

DATA SHEET

E64/10/50 Planar E cores

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

1999 Dec 23

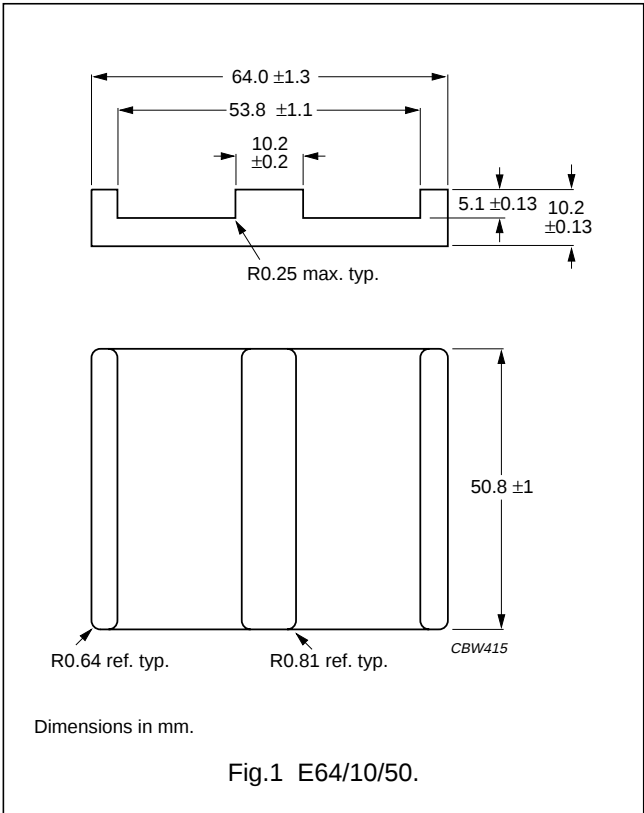
Planar E cores

E64/10/50

CORES

Effective core parameters of a set of E cores

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.156	mm^{-1}
V_e	effective volume	40700	mm^3
l_e	effective length	79.7	mm
A_e	effective area	511	mm^2
m	mass of core half	≈ 100	g

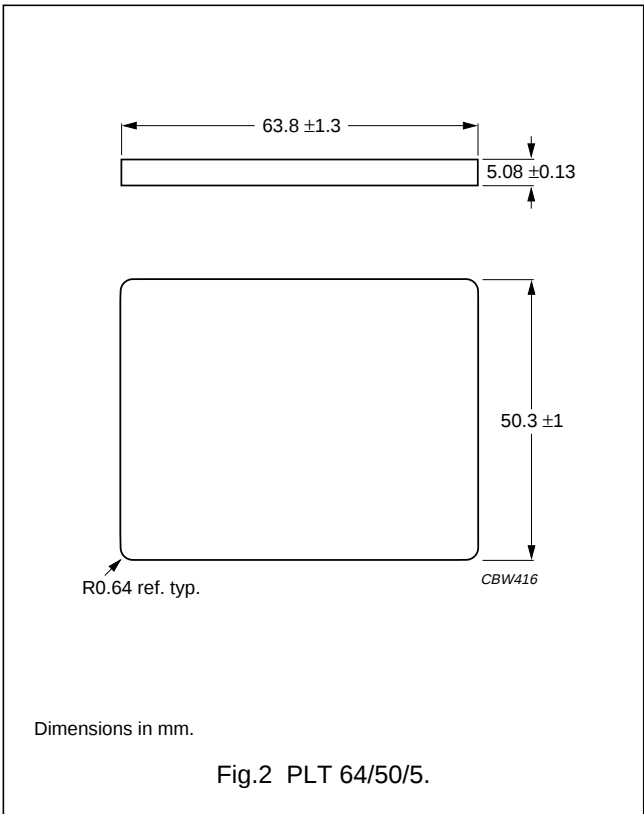


Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.136	mm^{-1}
V_e	effective volume	35500	mm^3
l_e	effective length	69.6	mm
A_e	effective area	511	mm^2
m	mass of plate	≈ 78	g

Ordering information for plates

GRADE	TYPE NUMBER
3C90	PLT64/50/5-3C90
3F3	PLT64/50/5-3F3
3F4 des	PLT64/50/5-3F4



Planar E cores

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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, 100 ± 30 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	$630 \pm 3\%^{(1)}$	≈ 78	≈ 1100	E64/10-3C90-E630-E
	$1000 \pm 3\%^{(1)}$	≈ 124	≈ 660	E64/10-3C90-E1000-E
	$1600 \pm 5\%$	≈ 199	≈ 385	E64/10-3C90-A1600-E
	$2500 \pm 10\%$	≈ 310	≈ 225	E64/10-3C90-A2500-E
	$3150 \pm 10\%$	≈ 391	≈ 170	E64/10-3C90-A3150-E
	$14640 \pm 25\%$	≈ 1820	≈ 0	E64/10/50-3C90
3F3	$630 \pm 3\%^{(1)}$	≈ 78	≈ 1100	E64/10-3F3-E630-E
	$1000 \pm 3\%^{(1)}$	≈ 124	≈ 660	E64/10-3F3-E1000-E
	$1600 \pm 5\%$	≈ 199	≈ 385	E64/10-3F3-A1600-E
	$2500 \pm 10\%$	≈ 310	≈ 225	E64/10-3F3-A2500-E
	$3150 \pm 10\%$	≈ 391	≈ 170	E64/10-3F3-A3150-E
	$13300 \pm 25\%$	≈ 1650	≈ 0	E64/10/50-3F3
3F4 	$630 \pm 3\%^{(1)}$	≈ 78	≈ 1100	E64/10-3F4-E630-E
	$1000 \pm 3\%^{(1)}$	≈ 124	≈ 660	E64/10-3F4-E1000-E
	$1600 \pm 5\%$	≈ 199	≈ 385	E64/10-3F4-A1600-E
	$2500 \pm 10\%$	≈ 310	≈ 225	E64/10-3F4-A2500-E
	$3150 \pm 10\%$	≈ 391	≈ 170	E64/10-3F4-A3150-E
	$6960 \pm 25\%$	≈ 860	≈ 0	E64/10/50-3F4

Note

1. Measured in combination with an equa -gapped core half, clamping force for A_L measurements, 100 ± 30 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, 100 ± 30 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	$630 \pm 3\%$	≈ 78	≈ 1100	E64/10-3C90-A-630-P
	$1000 \pm 3\%$	≈ 124	≈ 660	E64/10-3C90-A-1000-P
	$1600 \pm 5\%$	≈ 199	≈ 385	E64/10-3C90-A-1600-P
	$2500 \pm 10\%$	≈ 310	≈ 225	E64/10-3C90-A-2500-P
	$3150 \pm 10\%$	≈ 391	≈ 170	E64/10-3C90-A-3150-P
	$16540 \pm 25\%$	≈ 1790	≈ 0	E64/10/50-3C90
3F3	$630 \pm 3\%$	≈ 78	≈ 1100	E64/10-3F3-A-630-P
	$1000 \pm 3\%$	≈ 124	≈ 660	E64/10-3F3-A-1000-P
	$1600 \pm 5\%$	≈ 199	≈ 385	E64/10-3F3-A-1600-P
	$2500 \pm 10\%$	≈ 310	≈ 225	E64/10-3F3-A-2500-P
	$3150 \pm 10\%$	≈ 391	≈ 170	E64/10-3F3-A-3150-P
	$15050 \pm 25\%$	≈ 1630	≈ 0	E64/10/50-3F3

Planar E cores

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3F4 des	630 $\pm 3\%$	≈ 78	≈ 1100	E64/10-3F4-A-630-P
	1000 $\pm 3\%$	≈ 124	≈ 660	E64/10-3F4-A-1000-P
	1600 $\pm 5\%$	≈ 199	≈ 385	E64/10-3F4-A-1600-P
	2500 $\pm 10\%$	≈ 310	≈ 225	E64/10-3F4-A-2500-P
	3150 $\pm 10\%$	≈ 391	≈ 170	E64/10-3F4-A-3150-P
	7920 $\pm 25\%$	≈ 860	≈ 0	E64/10/50-3F4

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+E64-3C90	≥ 320	≤ 4.90	≤ 5.20	—	—	—
E+PLT64-3C90	≥ 320	≤ 4.30	≤ 4.55	—	—	—
E+E64-3F3	≥ 320	—	≤ 4.50	≤ 7.80	—	—
E+PLT64-3F3	≥ 320	—	≤ 3.95	≤ 6.80	—	—
E+E64-3F4	≥ 250	—	—	—	≤ 12.0	≤ 15.0
E+PLT64-3F4	≥ 250	—	—	—	≤ 10.5	≤ 13.0