

DATA SHEET

RM6S/I RM cores and accessories

Product specification
File under Magnetic Products, MA01

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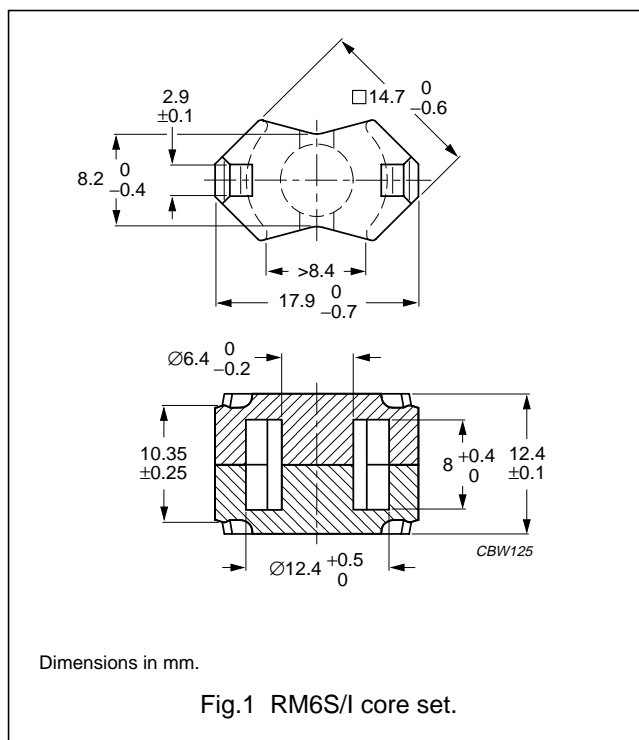
RM cores and accessories

RM6S/I

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	0.784	mm ⁻¹
V _e	effective volume	1090	mm ³
l _e	effective length	29.2	mm
A _e	effective area	37.0	mm ²
A _{min}	minimum area	31.2	mm ²
m	mass of set	≈4.9	g



Core sets for general purpose transformers and power applications

Clamping force 20 ±10 N.

GRADE	A _L (nH)	μ _e	AIR GAP (μm)	TYPE NUMBER
3B8 ^{sup}	63 ±3%	≈39	≈950	RM6S/I-3B8-A63
	100 ±3%	≈62	≈500	RM6S/I-3B8-A100
	160 ±3%	≈100	≈300	RM6S/I-3B8-A160
	250 ±3%	≈156	≈200	RM6S/I-3B8-A250
	2600 ±25%	≈1620	≈0	RM6S/I-3B8
3C81	63 ±3%	≈39	≈950	RM6S/I-3C81-E63
	100 ±3%	≈62	≈500	RM6S/I-3C81-A100
	160 ±3%	≈100	≈300	RM6S/I-3C81-A160
	250 ±3%	≈156	≈200	RM6S/I-3C81-A250
	315 ±3%	≈197	≈150	RM6S/I-3C81-A315
	3000 ±25%	≈1870	≈0	RM6S/I-3C81
3C85	63 ±3%	≈39	≈950	RM6S/I-3C85-A63
	100 ±3%	≈62	≈500	RM6S/I-3C85-A100
	160 ±3%	≈100	≈300	RM6S/I-3C85-A160
	250 ±3%	≈156	≈200	RM6S/I-3C85-A250
	315 ±3%	≈197	≈150	RM6S/I-3C85-A315
	400 ±3%	≈250	≈120	RM6S/I-3C85-A400
	630 ±5%	≈390	≈70	RM6S/I-3C85-A630
	2350 ±25%	≈1470	≈0	RM6S/I-3C85
3C90	2350 ±25%	≈1470	≈0	RM6S/I-3C90

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GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3D3 ^{des}	160 \pm 3%	\approx 100	\approx 300	RM6S/I-3D3-A160
	250 \pm 5%	\approx 156	\approx 200	RM6S/I-3D3-A250
	315 \pm 8%	\approx 197	\approx 150	RM6S/I-3D3-A315
	1050 \pm 25%	\approx 655	\approx 0	RM6S/I-3D3
3F3	63 \pm 3%	\approx 39	\approx 950	RM6S/I-3F3-A63
	100 \pm 3%	\approx 62	\approx 500	RM6S/I-3F3-A100
	160 \pm 3%	\approx 100	\approx 300	RM6S/I-3F3-A160
	250 \pm 3%	\approx 156	\approx 200	RM6S/I-3F3-A250
	315 \pm 3%	\approx 197	\approx 150	RM6S/I-3F3-A315
	2150 \pm 25%	\approx 1350	\approx 0	RM6S/I-3F3
3F4 ^{des}	63 \pm 3%	\approx 39	\approx 950	RM6S/I-3F4-A63
	100 \pm 3%	\approx 62	\approx 500	RM6S/I-3F4-A100
	160 \pm 3%	\approx 100	\approx 300	RM6S/I-3F4-A160
	250 \pm 3%	\approx 156	\approx 200	RM6S/I-3F4-A250
	315 \pm 3%	\approx 197	\approx 150	RM6S/I-3F4-A315
	1250 \pm 25%	\approx 780	\approx 0	RM6S/I-3F4
3H3 ^{des}	315 \pm 3%	\approx 197	\approx 150	RM6S/I-3H3-A315
	400 \pm 3%	\approx 250	\approx 120	RM6S/I-3H3-A400
	630 \pm 5%	\approx 390	\approx 70	RM6S/I-3H3-A630
	2350 \pm 25%	\approx 1470	\approx 0	RM6S/I-3H3

Core sets of high permeability grades

Clamping force 20 \pm 10 N.

GRADE	A_L (nH)	μ_e	TYPE NUMBER
3E1	4100 \pm 25%	\approx 2600	RM6S/I-3E1
3E25 ^{sup}	6000 \pm 25%	\approx 3800	RM6S/I-3E25
3E27	6000 \pm 25%	\approx 3800	RM6S/I-3E27
3E4	5750 +40/-30%	\approx 3590	RM6S/I-3E4
3E5	8600 +40/-30%	\approx 5370	RM6S/I-3E5
3E6	12500 +40/-30%	\approx 7800	RM6S/I-3E6

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 = 400 kHz; \hat{B} = 50 mT; T = 100 °C	f = 1 MHz; \hat{B} = 30 mT; T = 100 °C	f = 3 MHz; \hat{B} = 10 mT; T = 100 °C
3B8	\geq 315	\leq 0.30	–	–	–	–
3C81	\geq 315	\leq 0.22	–	–	–	–
3C85	\geq 315	\leq 0.17	\leq 0.20	–	–	–

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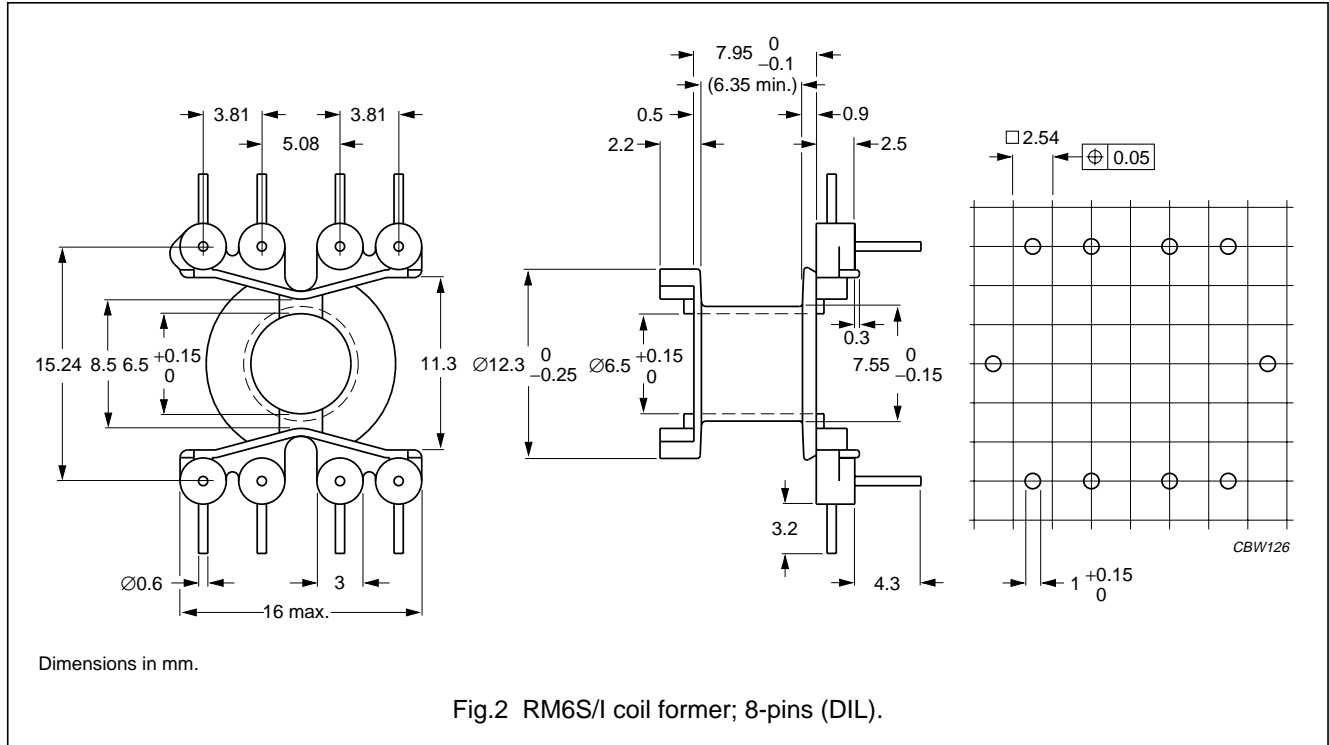
GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 25 kHz; B̂ = 200 mT; T = 100 °C	f = 100 kHz; B̂ = 100 mT; T = 100 °C	f = 400 kHz; B̂ = 50 mT; T = 100 °C	f = 1 MHz; B̂ = 30 mT; T = 100 °C	f = 3 MHz; B̂ = 10 mT; T = 100 °C
3C90	≥315	≤0.12	≤0.14	–	–	–
3F3	≥315	–	≤0.14	≤0.20	–	–
3F4	≥250	–	–	–	≤0.22	≤0.35

COIL FORMERS

General data

For the information on other coil formers suitable for RM6S/I, see data sheet, "RM6S".

PARAMETER	DESCRIPTION
Coil former material	polybutyleneterephthalate (PBT), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E45329(M)
Pin material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	155 °C, "IEC 85" class F
Resistance to soldering heat	"IEC 68-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1



RM cores and accessories

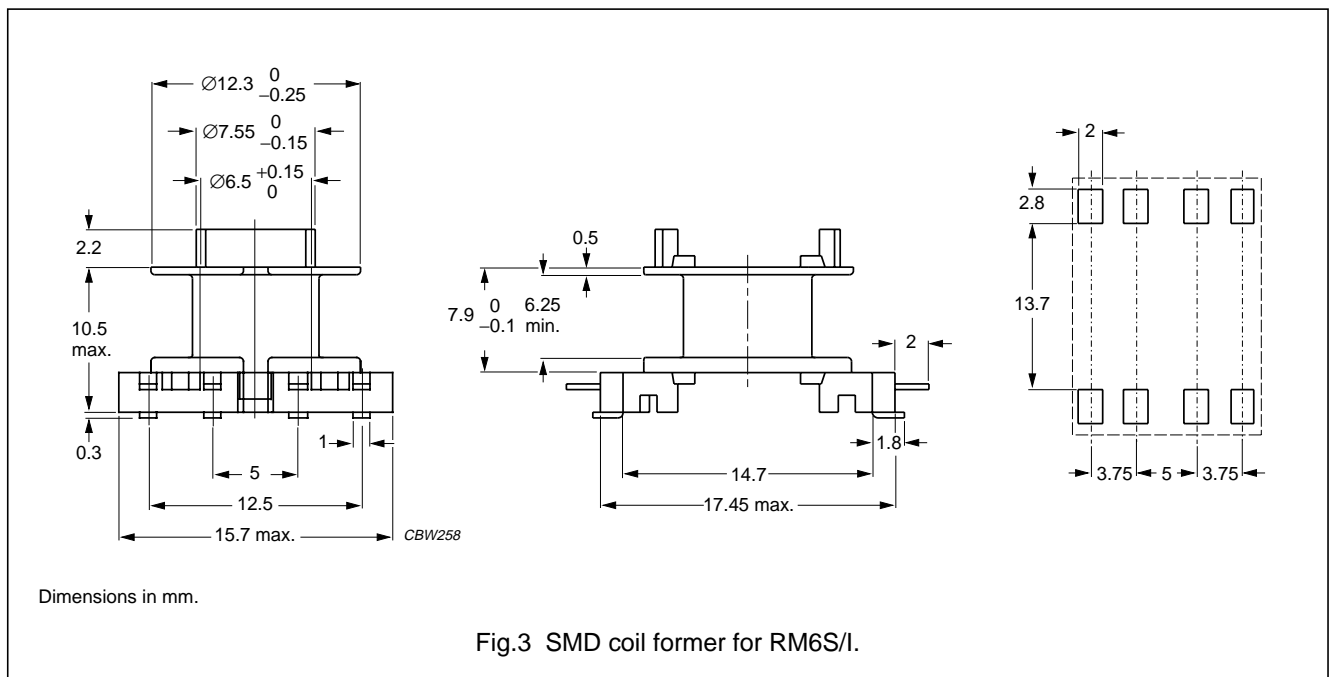
RM6S/I

Winding data for 8-pins RM6S/I coil former (DIL)

NUMBER OF SECTIONS	WINDING AREA (mm ²)	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	15.7	6.2	31	CPV-RM6S/I-1S-8PD

General data SMD coil former

PARAMETER	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 85" class F
Resistance to soldering heat	"IEC 68-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1



Winding data for RM6S/I coil former (SMD)

NUMBER OF SECTIONS	NUMBER OF SOLDER PADS	WINDING AREA (mm ²)	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	TYPE NUMBER
1	8	14	6.25	31	CPVS-RM6S-1S-8P

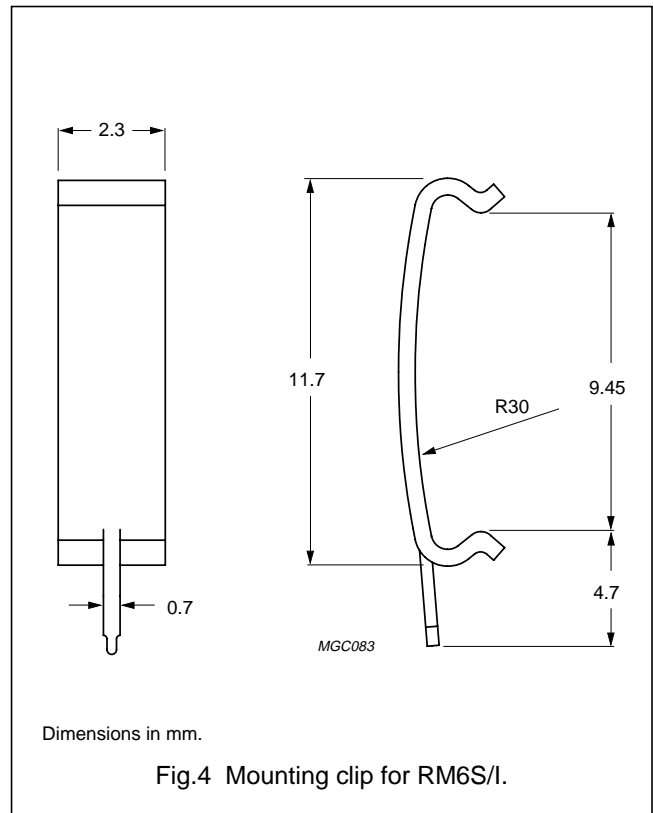
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MOUNTING PARTS

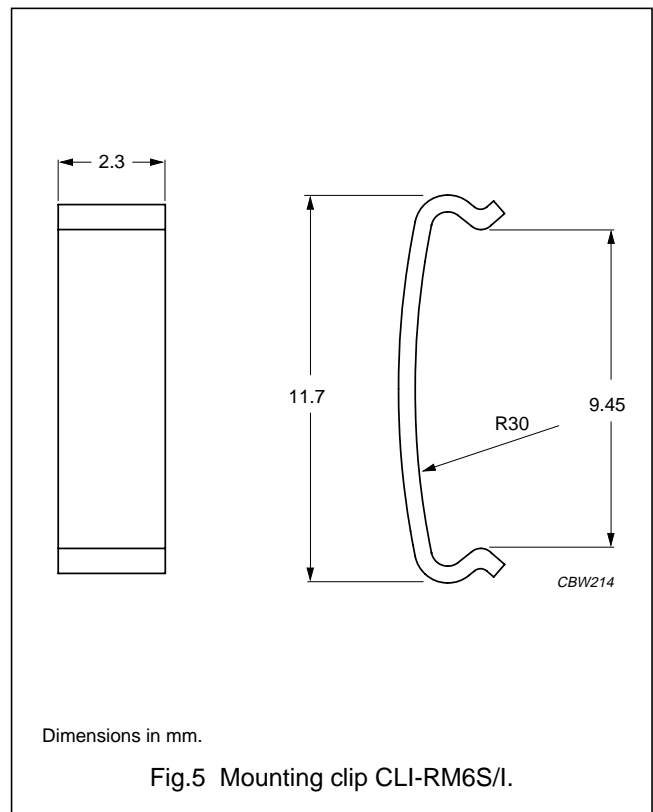
General data

ITEM	SPECIFICATION
Clamping force	≈10 N
Clip material	stainless steel (CrNi)
Clip plating	tin-lead alloy (SnPb)
Solderability	"IEC 68-2-20", Part 2, Test Ta, method 1
Type number	CLI/P-RM6/I



General data mounting clip without earth pin

ITEM	SPECIFICATION
Clamping force	≈10 N
Clip material	stainless steel (CrNi)
Type number	CLI-RM6



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DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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STATUS	INDICATION	DEFINITION
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