

DATA SHEET

RM8/I RM cores and accessories

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

1999 Dec 23

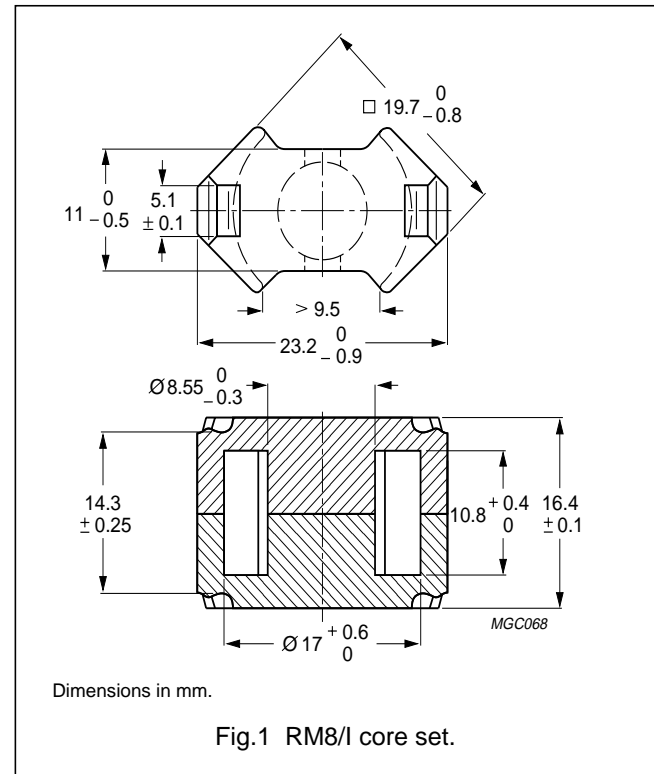
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CORE SETS


Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.604	mm^{-1}
V_e	effective volume	2440	mm^3
l_e	effective length	38.4	mm
A_e	effective area	63.0	mm^2
A_{\min}	minimum area	55.4	mm^2
m	mass of set	≈ 12.0	g



Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 30 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C81	$100 \pm 3\%$	≈ 50	≈ 1100	RM8/I-3C81-E100
	$160 \pm 3\%$	≈ 77	≈ 550	RM8/I-3C81-A160
	$250 \pm 3\%$	≈ 120	≈ 300	RM8/I-3C81-A250
	$315 \pm 3\%$	≈ 151	≈ 250	RM8/I-3C81-A315
	$400 \pm 3\%$	≈ 192	≈ 180	RM8/I-3C81-A400
	$3400 \pm 25\%$	≈ 1630	≈ 0	RM8/I-3C81
3C90	$100 \pm 3\%$	≈ 50	≈ 1100	RM8/I-3C90-A100
	$160 \pm 3\%$	≈ 77	≈ 550	RM8/I-3C90-A160
	$250 \pm 3\%$	≈ 120	≈ 300	RM8/I-3C90-A250
	$315 \pm 3\%$	≈ 151	≈ 250	RM8/I-3C90-A315
	$400 \pm 3\%$	≈ 192	≈ 180	RM8/I-3C90-A400
	$3600 \pm 25\%$	≈ 1730	≈ 0	RM8/I-3C90
3C91 	$3400 \pm 25\%$	≈ 1630	≈ 0	RM8/I-3C91

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3C94 des	100 $\pm 3\%$	≈ 50	≈ 1100	RM8/I-3C94-A100
	160 $\pm 3\%$	≈ 77	≈ 550	RM8/I-3C94-A160
	250 $\pm 3\%$	≈ 120	≈ 300	RM8/I-3C94-A250
	315 $\pm 3\%$	≈ 151	≈ 250	RM8/I-3C94-A315
	400 $\pm 3\%$	≈ 192	≈ 180	RM8/I-3C94-A400
	3600 $\pm 25\%$	≈ 1730	≈ 0	RM8/I-3C94
3C96 prot	3250 $\pm 25\%$	≈ 1560	≈ 0	RM8/I-3C96
3D3 des	250 $\pm 3\%$	≈ 120	≈ 300	RM8/I-3D3-A250
	315 $\pm 5\%$	≈ 151	≈ 250	RM8/I-3D3-A315
	400 $\pm 5\%$	≈ 192	≈ 180	RM8/I-3D3-A400
	1400 $\pm 25\%$	≈ 675	≈ 0	RM8/I-3D3
3F3	100 $\pm 3\%$	≈ 50	≈ 1100	RM8/I-3F3-A100
	160 $\pm 3\%$	≈ 77	≈ 550	RM8/I-3F3-A160
	250 $\pm 3\%$	≈ 120	≈ 300	RM8/I-3F3-A250
	315 $\pm 3\%$	≈ 151	≈ 250	RM8/I-3F3-A315
	400 $\pm 3\%$	≈ 192	≈ 180	RM8/I-3F3-A400
	3000 $\pm 25\%$	≈ 1440	≈ 0	RM8/I-3F3
3F35 prot	2400 $\pm 25\%$	≈ 1150	≈ 0	RM8/I-3F35
3F4 des	100 $\pm 3\%$	≈ 50	≈ 1100	RM8/I-3F4-A100
	160 $\pm 3\%$	≈ 77	≈ 550	RM8/I-3F4-A160
	250 $\pm 3\%$	≈ 120	≈ 300	RM8/I-3F4-A250
	315 $\pm 3\%$	≈ 151	≈ 250	RM8/I-3F4-A315
	400 $\pm 3\%$	≈ 192	≈ 180	RM8/I-3F4-A400
	1700 $\pm 25\%$	≈ 820	≈ 0	RM8/I-3F4
3H3 des	400 $\pm 3\%$	≈ 192	≈ 180	RM8/I-3H3-A400
	630 $\pm 5\%$	≈ 302	≈ 115	RM8/I-3H3-A630
	1000 $\pm 10\%$	≈ 480	≈ 70	RM8/I-3H3-A1000
	3250 $\pm 25\%$	≈ 1560	≈ 0	RM8/I-3H3

Core sets of high permeability gradesClamping force for A_L measurements, 30 ± 10 N.

GRADE	A_L (nH)	μ_e	TYPE NUMBER
3E1 sup	5800 $\pm 25\%$	≈ 2800	RM8/I-3E1
3E27	8000 $\pm 25\%$	≈ 3800	RM8/I-3E27
3E4 sup	8000 +40/-30%	≈ 3800	RM8/I-3E4
3E5	12500 +40/-30%	≈ 6000	RM8/I-3E5
3E6	15500 +40/-30%	≈ 7450	RM8/I-3E6

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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; Ḃ = 200 mT; T = 100 °C	f = 100 kHz; Ḃ = 100 mT; T = 100 °C	f = 100 kHz; Ḃ = 200 mT; T = 100 °C	f = 400 kHz; Ḃ = 50 mT; T = 100 °C
3C81	≥315	≤0.56	–	–	≈0.17
3C90	≥320	≤0.30	≤0.31	–	–
3C91	≥315	–	≈0.25	≈1.5	–
3C94	≥320	–	≤0.23	≈1.1	≈0.51
3C96	≥320	–	≈0.16	≈0.8	≈0.35
3F3	≥315	–	≤0.27	–	≤0.47
3F35	≥315	–	–	–	≈0.25
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; Ḃ = 50 mT; T = 100 °C	f = 500 kHz; Ḃ = 100 mT; T = 100 °C	f = 1 MHz; Ḃ = 30 mT; T = 100 °C	f = 3 MHz; Ḃ = 10 mT; T = 100 °C
3C81	≥315	–	–	–	–
3C90	≥320	–	–	–	–
3C91	≥315	–	–	–	–
3C94	≥320	–	–	–	–
3C96	≥320	–	–	–	–
3F3	≥315	–	–	–	–
3F35	≥315	≈0.4	≈3.0	–	–
3F4	≥250	–	–	≤0.49	≤0.78

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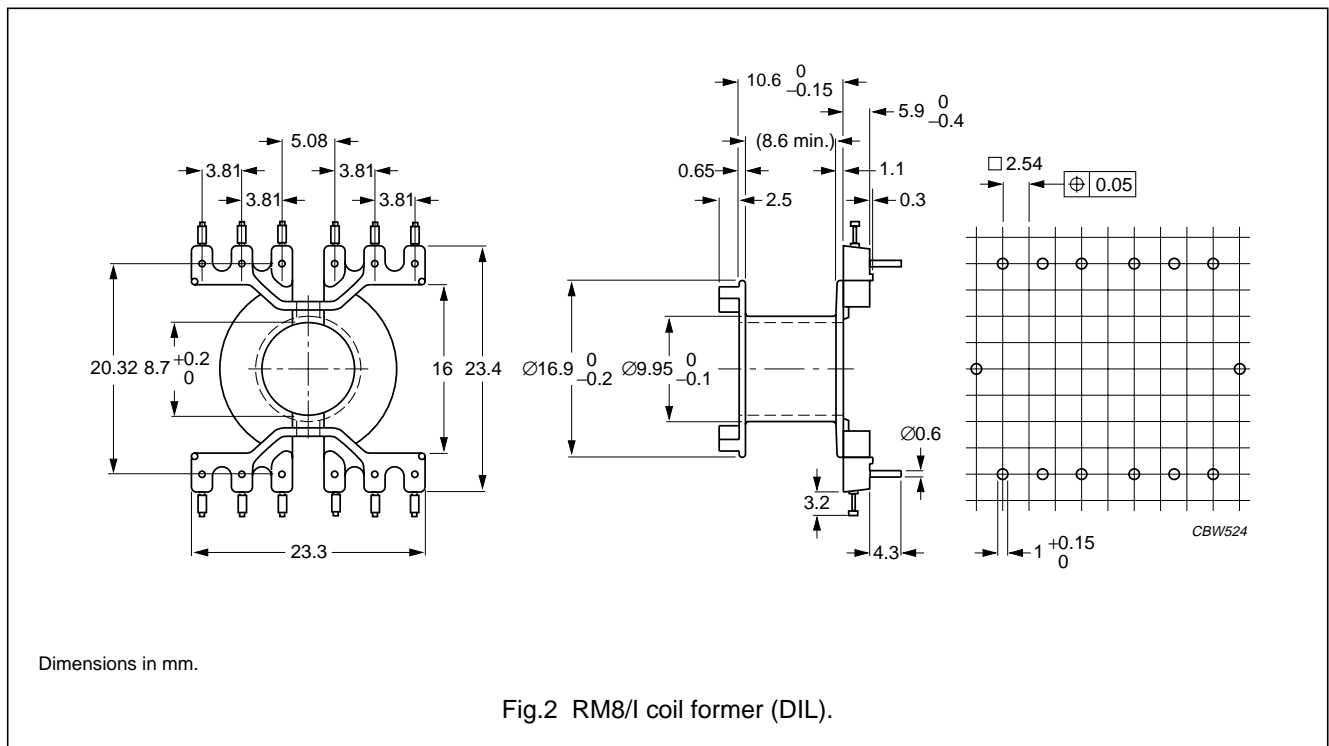
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COIL FORMER

General data

For the information on another coil former suitable for RM8/I, see "Data sheet: RM8".

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 RM8/I coil former (DIL)

NUMBER OF SECTIONS	AVERAGE LENGTH OF TURN (mm)	WINDING AREA (mm ²)	WINDING WIDTH (mm)	TYPE NUMBER
1	42	30.9	8.6	CPV-RM8/I-1S-12PD

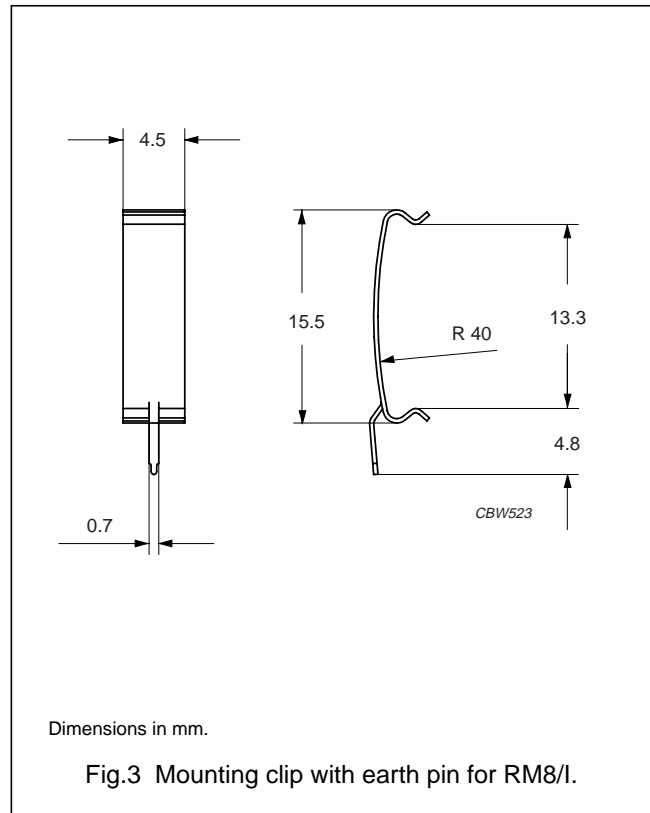
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MOUNTING PARTS

General data

ITEM	SPECIFICATION
Clamping force	≈15 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-RM8/I



General data

ITEM	SPECIFICATION
Clamping force	≈15 N
Clip material	stainless steel
Type number	CLI-RM8/I

