DATA SHEET

EFD30
EFD cores and accessories

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

2000 Apr 20

Philips
Components

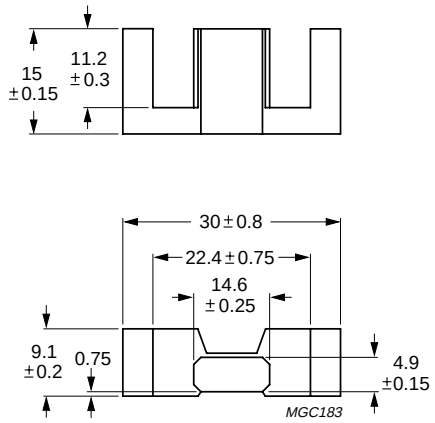
PHILIPS

EFD cores and accessories EFD30

CORES

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
Σ(l/A)	core factor (C1)	0.98	mm^{-1}
V_e	effective volume	4700	mm^3
l_e	effective length	68.0	mm
A_e	effective area	69.0	mm^2
A_{min}	minimum area	66.0	mm^2
m	mass of core half	≈12	g



Dimensions in mm.

Fig.1 EFD30 core half.

Core halves and sets

Clamping force for A_L measurements, 70 ±20 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C90	2100 ±25%	≈1650	≈0	EFD30-3C90
3F3	160 ±3%	≈126	≈500	EFD30-3F3-A160-S
	250 ±3%	≈195	≈350	EFD30-3F3-A250-S
	315 ±5%	≈250	≈250	EFD30-3F3-A315-S
	400 ±5%	≈315	≈200	EFD30-3F3-A400-S
	630 ±10%	≈500	≈120	EFD30-3F3-A630-S
	1900 ±25%	≈1500	≈0	EFD30-3F3
3F4 des	160 ±3%	≈126	≈500	EFD30-3F4-A160-S
	250 ±3%	≈195	≈350	EFD30-3F4-A250-S
	315 ±5%	≈250	≈250	EFD30-3F4-A315-S
	400 ±5%	≈315	≈200	EFD30-3F4-A400-S
	630 ±10%	≈500	≈120	EFD30-3F4-A630-S
	1050 ±25%	≈820	≈0	EFD30-3F4

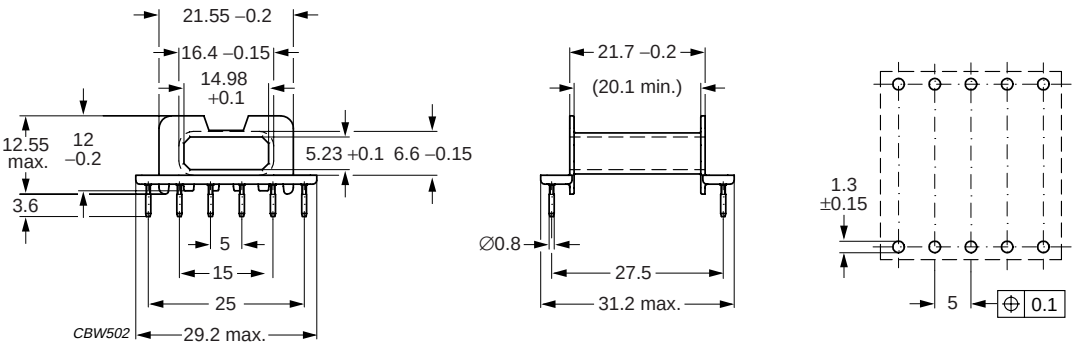
Properties of core sets under power conditions

GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 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 Mz; $\hat{B}$ = 30 mT; T = 100 °C	f = 3 MHz; $\hat{B}$ = 10 mT; T = 100 °C
3C90	≥330	≤0.50	≤0.54	–	–	–
3F3	≥315	–	≤0.54	≤0.91	–	–
3F4	≥300	–	–	–	≤1.00	≤1.60

COIL FORMERS

General data

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with *"UL 94V-0"*; UL file number E167521 (M)
Pin material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	180 °C, *"IEC 60085"*, class H
Resistance to soldering heat	*"IEC 60068-2-20"*, Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	*"IEC 60068-2-20"*, Part 2, Test Ta, method 1: 235 °C, 2 s



Dimensions in mm.

Fig.2 EFD30 coil former; 12-pins.

Winding data for EFD30 coil former with 12-pins

NUMBER OF SECTIONS	WINDING AREA (mm^2)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	52.3	20.1	52.9	CSH-EFD30-1S-12P; see note 1

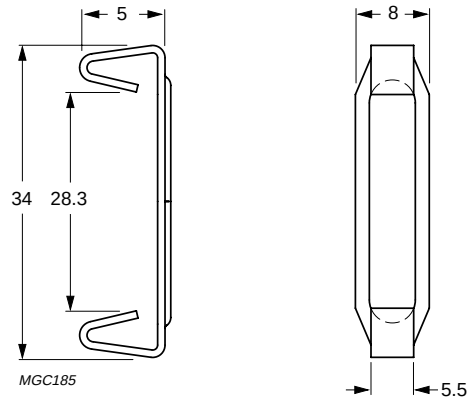
Note

1. Also available with post-inserted pins.

MOUNTING PARTS

General data

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clip	stainless steel (CrNi); clamping force ≈35 N	3	CLI-EFD30



Dimensions in mm.

Fig.3 EFD30 mounting clip.

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DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Philips Components 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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