

# DATA SHEET

**E22/6/16/R**

**Planar E cores and accessories**

Supersedes data of September 2004

2008 Sep 01



**FERROXCUBE**  
A YAGEO COMPANY

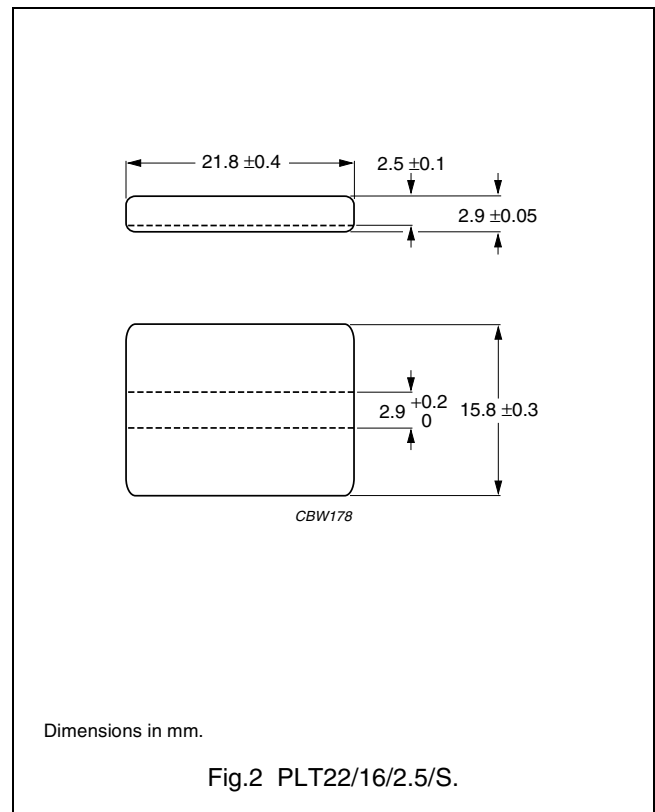
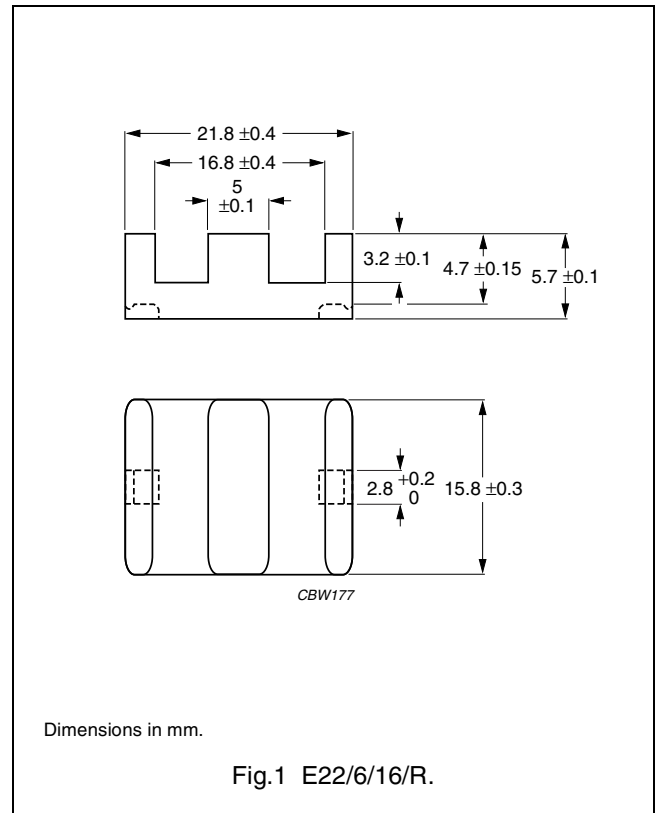
**CORES**

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

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.324	mm <sup>-1</sup>
$V_e$	effective volume	2100	mm <sup>3</sup>
$l_e$	effective length	26.1	mm
$A_e$	effective area	78.5	mm <sup>2</sup>
$A_{min}$	minimum area	72.6	mm <sup>2</sup>
m	mass of E core half	≈ 6.5	g
m	mass of plate	≈ 4	g

**Ordering information for plates**

GRADE	TYPE NUMBER
3C90	PLT22/16/2.5/S-3C90
3C92 <small>des</small>	PLT22/16/2.5/S-3C92
3C93 <small>des</small>	PLT22/16/2.5/S-3C93
3C94	PLT22/16/2.5/S-3C94
3C95 <small>des</small>	PLT22/16/2.5/S-3C95
3C96 <small>des</small>	PLT22/16/2.5/S-3C96
3F3	PLT22/16/2.5/S-3F3
3F35 <small>des</small>	PLT22/16/2.5/S-3F35
3F4 <small>des</small>	PLT22/16/2.5/S-3F4
3F45 <small>prot</small>	PLT22/16/2.5/S-3F45
3E6	PLT22/16/2.5/S-3E6



## Planar E cores and accessories

E22/6/16/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 E22/6/16.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	160 $\pm 3\%$	$\approx 42$	$\approx 950$	E22/6/16/R-3C90-A160-P
	250 $\pm 3\%$	$\approx 66$	$\approx 550$	E22/6/16/R-3C90-A250-P
	315 $\pm 3\%$	$\approx 83$	$\approx 400$	E22/6/16/R-3C90-A315-P
	400 $\pm 5\%$	$\approx 106$	$\approx 280$	E22/6/16/R-3C90-A400-P
	630 $\pm 8\%$	$\approx 166$	$\approx 160$	E22/6/16/R-3C90-A630-P
	6150 $\pm 25\%$	$\approx 1620$	$\approx 0$	E22/6/16/R-3C90
3C92 <b>des</b>	4410 $\pm 25\%$	$\approx 1140$	$\approx 0$	E22/6/16/R-3C92
3C93 <b>des</b>	5000 $\pm 25\%$	$\approx 1290$	$\approx 0$	E22/6/16/R-3C93
3C94	160 $\pm 3\%$	$\approx 42$	$\approx 950$	E22/6/16/R-3C94-A160-P
	250 $\pm 3\%$	$\approx 66$	$\approx 550$	E22/6/16/R-3C94-A250-P
	315 $\pm 3\%$	$\approx 83$	$\approx 400$	E22/6/16/R-3C94-A315-P
	400 $\pm 5\%$	$\approx 106$	$\approx 280$	E22/6/16/R-3C94-A400-P
	630 $\pm 8\%$	$\approx 166$	$\approx 160$	E22/6/16/R-3C94-A630-P
	6150 $\pm 25\%$	$\approx 1620$	$\approx 0$	E22/6/16/R-3C94
3C95 <b>des</b>	7360 $\pm 25\%$	$\approx 1950$	$\approx 0$	E22/6/16/R-3C95
3C96 <b>des</b>	5450 $\pm 25\%$	$\approx 1440$	$\approx 0$	E22/6/16/R-3C96
3F3	160 $\pm 3\%$	$\approx 42$	$\approx 950$	E22/6/16/R-3F3-A160-P
	250 $\pm 3\%$	$\approx 66$	$\approx 550$	E22/6/16/R-3F3-A250-P
	315 $\pm 3\%$	$\approx 83$	$\approx 400$	E22/6/16/R-3F3-A315-P
	400 $\pm 5\%$	$\approx 106$	$\approx 280$	E22/6/16/R-3F3-A400-P
	630 $\pm 8\%$	$\approx 166$	$\approx 160$	E22/6/16/R-3F3-A630-P
	5000 $\pm 25\%$	$\approx 1320$	$\approx 0$	E22/6/16/R-3F3
3F35 <b>des</b>	4100 $\pm 25\%$	$\approx 1080$	$\approx 0$	E22/6/16/R-3F35
3F4 <b>des</b>	160 $\pm 3\%$	$\approx 42$	$\approx 950$	E22/6/16/R-3F4-A160-P
	250 $\pm 3\%$	$\approx 66$	$\approx 550$	E22/6/16/R-3F4-A250-P
	315 $\pm 3\%$	$\approx 83$	$\approx 400$	E22/6/16/R-3F4-A315-P
	400 $\pm 5\%$	$\approx 106$	$\approx 280$	E22/6/16/R-3F4-A400-P
	630 $\pm 8\%$	$\approx 166$	$\approx 160$	E22/6/16/R-3F4-A630-P
	2900 $\pm 25\%$	$\approx 770$	$\approx 0$	E22/6/16/R-3F4
3F45 <b>prot</b>	2900 $\pm 25\%$	$\approx 770$	$\approx 0$	E22/6/16/R-3F45
3E6	26000 $+40/-30\%$	$\approx 6900$	$\approx 0$	E22/6/16/R-3E6

## Planar E cores and accessories

E22/6/16/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
E22/R+PLT22/S-3C90	≥320	≤ 0.23	–	–	–	–
E22/R+PLT22/S-3C92	≥370	≤ 0.18	–	≤ 1.25	–	–
E22/R+PLT22/S-3C93	≥320	≤ 0.18 <sup>(1)</sup>	–	≤ 1.25 <sup>(1)</sup>	–	–
E22/R+PLT22/S-3C94	≥320	≤ 0.18	–	≤ 1.25	–	–
E22/R+PLT22/S-3C95	≥320	–	≤ 1.24	≤ 1.18	–	–
E22/R+PLT22/S-3C96	≥320	≤ 0.14	–	≤ 1.0	≤ 0.38	≤ 0.75
E22/R+PLT22/S-3F3	≥300	≤ 0.23	–	–	≤ 0.4	–
E22/R+PLT22/S-3F35	≥300	–	–	–	≤ 0.2	≤ 0.3
E22/R+PLT22/S-3F4	≥250	–	–	–	–	–
E22/R+PLT22/S-3F45	≥250	–	–	–	–	–

1. Measured at 140 °C.

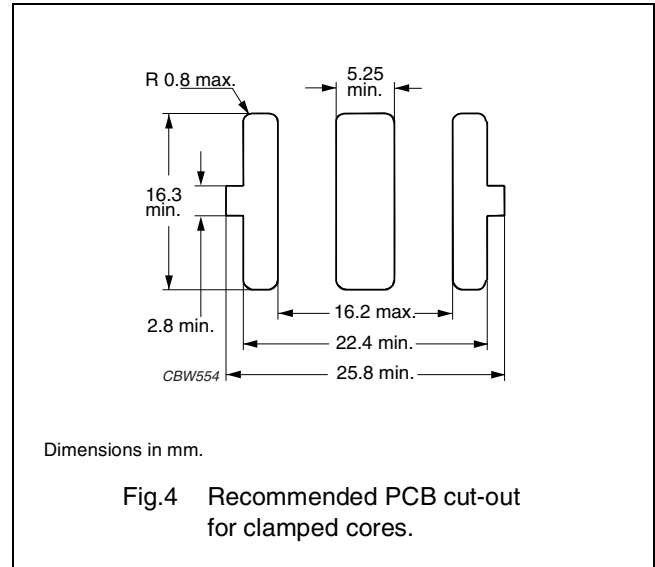
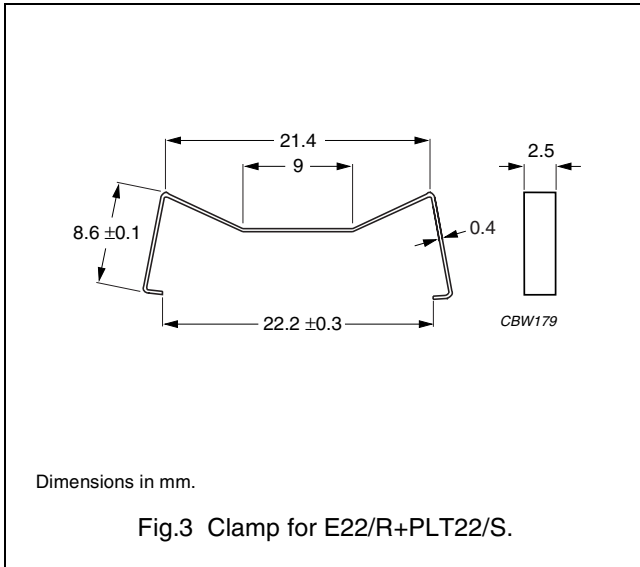
## Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 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
E22/R+PLT22/S-3C90	≥320	–	–	–	–
E22/R+PLT22/S-3C92	≥370	–	–	–	–
E22/R+PLT22/S-3C93	≥320	–	–	–	–
E22/R+PLT22/S-3C94	≥320	–	–	–	–
E22/R+PLT22/S-3C95	≥320	–	–	–	–
E22/R+PLT22/S-3C96	≥320	–	–	–	–
E22/R+PLT22/S-3F3	≥300	–	–	–	–
E22/R+PLT22/S-3F35	≥300	≤ 2.2	–	–	–
E22/R+PLT22/S-3F4	≥250	–	≤ 0.62	–	≤ 1.0
E22/R+PLT22/S-3F45	≥250	–	≤ 0.45	≤ 1.7	≤ 0.8

**MOUNTING PARTS**

**General data and ordering information**

ITEM	MATERIAL	FIGURE	TYPE NUMBER
Clamp	stainless steel (CrNi)	3	CLM-E22/PLT22



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E22/6/16/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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## PRODUCT STATUS DEFINITIONS

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<b>Design-in</b>		These products are recommended for new designs.
<b>Preferred</b>		These products are recommended for use in current designs and are available via our sales channels.
<b>Support</b>		These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.