

DATA SHEET

E58/11/38 Planar E cores

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

1999 Dec 23

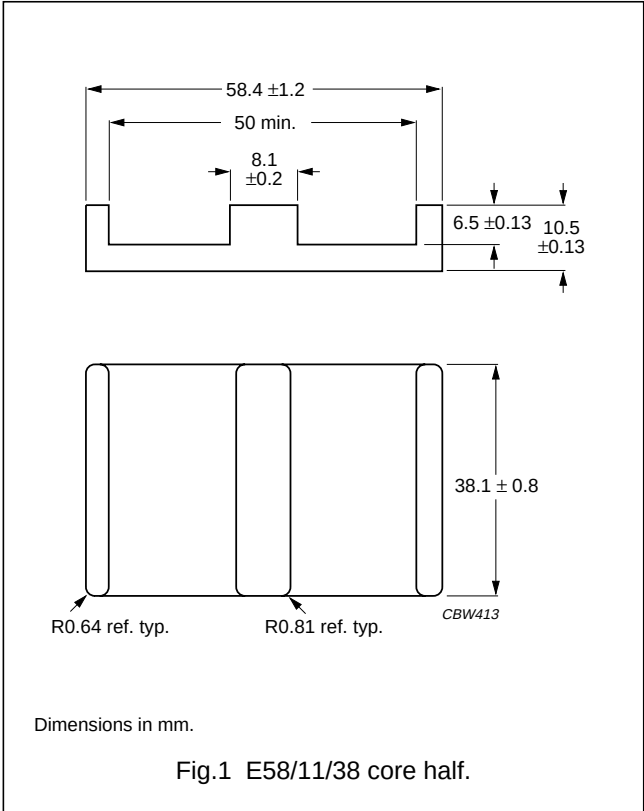
Planar E cores

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CORES

Effective core parameters of a set of E cores

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.268	mm^{-1}
V_e	effective volume	24600	mm^3
l_e	effective length	81.2	mm
A_e	effective area	305	mm^2
m	mass of core half	≈ 62	g

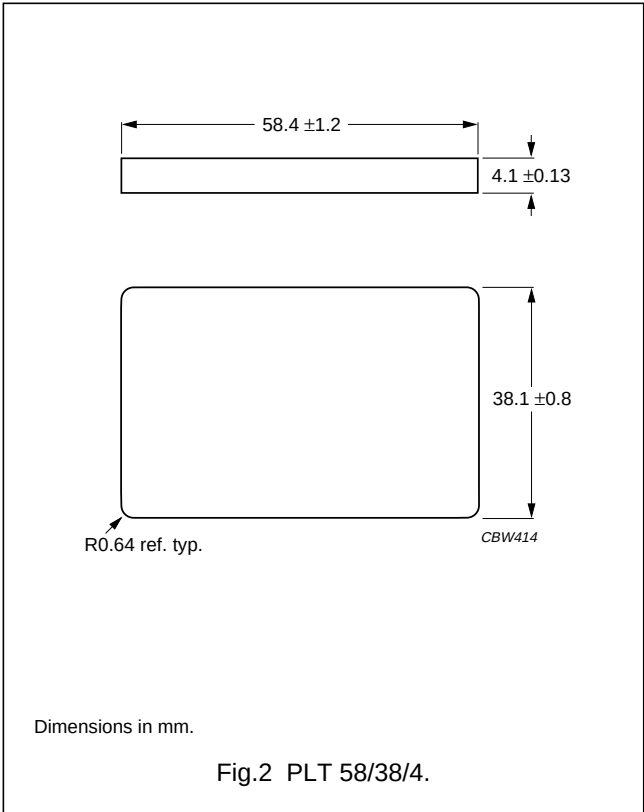


Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.224	mm^{-1}
V_e	effective volume	20800	mm^3
l_e	effective length	68.3	mm
A_e	effective area	305	mm^2
m	mass of core half	≈ 44	g

Ordering information for plates

GRADE	TYPE NUMBER
3C90	PLT58/38/4-3C90
3F3	PLT58/38/4-3F3
3F4 des	PLT58/38/4-3F4



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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.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	$315 \pm 3\%^{(1)}$	≈ 67	≈ 1400	E58/11-3C90-E315-E
	$400 \pm 3\%^{(1)}$	≈ 85	≈ 1100	E58/11-3C90-E400-E
	$630 \pm 5\%^{(1)}$	≈ 134	≈ 650	E58/11-3C90-E630-E
	$1000 \pm 5\%$	≈ 213	≈ 400	E58/11-3C90-A1000-E
	$1600 \pm 10\%$	≈ 341	≈ 200	E58/11-3C90-A1600-E
	$8480 \pm 25\%$	≈ 1800	≈ 0	E58/11/38-3C90
3F3	$315 \pm 3\%^{(1)}$	≈ 67	≈ 1400	E58/11-3F3-E315-E
	$400 \pm 3\%^{(1)}$	≈ 85	≈ 1100	E58/11-3F3-E400-E
	$630 \pm 5\%^{(1)}$	≈ 134	≈ 650	E58/11-3F3-E630-E
	$1000 \pm 5\%$	≈ 213	≈ 400	E58/11-3F3-A1000-E
	$1600 \pm 10\%$	≈ 341	≈ 200	E58/11-3F3-A1600-E
	$7710 \pm 25\%$	≈ 1640	≈ 0	E58/11/38-3F3
3F4 	$315 \pm 3\%^{(1)}$	≈ 67	≈ 1400	E58/11-3F4-E315-E
	$400 \pm 3\%^{(1)}$	≈ 85	≈ 1100	E58/11-3F4-E400-E
	$630 \pm 5\%^{(1)}$	≈ 134	≈ 650	E58/11-3F4-E630-E
	$1000 \pm 5\%$	≈ 213	≈ 400	E58/11-3F4-A1000-E
	$1600 \pm 10\%$	≈ 341	≈ 200	E58/11-3F4-A1600-E
	$4030 \pm 25\%$	≈ 860	≈ 0	E58/11/38-3F4

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	$315 \pm 3\%$	≈ 56	≈ 1400	E58/11-3C90-A315-P
	$400 \pm 3\%$	≈ 71	≈ 1100	E58/11-3C90-A400-P
	$630 \pm 5\%$	≈ 112	≈ 650	E58/11-3C90-A630-P
	$1000 \pm 5\%$	≈ 178	≈ 400	E58/11-3C90-A1000-P
	$1600 \pm 10\%$	≈ 285	≈ 200	E58/11-3C90-A1600-P
	$9970 \pm 25\%$	≈ 780	≈ 0	E58/11/38-3C90
3F3	$315 \pm 3\%$	≈ 56	≈ 1400	E58/11-3F3-A315-P
	$400 \pm 3\%$	≈ 71	≈ 1100	E58/11-3F3-A400-P
	$630 \pm 5\%$	≈ 112	≈ 650	E58/11-3F3-A630-P
	$1000 \pm 5\%$	≈ 178	≈ 400	E58/11-3F3-A1000-P
	$1600 \pm 10\%$	≈ 285	≈ 200	E58/11-3F3-A1600-P
	$9070 \pm 25\%$	≈ 1620	≈ 0	E58/11/38-3F3

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3F4 des	315 $\pm 3\%$	≈ 56	≈ 1400	E58/11-3F4-A315-P
	400 $\pm 3\%$	≈ 71	≈ 1100	E58/11-3F4-A400-P
	630 $\pm 5\%$	≈ 112	≈ 650	E58/11-3F4-A630-P
	1000 $\pm 5\%$	≈ 178	≈ 400	E58/11-3F4-A1000-P
	1600 $\pm 10\%$	≈ 285	≈ 200	E58/11-3F4-A1600-P
	4780 $\pm 25\%$	≈ 850	≈ 0	E58/11/38-3F4

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+E58-3C90	≥ 320	≤ 2.95	≤ 3.10	—	—	—
E+PLT58-3C90	≥ 320	≤ 2.50	≤ 2.65	—	—	—
E+E58-3F3	≥ 320	—	≤ 2.70	≤ 4.70	—	—
E+PLT58-3F3	≥ 320	—	≤ 2.30	≤ 4.00	—	—
E+E58-3F4	≥ 250	—	—	—	≤ 7.40	≤ 8.00
E+PLT58-3F4	≥ 250	—	—	—	≤ 6.25	≤ 6.80