

DATA SHEET

EFD12 EFD cores and accessories

Product specification
Supersedes data of December 1998
File under Ferrite Ceramics, MA01

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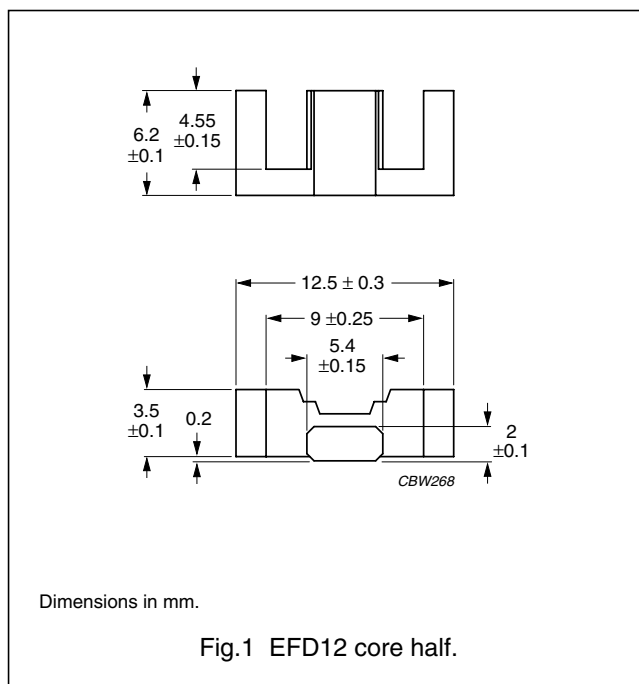
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CORES

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	2.50	mm ⁻¹
V_e	effective volume	325	mm ³
l_e	effective length	28.5	mm
A_e	effective area	11.4	mm ²
A_{min}	minimum area	10.7	mm ²
m	mass of core half	≈0.9	g



Core sets

Clamping force for A_L measurements, 15 ±5 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3C90	40 ±5%	≈80	≈490	EFD12-3C90-A40-S
	63 ±8%	≈125	≈280	EFD12-3C90-A63-S
	100 ±10%	≈200	≈160	EFD12-3C90-A100-S
	825 ±25%	≈1610	≈0	EFD12-3C90-S
3C94 des	40 ±5%	≈80	≈490	EFD12-3C94-A40-S
	63 ±8%	≈125	≈280	EFD12-3C94-A63-S
	100 ±10%	≈200	≈160	EFD12-3C94-A100-S
	825 ±25%	≈1610	≈0	EFD12-3C94-S
3C96 prot	750 ±25%	≈1460	≈0	EFD12-3C96-S
3F3	40 ±5%	≈80	≈490	EFD12-3F3-A40-S
	63 ±8%	≈125	≈280	EFD12-3F3-A63-S
	100 ±10%	≈200	≈160	EFD12-3F3-A100-S
	700 ±25%	≈1370	≈0	EFD12-3F3-S
3F35 prot	550 ±25%	≈1070	≈0	EFD12-3F35-S
3F4 des	40 ±5%	≈80	≈470	EFD12-3F4-A40-S
	63 ±8%	≈125	≈260	EFD12-3F4-A63-S
	100 ±10%	≈200	≈140	EFD12-3F4-A100-S
	380 ±25%	≈730	≈0	EFD12-3F4-S
3E4 sup	1900 +40/-30%	≈3780	≈0	EFD12-3E4-S
3E5 des	2800 +40/-30%	≈5570	≈0	EFD12-3E5-S

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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 = 100 kHz; B̂ = 100 mT; T = 100 °C	f = 100 kHz; B̂ = 200 mT; T = 100 °C	f = 400 kHz; B̂ = 50 mT; T = 100 °C
3C90	≥320	≤0.036	–	–
3C94	≥320	≤0.029	≈0.14	≈0.062
3C96	≥320	≈0.021	≈0.10	≈0.043
3F35	≥300	–	–	≈0.033
3F3	≥315	≤0.04	–	≤0.065
3F4	≥250	–	–	–

Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at			
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 500 kHz; B̂ = 50 mT; T = 100 °C	f = 500 kHz; B̂ = 100 mT; T = 100 °C	f = 1 MHz; B̂ = 30 mT; T = 100 °C	f = 3 MHz; B̂ = 10 mT; T = 100 °C
3C90	≥320	–	–	–	–
3C94	≥320	–	–	–	–
3C96	≥320	–	–	–	–
3F35	≥300	≈0.052	≈0.39	–	–
3F3	≥315	–	–	–	–
3F4	≥250	–	–	≤0.065	≤0.11

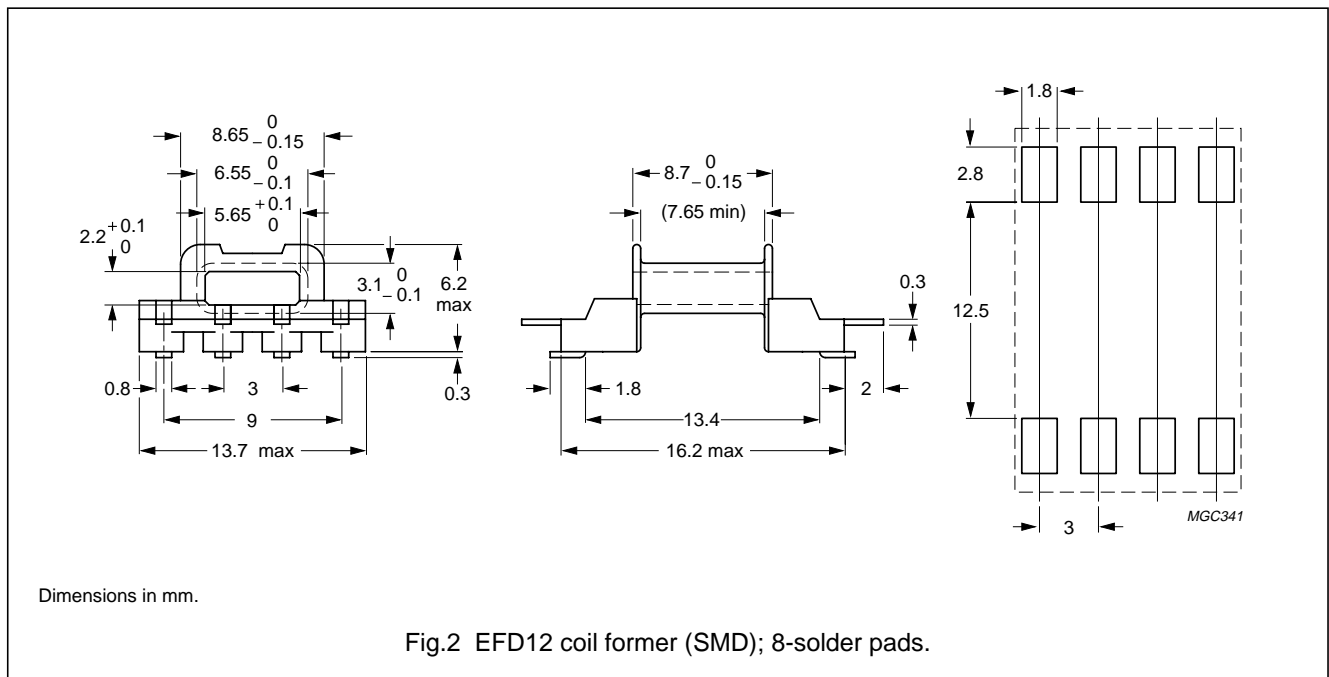
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COIL FORMERS

General data

ITEM	SPECIFICATION
Coil former material	liquid crystal polymer (LCP), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E83005(M)
Solder pad material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	155 °C, "IEC 60085", class F
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



Winding data for EFD12 coil former (SMD) with 8-solder pads

NUMBER OF SECTIONS	NUMBER OF SOLDER PADS	MINIMUM WINDING AREA (mm ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	8	6.5	7.65	18.6	CPHS-EFD12-1S-8P

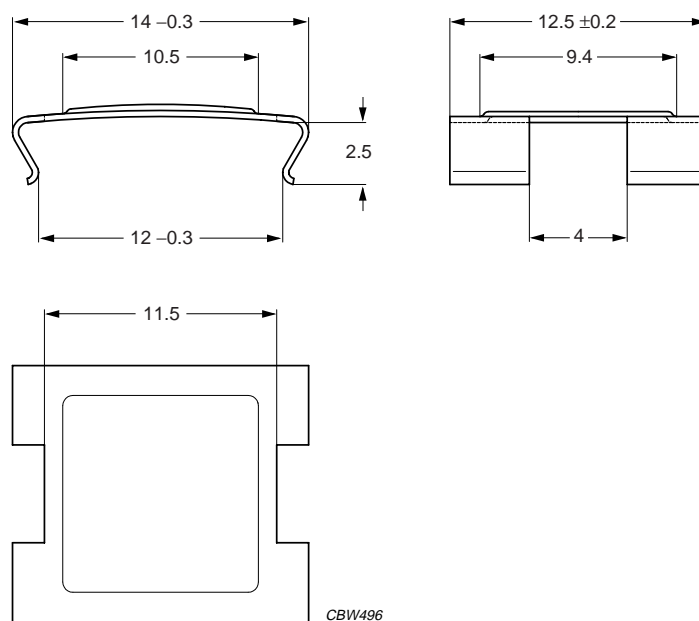
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MOUNTING PARTS

General data

ITEM	REMARKS	FIGURE	TYPE NUMBER
Clamp	stainless steel (CrNi); clamping force ≈ 20 N	3	CLM-EFD12



Dimensions in mm.

Fig.3 EFD12 mounting clamp.

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DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
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