

DATA SHEET

E43/10/28 Planar E cores

Product specification
Supersedes data of November 1997
File under Ferrite Ceramics, MA01

1999 Dec 23

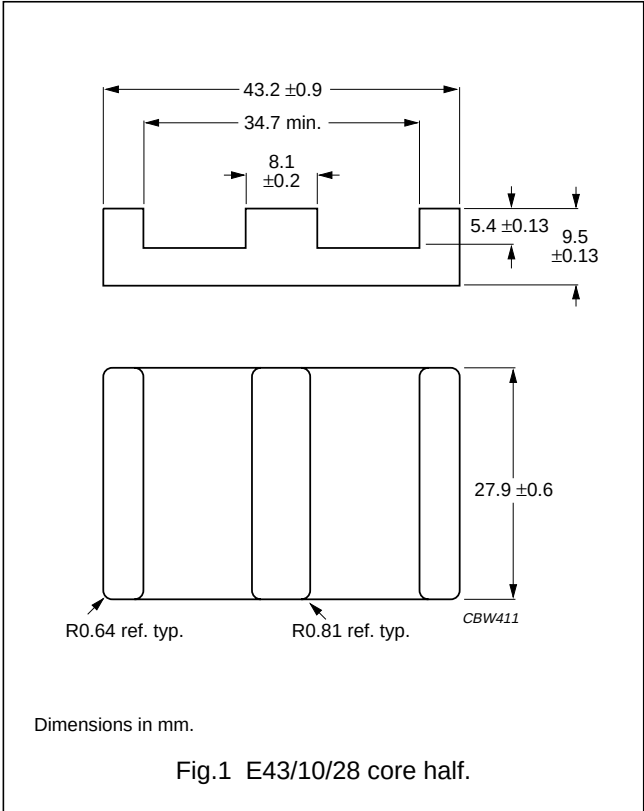
Planar E cores

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CORES

Effective core parameters of a set of E cores

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.276	mm^{-1}
V_e	effective volume	13900	mm^3
l_e	effective length	61.7	mm
A_e	effective area	225	mm^2
m	mass of core half	≈ 35	g

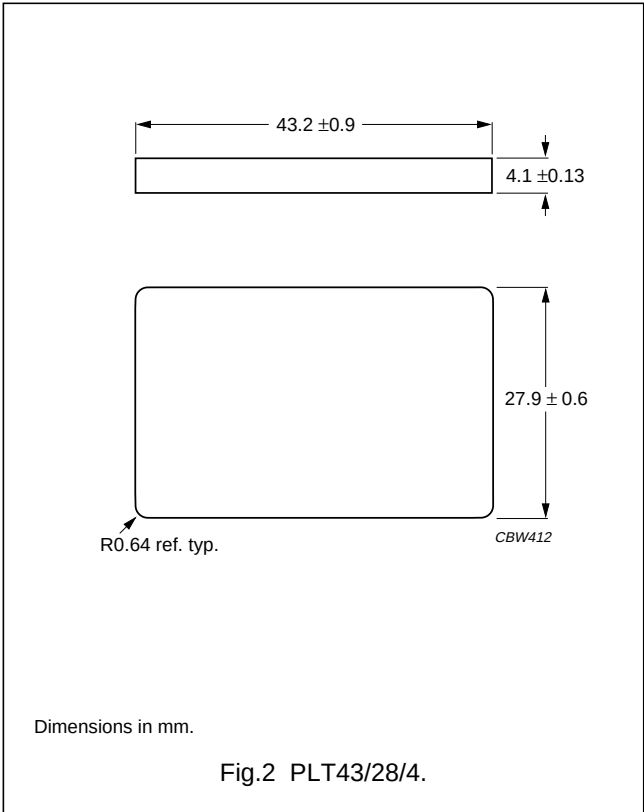


Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.226	mm^{-1}
V_e	effective volume	11500	mm^3
l_e	effective length	50.8	mm
A_e	effective area	225	mm^2
m	mass of core half	≈ 24	g

Ordering information

GRADE	TYPE NUMBER
3C90	PLT43/28/4-3C90
3F3	PLT43/28/4-3F3
3F4 	PLT43/28/4-3F4



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Core halves for use in combination with an E core

A_L measured in combination with a non-gapped core half, clamping force for A_L measurements, 40 ± 20 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	$250 \pm 3\%^{(1)}$	≈ 55	≈ 1100	E43/10-3C90-E250-E
	$315 \pm 3\%^{(1)}$	≈ 69	≈ 800	E43/10-3C90-E315-E
	$400 \pm 3\%^{(1)}$	≈ 87	≈ 700	E43/10-3C90-E400-E
	$630 \pm 5\%$	≈ 138	≈ 400	E43/10-3C90-A630-E
	$1000 \pm 10\%$	≈ 219	≈ 250	E43/10-3C90-A1000-E
	$8030 \pm 25\%$	≈ 1710	≈ 0	E43/10/28-3C90
3F3	$250 \pm 3\%^{(1)}$	≈ 55	≈ 1100	E43/10-3F3-E250-E
	$315 \pm 3\%^{(1)}$	≈ 69	≈ 800	E43/10-3F3-E315-E
	$400 \pm 3\%^{(1)}$	≈ 87	≈ 700	E43/10-3F3-E400-E
	$630 \pm 5\%$	≈ 138	≈ 400	E43/10-3F3-A630-E
	$1000 \pm 10\%$	≈ 219	≈ 250	E43/10-3F3-A1000-E
	$7310 \pm 25\%$	≈ 1600	≈ 0	E43/10/28-3F3
3F4 	$250 \pm 3\%^{(1)}$	≈ 55	≈ 1100	E43/10-3F4-E250-E
	$315 \pm 3\%^{(1)}$	≈ 69	≈ 800	E43/10-3F4-E315-E
	$400 \pm 3\%^{(1)}$	≈ 87	≈ 700	E43/10-3F4-E400-E
	$630 \pm 5\%$	≈ 138	≈ 400	E43/10-3F4-A630-E
	$1000 \pm 10\%$	≈ 219	≈ 250	E43/10-3F4-A1000-E
	$3870 \pm 25\%$	≈ 850	≈ 0	E43/10/28-3F4

Note

1. Measured in combination with an equal gapped E core half, clamping force for A_L measurements, 40 ± 20 N.

Core halves for use in combination with a plate (PLT)

A_L measured in combination with a plate (PLT), clamping force for A_L measurements, 40 ± 20 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	$250 \pm 3\%$	≈ 45	≈ 1100	E43/10-3C90-A250-P
	$315 \pm 3\%$	≈ 57	≈ 800	E43/10-3C90-A315-P
	$400 \pm 3\%$	≈ 72	≈ 700	E43/10-3C90-A400-P
	$630 \pm 5\%$	≈ 113	≈ 400	E43/10-3C90-A630-P
	$1000 \pm 10\%$	≈ 180	≈ 250	E43/10-3C90-A1000-P
	$9250 \pm 25\%$	≈ 1710	≈ 0	E43/10/28-3C90
3F3	$250 \pm 3\%$	≈ 45	≈ 1100	E43/10-3F3-A250-P
	$315 \pm 3\%$	≈ 57	≈ 800	E43/10-3F3-A315-P
	$400 \pm 3\%$	≈ 72	≈ 700	E43/10-3F3-A400-P
	$630 \pm 5\%$	≈ 113	≈ 400	E43/10-3F3-A630-P
	$1000 \pm 10\%$	≈ 180	≈ 250	E43/10-3F3-A1000-P
	$8700 \pm 25\%$	≈ 1560	≈ 0	E43/10/28-3F3

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3F4 des	250 $\pm 3\%$	≈ 45	≈ 1100	E43/10-3F4-A250-P
	315 $\pm 3\%$	≈ 57	≈ 800	E43/10-3F4-A315-P
	400 $\pm 3\%$	≈ 72	≈ 700	E43/10-3F4-A400-P
	630 $\pm 5\%$	≈ 113	≈ 400	E43/10-3F4-A630-P
	1000 $\pm 10\%$	≈ 180	≈ 250	E43/10-3F4-A1000-P
	4660 $\pm 25\%$	≈ 850	≈ 0	E43/10/28-3F4

Properties under power conditions

CORE COMBINATION	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 10 kHz; T = 100 °C	f = 25 kHz; $\hat{B} = 200$ mT; T = 100 °C	f = 100 kHz; $\hat{B} = 100$ mT; T = 100 °C	f = 400 kHz; $\hat{B} = 50$ mT; T = 100 °C	f = 1 MHz; $\hat{B} = 30$ mT; T = 100 °C	f = 3 MHz; $\hat{B} = 10$ mT; T = 100 °C
E+E43-3C90	≥ 320	≤ 1.70	≤ 1.80	–	–	–
E+PLT43-3C90	≥ 320	≤ 1.40	≤ 1.50	–	–	–
E+E43-3F3	≥ 320	–	≤ 1.60	≤ 2.70	–	–
E+PLT43-3F3	≥ 320	–	≤ 1.35	≤ 2.25	–	–
E+E43-3F4	≥ 250	–	–	–	≤ 4.20	≤ 5.00
E+PLT43-3F4	≥ 250	–	–	–	≤ 3.50	≤ 4.15