

# DATA SHEET

## **RM14/I** RM cores and accessories

Product specification  
Supersedes data of January 1999  
File under Ferrite Ceramics, MA01

1999 Dec 23

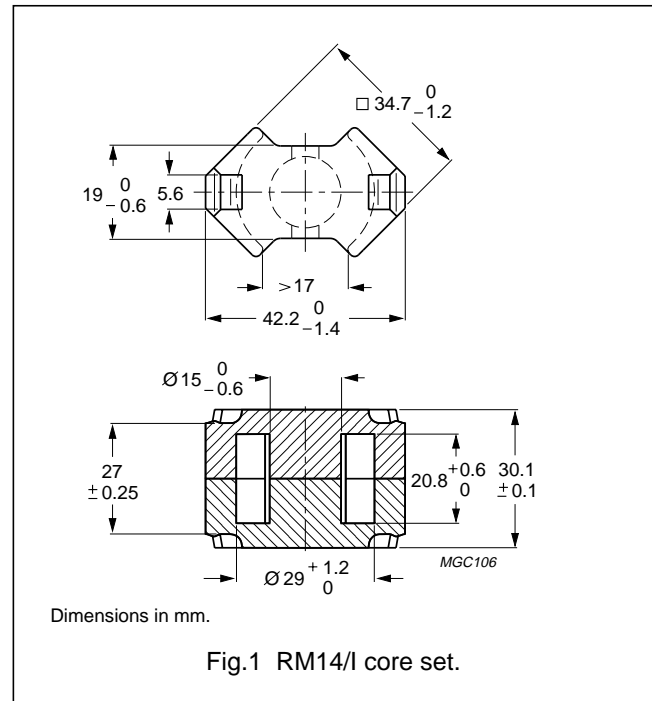
## RM cores and accessories

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## CORE SETS

## Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.353	$\text{mm}^{-1}$
$V_e$	effective volume	13900	$\text{mm}^3$
$l_e$	effective length	70.0	mm
$A_e$	effective area	198	$\text{mm}^2$
$A_{\min}$	minimum area	168	$\text{mm}^2$
m	mass of set	$\approx 74$	g



## Core sets for general purpose transformers and power applications

Clamping force for  $A_L$  measurements,  $80 \pm 20$  N.

GRADE	$A_L$ (nH)	$\mu_e$	AIR GAP ( $\mu\text{m}$ )	TYPE NUMBER
3C90	$250 \pm 3\%$	$\approx 70$	$\approx 950$	RM14/I-3C90-A250
	$315 \pm 3\%$	$\approx 88$	$\approx 700$	RM14/I-3C90-A315
	$400 \pm 3\%$	112	$\approx 550$	RM14/I-3C90-A400
	$630 \pm 5\%$	$\approx 177$	$\approx 250$	RM14/I-3C90-A630
	$1000 \pm 5\%$	$\approx 281$	$\approx 150$	RM14/I-3C90-A1000
	$7100 \pm 25\%$	$\approx 1990$	$\approx 0$	RM14/I-3C90
3C94 <small>des</small>	$250 \pm 3\%$	$\approx 70$	$\approx 950$	RM14/I-3C94-A250
	$315 \pm 3\%$	$\approx 88$	$\approx 700$	RM14/I-3C94-A315
	$400 \pm 3\%$	112	$\approx 550$	RM14/I-3C94-A400
	$630 \pm 5\%$	$\approx 177$	$\approx 250$	RM14/I-3C94-A630
	$1000 \pm 5\%$	$\approx 281$	$\approx 150$	RM14/I-3C94-A1000
	$7100 \pm 25\%$	$\approx 1990$	$\approx 0$	RM14/I-3C94
3C96 <small>prot</small>	$6200 \pm 25\%$	$\approx 1740$	$\approx 0$	RM14/I-3C96
3F3	$250 \pm 3\%$	$\approx 70$	$\approx 950$	RM14/I-3F3-A250
	$315 \pm 3\%$	$\approx 88$	$\approx 700$	RM14/I-3F3-A315
	$400 \pm 3\%$	112	$\approx 550$	RM14/I-3F3-A400
	$630 \pm 5\%$	$\approx 177$	$\approx 250$	RM14/I-3F3-A630
	$1000 \pm 5\%$	$\approx 281$	$\approx 150$	RM14/I-3F3-A1000
	$5700 \pm 25\%$	$\approx 1600$	$\approx 0$	RM14/I-3F3

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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 = 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 = 100 °C	f = 400 kHz; $\hat{B}$ = 50 mT; T = 100 °C
3C90	≥315	≤1.67	≤1.76	–	–
3C94	≥315	–	≤1.55	≈6.0	≈3.5
3C96	≥315	–	≈1.2	≈4.5	≈2.5
3F3	≥315	–	≤1.55	–	≤2.65

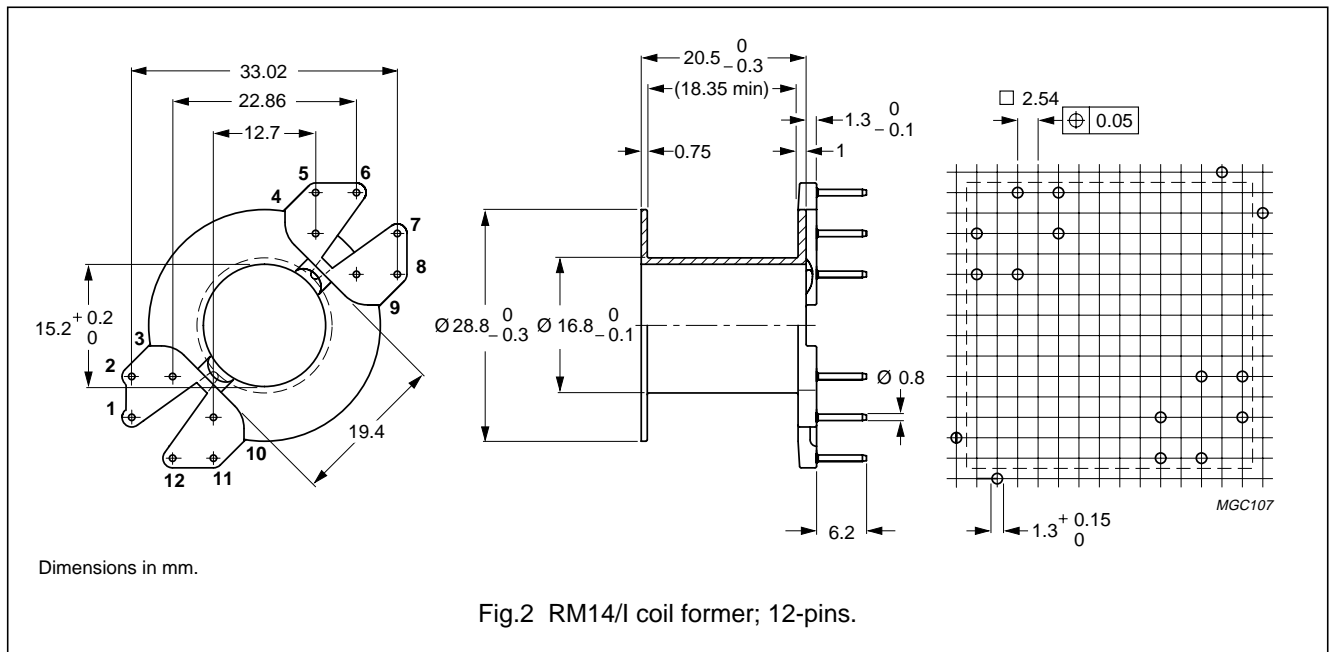
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COIL FORMERS

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



Winding data for 12-pins RM14/I coil former

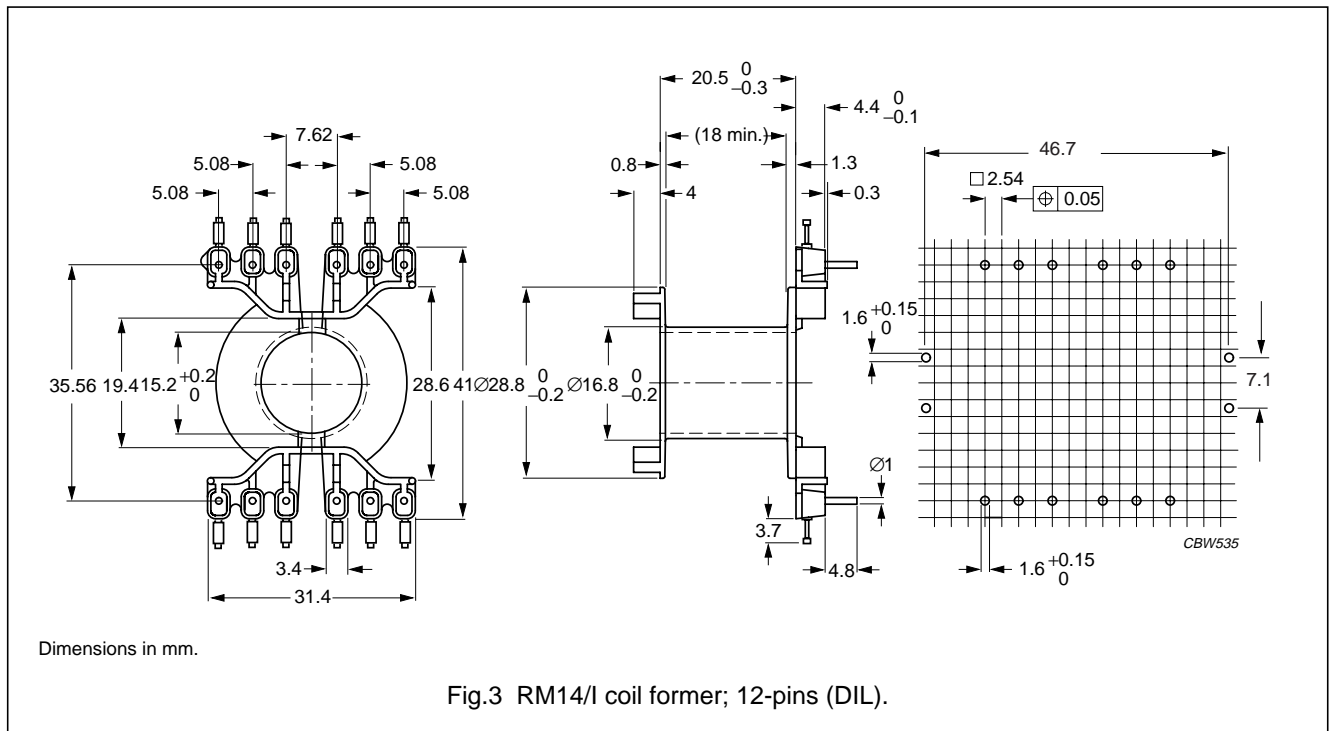
NUMBER OF SECTIONS	NUMBER OF PINS	PIN POSITIONS USED	AVERAGE LENGTH OF TURN (mm)	WINDING AREA (mm <sup>2</sup> )	WINDING WIDTH (mm)	TYPE NUMBER
1	10	1, 2, 3, 4, 6, 7, 9, 10, 11, 12	71	112	18.4	CSV-RM14-1S-10P
1	12	all	71	112	18.4	CSV-RM14-1S-12P

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General data

PARAMETER	SPECIFICATION
Coil former material	polybutyleneterephthalate (PBT), glass-reinforced, flame retardant in accordance with "UL 94V-0", UL file number E45329(R)
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



Winding data for 12-pins RM14/I coil former (DIL)

NUMBER OF SECTIONS	AVERAGE LENGTH OF TURN (mm)	WINDING AREA (mm <sup>2</sup> )	WINDING WIDTH (mm)	TYPE NUMBER
1	71	111	18.0	CPV-RM14/I-1S-12PD

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MOUNTING PARTS

General data mounting clip with earth pin

ITEM	SPECIFICATION
Clamping force	≈40 N
Clip material	stainless steel
Clip plating	tin-lead alloy (SnPb)
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1
Type number	CLI/P-RM14/I

