

# DATA SHEET

## **PQ26/20** PQ cores and accessories

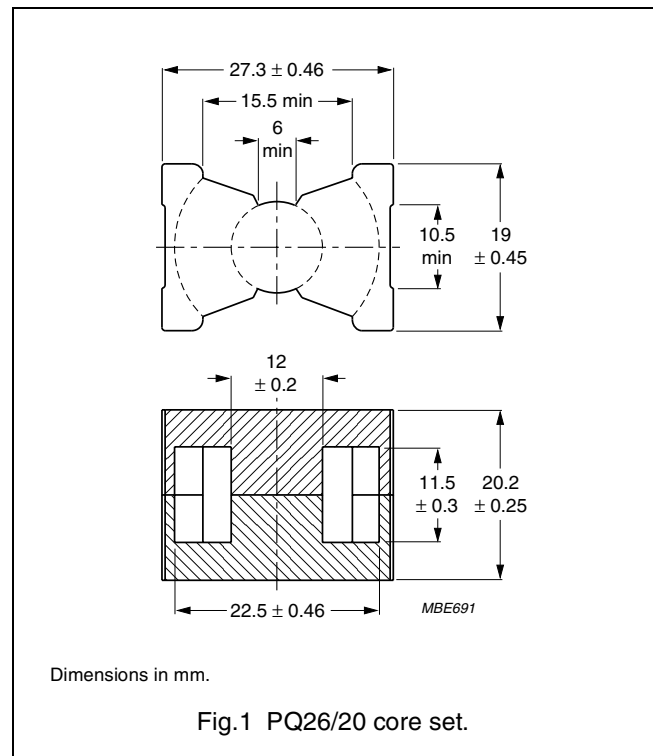
Supersedes data of September 2004

2008 Sep 01

**CORE SETS**

**Effective core parameters**

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.372	mm <sup>-1</sup>
$V_e$	effective volume	5470	mm <sup>3</sup>
$l_e$	effective length	45.0	mm
$A_e$	effective area	121	mm <sup>2</sup>
$A_{min}$	minimum area	109	mm <sup>2</sup>
m	mass of set	≈ 30	g



**Core sets for general purpose transformers and power applications**

Clamping force for  $A_L$  measurements, 60 ± 15 N.

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP (μm)	TYPE NUMBER
3C81	250 ± 3%	≈ 74	≈ 730	PQ26/20-3C81-E250
	315 ± 3%	≈ 93	≈ 550	PQ26/20-3C81-A315
	400 ± 3%	≈ 118	≈ 420	PQ26/20-3C81-A400
	630 ± 3%	≈ 186	≈ 250	PQ26/20-3C81-A630
	1000 ± 5%	≈ 296	≈ 140	PQ26/20-3C81-A1000
	7020 ± 25%	≈ 2080	≈ 0	PQ26/20-3C81
3C90	250 ± 3%	≈ 74	≈ 730	PQ26/20-3C90-E250
	315 ± 3%	≈ 93	≈ 550	PQ26/20-3C90-A315
	400 ± 3%	≈ 118	≈ 420	PQ26/20-3C90-A400
	630 ± 3%	≈ 186	≈ 250	PQ26/20-3C90-A630
	1000 ± 5%	≈ 296	≈ 140	PQ26/20-3C90-A1000
	6200 ± 25%	≈ 1640	≈ 0	PQ26/20-3C90
3C91 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	7020 ± 25%	≈ 2080	≈ 0	PQ26/20-3C91
3C94	6200 ± 25%	≈ 1640	≈ 0	PQ26/20-3C94
3C95 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	7020 ± 25%	≈ 2080	≈ 0	PQ26/20-3C95
3C96 <span style="background-color: black; color: white; padding: 0 2px;">des</span>	5530 ± 25%	≈ 1640	≈ 0	PQ26/20-3C96

GRADE	$A_L$ (nH)	$\mu_e$	TOTAL AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3F3	250 $\pm$ 3%	$\approx$ 74	$\approx$ 730	PQ26/20-3F3-E250
	315 $\pm$ 3%	$\approx$ 93	$\approx$ 550	PQ26/20-3F3-A315
	400 $\pm$ 3%	$\approx$ 118	$\approx$ 420	PQ26/20-3F3-A400
	630 $\pm$ 3%	$\approx$ 186	$\approx$ 250	PQ26/20-3F3-A630
	1000 $\pm$ 5%	$\approx$ 296	$\approx$ 140	PQ26/20-3F3-A1000
	5200 $\pm$ 25%	$\approx$ 1540	$\approx$ 0	PQ26/20-3F3

#### 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 = 100 kHz; $\hat{B}$ = 200 mT; T = 25 °C	f = 100 kHz; $\hat{B}$ = 200 mT; T = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C81	$\geq$ 320	$\leq$ 1.3	–	–	–	–
3C90	$\geq$ 320	$\leq$ 0.66	$\leq$ 0.7	–	–	–
3C91	$\geq$ 320	–	$\leq$ 0.42 <sup>(1)</sup>	–	$\leq$ 2.5 <sup>(1)</sup>	–
3C94	$\geq$ 320	–	$\leq$ 0.52	–	$\leq$ 3.3	–
3C95	$\geq$ 320	–	–	$\leq$ 3.23	$\leq$ 3.06	–
3C96	$\geq$ 340	–	$\leq$ 0.42	–	$\leq$ 2.5	$\leq$ 1.0
3F3	$\geq$ 320	–	$\leq$ 0.64	–	–	$\leq$ 1.1

#### 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; $\hat{B}$ = 50 mT; T = 100 °C	f = 500 kHz; $\hat{B}$ = 100 mT; T = 100 °C	f = 1 MHz; $\hat{B}$ = 30 mT; T = 100 °C	f = 3 MHz; $\hat{B}$ = 10 mT; T = 100 °C
3C81	$\geq$ 320	–	–	–	–
3C90	$\geq$ 320	–	–	–	–
3C91	$\geq$ 320	–	–	–	–
3C94	$\geq$ 320	–	–	–	–
3C95	$\geq$ 320	–	–	–	–
3C96	$\geq$ 340	$\leq$ 2.1	–	–	–
3F3	$\geq$ 320	–	–	–	–

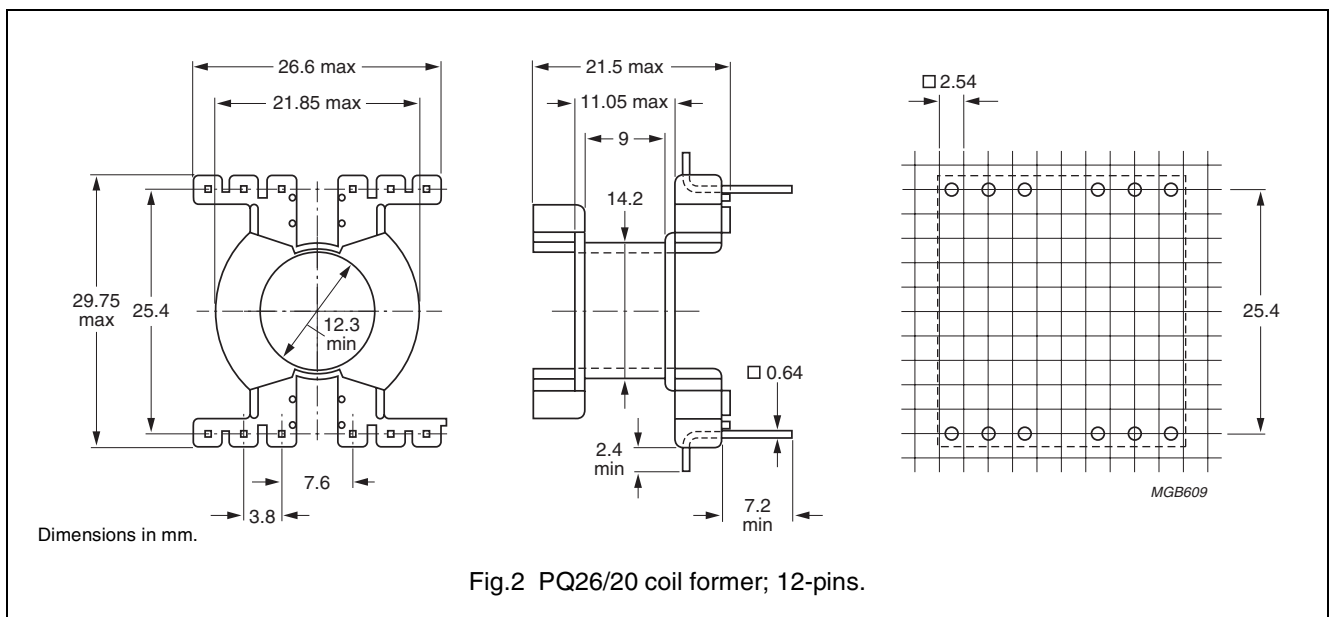
#### Note

1. Measured at 60 °C.

**COIL FORMER**

**General data 12-pins PQ26/20 coil former**

ITEM	SPECIFICATION
Coil former material	Polyethylene terephthalate (PET), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41938
Pin material	copper-tin alloy (CuSn), tin (Sn) 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



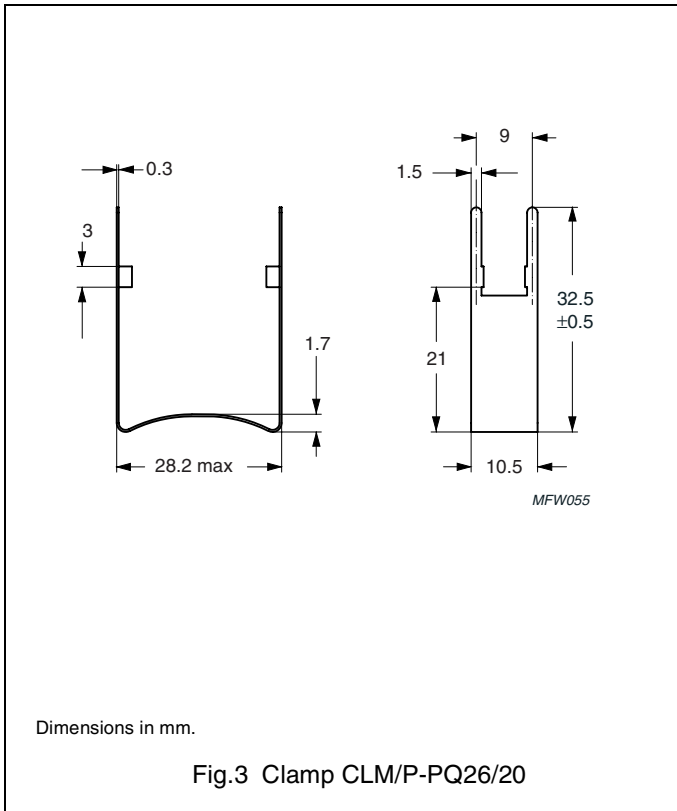
**Winding data and area product for 12-pins PQ26/20 coil former**

NUMBER OF SECTIONS	MINIMUM WINDING AREA (mm <sup>2</sup> )	NOMINAL WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	31.1	9.0	56.4	3760	CPV-PQ26/20-1S-12P-Z
1	31.1	9.0	56.4	3760	CPV-PQ26/20-1S-12PD-Z

**MOUNTING PARTS**

**General data**

ITEM	REMARKS	TYPE NUMBER
Clamp	phosphorbronze, Sn plated, earth pins solderability acc. to "IEC 60068-2-20", Part 2, Test Ta, method 1: 235 °C, 2 s	CLM/P-PQ26/20






**DATA SHEET STATUS DEFINITIONS**

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube 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. Ferroxcube 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**

STATUS	INDICATION	DEFINITION
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