

DATA SHEET

E38/8/25 Planar E cores

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

1999 Dec 23

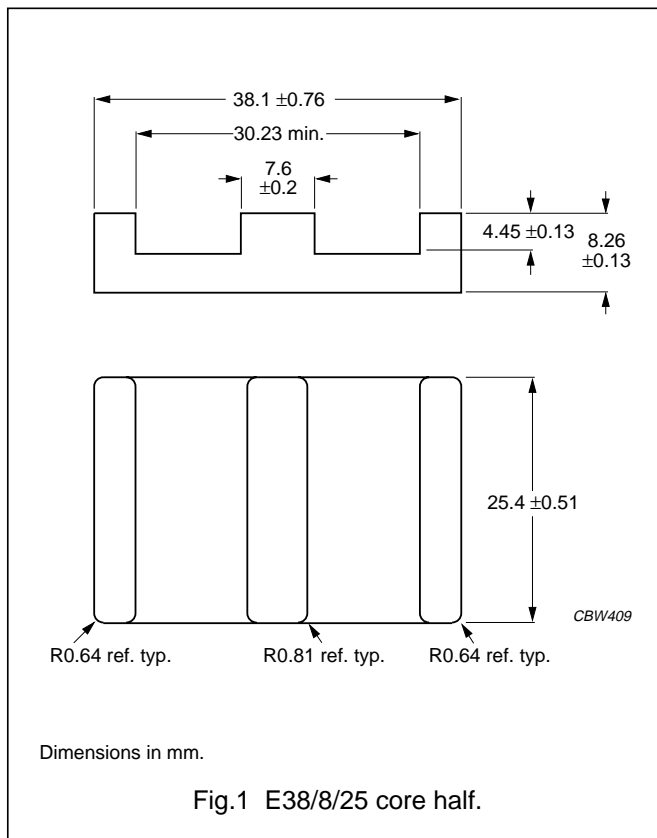
Planar E cores

E38/8/25

CORES

Effective core parameters of a set of E cores

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.272	mm ⁻¹
V_e	effective volume	10200	mm ³
l_e	effective length	52.6	mm
A_e	effective area	194	mm ²
m	mass of core half	≈25	g

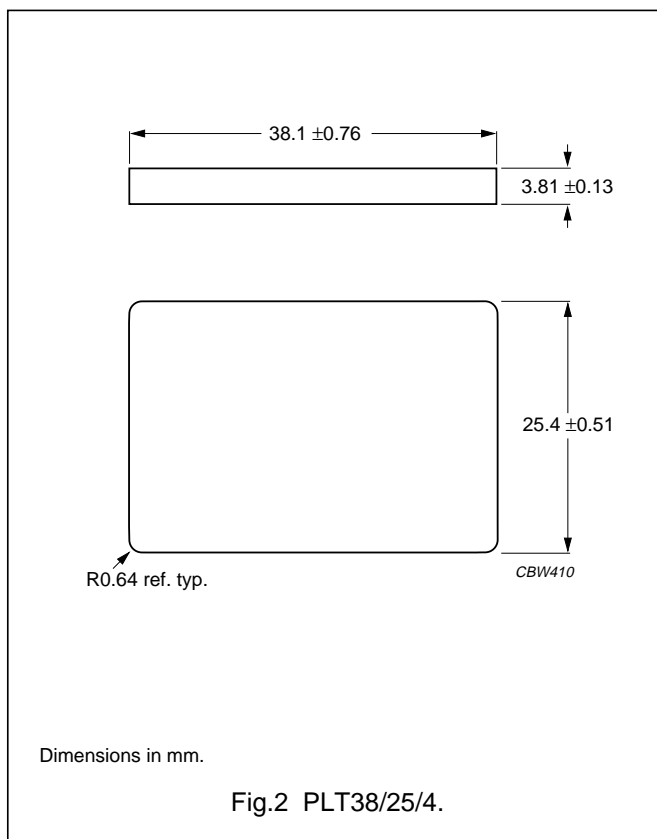


Effective core parameters of an E/PLT combination

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.226	mm ⁻¹
V_e	effective volume	8460	mm ³
l_e	effective length	43.7	mm
A_e	effective area	194	mm ²
m	mass of plate	≈18	g

Ordering information for plates

GRADE	TYPE NUMBER
3C90	PLT38/25/4-3C90
3F3	PLT38/25/4-3F3
3F4 des	PLT38/25/4-3F4



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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 ± 15 N, unless stated otherwise.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	250 $\pm 3\%$ ⁽¹⁾	≈ 54	≈ 1100	E38/8-3C90-E250-E
	315 $\pm 3\%$ ⁽¹⁾	≈ 68	≈ 850	E38/8-3C90-E315-E
	400 $\pm 3\%$ ⁽¹⁾	≈ 86	≈ 650	E38/8-3C90-E400-E
	630 $\pm 5\%$	≈ 136	≈ 400	E38/8-3C90-A630-E
	1000 $\pm 10\%$	≈ 216	≈ 250	E38/8-3C90-A1000-E
	7940 $\pm 25\%$	≈ 1720	≈ 0	E38/8/25-3C90
3F3	250 $\pm 3\%$ ⁽¹⁾	≈ 54	≈ 1100	E38/8-3F3-E250-E
	315 $\pm 3\%$ ⁽¹⁾	≈ 68	≈ 850	E38/8-3F3-E315-E
	400 $\pm 3\%$ ⁽¹⁾	≈ 86	≈ 650	E38/8-3F3-E400-E
	630 $\pm 5\%$	≈ 136	≈ 400	E38/8-3F3-A630-E
	1000 $\pm 10\%$	≈ 216	≈ 250	E38/8-3F3-A1000-E
	7250 $\pm 25\%$	≈ 1570	≈ 0	E38/8/25-3F3
3F4 des	250 $\pm 3\%$ ⁽¹⁾	≈ 54	≈ 1100	E38/8-3F4-E250-E
	315 $\pm 3\%$ ⁽¹⁾	≈ 68	≈ 850	E38/8-3F4-E315-E
	400 $\pm 3\%$ ⁽¹⁾	≈ 86	≈ 650	E38/8-3F4-E400-E
	630 $\pm 5\%$	≈ 136	≈ 400	E38/8-3F4-A630-E
	1000 $\pm 10\%$	≈ 216	≈ 250	E38/8-3F4-A1000-E
	3880 $\pm 25\%$	≈ 840	≈ 0	E38/8/25-3F4

Note

1. Measured in combination with an equal gapped core half, clamping force for A_L measurements, 40 ± 15 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 ± 15 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	250 $\pm 3\%$	≈ 45	≈ 1100	E38/8-3C90-A250-P
	315 $\pm 3\%$	≈ 57	≈ 850	E38/8-3C90-A315-P
	400 $\pm 3\%$	≈ 72	≈ 650	E38/8-3C90-A400-P
	630 $\pm 5\%$	≈ 113	≈ 400	E38/8-3C90-A630-P
	1000 $\pm 10\%$	≈ 180	≈ 250	E38/8-3C90-A1000-P
	9290 $\pm 25\%$	≈ 1670	≈ 0	E38/8/25-3C90
3F3	250 $\pm 3\%$	≈ 45	≈ 1100	E38/8-3F3-A250-P
	315 $\pm 3\%$	≈ 57	≈ 850	E38/8-3F3-A315-P
	400 $\pm 3\%$	≈ 72	≈ 650	E38/8-3F3-A400-P
	630 $\pm 5\%$	≈ 113	≈ 400	E38/8-3F3-A630-P
	1000 $\pm 10\%$	≈ 180	≈ 250	E38/8-3F3-A1000-P
	8500 $\pm 25\%$	≈ 1520	≈ 0	E38/8/25-3F3

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3F4 <small>des</small>	250 \pm 3%	\approx 45	\approx 1100	E38/8-3F4-A250-P
	315 \pm 3%	\approx 57	\approx 850	E38/8-3F4-A315-P
	400 \pm 3%	\approx 72	\approx 650	E38/8-3F4-A400-P
	630 \pm 5%	\approx 113	\approx 400	E38/8-3F4-A630-P
	1000 \pm 10%	\approx 180	\approx 250	E38/8-3F4-A1000-P
	4600 \pm 25%	\approx 830	\approx 0	E38/8/25-3F4

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+E38-3C90	\geq 320	\leq 1.25	\leq 1.25	–	–	–
E+PLT38-3C90	\geq 320	\leq 1.05	\leq 1.05	–	–	–
E+E38-3F3	\geq 320	–	\leq 1.20	\leq 2.00	–	–
E+PLT38-3F3	\geq 320	–	\leq 1.00	\leq 1.65	–	–
E+E38-3F4	\geq 250	–	–	–	\leq 3.00	\leq 3.50
E+PLT38-3F4	\geq 250	–	–	–	\leq 2.50	\leq 2.90