

# DATA SHEET

**FRM20/5/15**

Frame and Bar cores and  
accessories

Product specification  
File under Ferrite Ceramics, MA01

2000 Apr 20

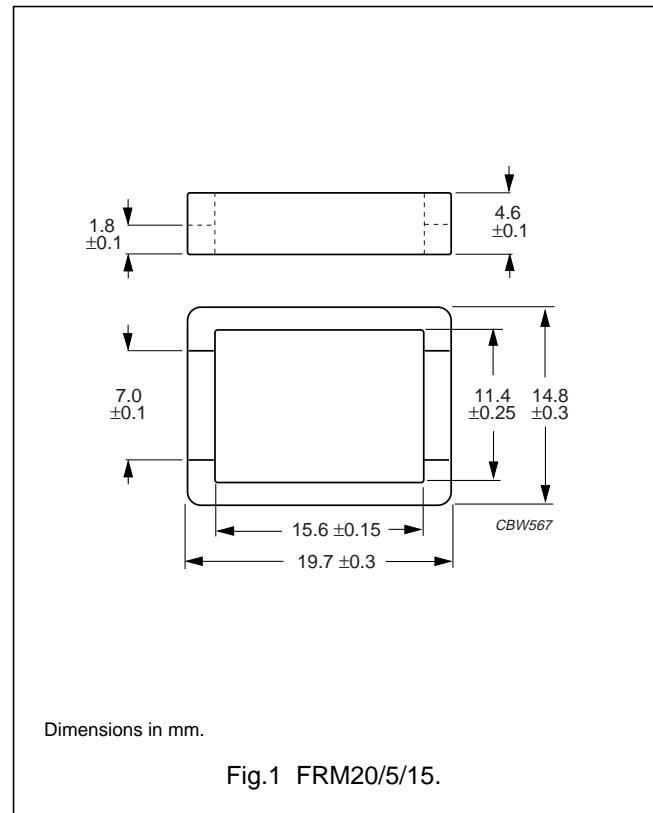
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CORE SETS

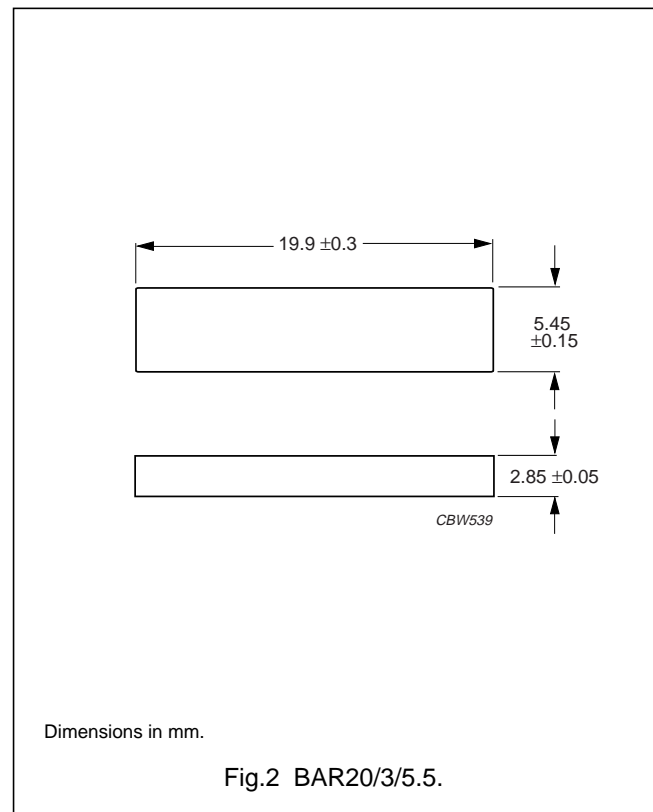
Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	3.29	mm <sup>-1</sup>
$V_e$	effective volume	655	mm <sup>3</sup>
$l_e$	effective length	46	mm
$A_e$	effective area	14	mm <sup>2</sup>
$A_{min}$	minimum area	7.4	mm <sup>2</sup>
m	mass of frame	≈2.1	g
m	mass of bar	≈1.5	g



Ordering information for bar cores

GRADE	TYPE NUMBER
3C90	BAR20/3/5.5-3C90



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**Frame cores for use in combination with matching bar cores** $A_L$  measured in combination with bar core

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	500 $\pm$ 25%	$\approx$ 1310	$\approx$ 0	FRM20/5/15-3C90

**Properties of Frame and Bar combinations 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
FRM20/5/15-3C90 + BAR20/3/5.5-3C90	$\geq$ 320	$\leq$ 0.073	$\leq$ 0.080

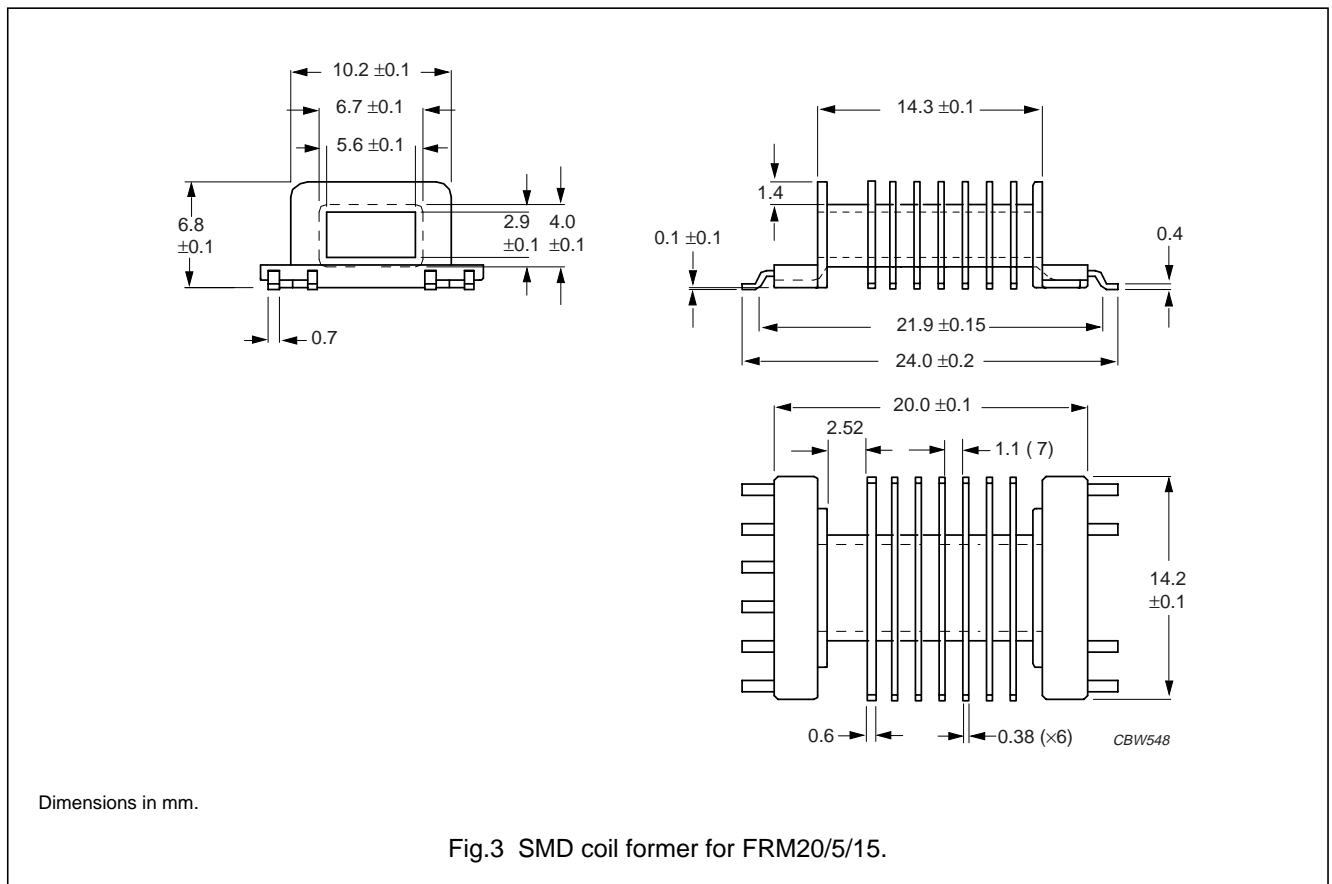
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COIL FORMERS

General data

PARAMETER	SPECIFICATION
Coil former material	liquid crystal polymer (LCP), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E54705(M)
Pin 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

NUMBER OF SECTIONS	NUMBER OF SOLDER PADS	WINDING AREA (mm <sup>2</sup> )	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
8	10	3.5 + 7 × 1.5	2.52 + 8 × 1.1	27	CPHS-FRM20/15-8S-10P

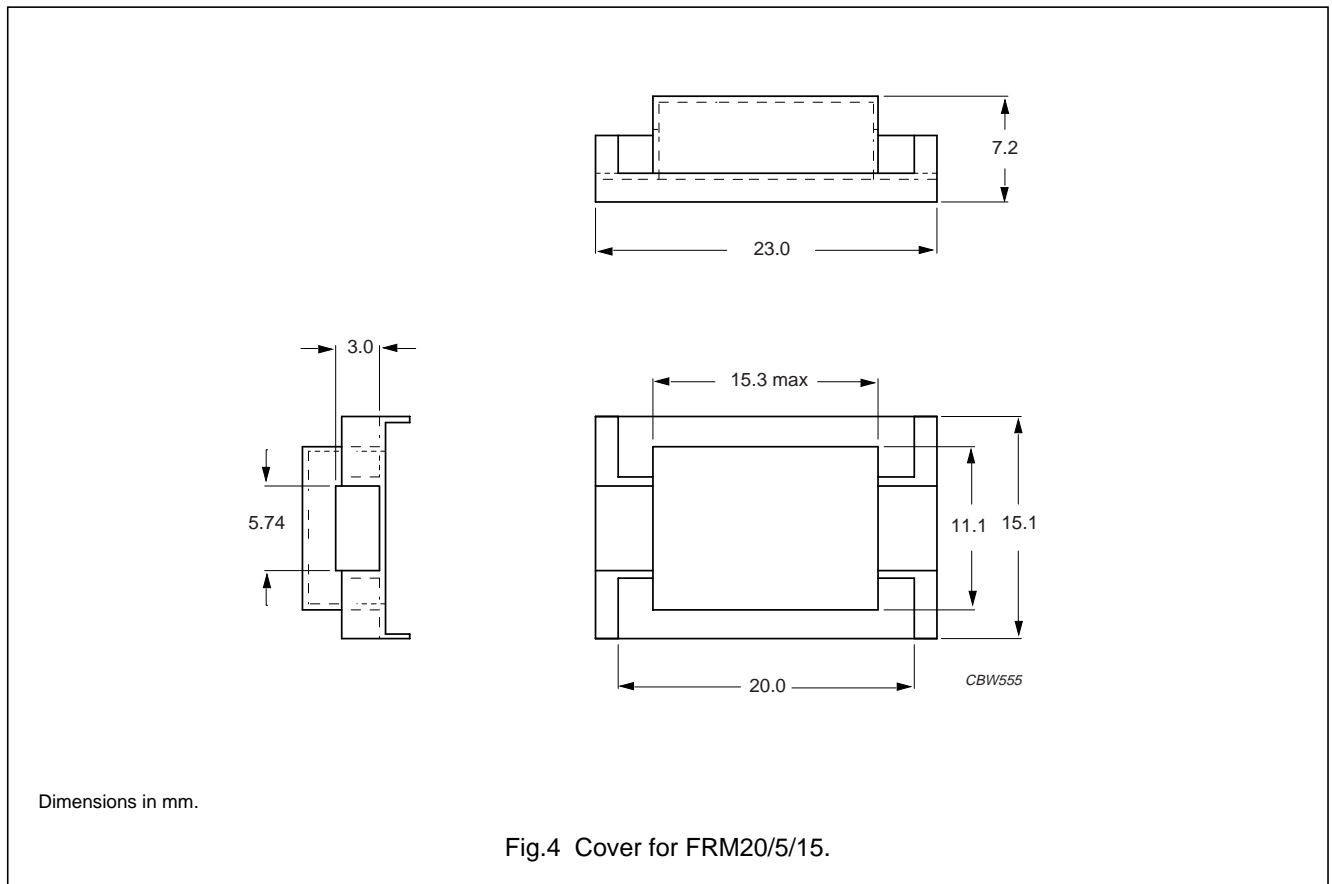
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**MOUNTING PARTS**

**General data**

PARAMETER	SPECIFICATION
Cover material	liquid crystal polymer (LCP), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E54705(M)
Maximum operating temperature	155 °C, "IEC 60085", class F



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## DATA SHEET STATUS DEFINITIONS

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.
Product specification	Production	This data sheet contains final specifications. 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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## PRODUCT STATUS DEFINITIONS

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