.09

MOUNTING PARTS

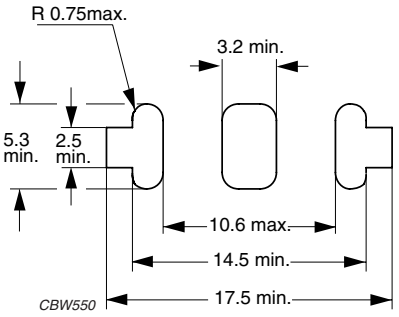
General data and ordering information

ITEM	MATERIAL	FIGURE	TYPE NUMBER
Clamp	stainless steel (CrNi)	3	CLM-E14/PLT14



Dimensions in mm.

Fig.3 Clamp for E14/R+PLT14/S.



Dimensions in mm.

Fig.4 Recommended PCB cut-out for clamped cores.

BLISTER TAPE AND REEL

For blister tape dimensions and construction and reel dimensions, see data sheet “E14/3.5/5”.

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

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Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support	sup	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.