

DATA SHEET

RM8/ILP

RM, RM/I, RM/ILP cores and accessories

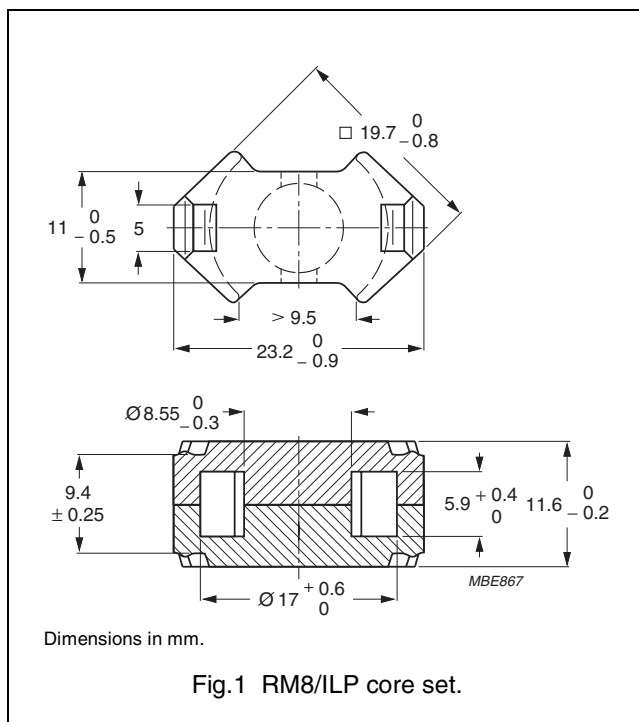
Supersedes data of September 2004

2008 Sep 01

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.440	mm ⁻¹
V_e	effective volume	1860	mm ³
l_e	effective length	28.7	mm
A_e	effective area	64.9	mm ²
A_{min}	minimum area	55.4	mm ²
m	mass of set	≈ 10	g



Core sets for filter applications

Clamping force for A_L measurements, 30 ± 10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3B46 des	6500 ± 25%	≈ 2280	≈ 0	RM8/ILP-3B46
3D3	250 ± 3%	≈ 88	≈ 330	RM8/ILP-3D3-A250
	315 ± 3%	≈ 111	≈ 250	RM8/ILP-3D3-A315
	400 ± 5%	≈ 141	≈ 180	RM8/ILP-3D3-A400
	1850 ± 25%	≈ 650	≈ 0	RM8/ILP-3D3
3H3	400 ± 3%	≈ 141	≈ 210	RM8/ILP-3H3-A400
	630 ± 5%	≈ 222	≈ 120	RM8/ILP-3H3-A630
	1000 ± 8%	≈ 352	≈ 70	RM8/ILP-3H3-A1000
	4100 ± 25%	≈ 1440	≈ 0	RM8/ILP-3H3

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 (μ m)	TYPE NUMBER
3C90	4100 ± 25%	≈ 1440	≈ 0	RM8/ILP-3C90
3C94	4100 ± 25%	≈ 1440	≈ 0	RM8/ILP-3C94
3C95 des	4800 ± 25%	≈ 1690	≈ 0	RM8/ILP-3C95
3C96 des	3800 ± 25%	≈ 1330	≈ 0	RM8/ILP-3C96
3F3	3800 ± 25%	≈ 1330	≈ 0	RM8/ILP-3F3
3F35 prot	3100 ± 25%	≈ 1090	≈ 0	RM8/ILP-3F35
3F4 des	2200 ± 25%	≈ 770	≈ 0	RM8/ILP-3F4
3F45 prot	2200 ± 25%	≈ 770	≈ 0	RM8/ILP-3F45

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

GRADE	A_L (nH)	μ_e	AIR GAP (μm)	TYPE NUMBER
3E5 <small>des</small>	16000 +40/-30%	≈ 5600	≈ 0	RM8/ILP-3E5
3E6 <small>des</small>	19500 +40/-30%	≈ 6800	≈ 0	RM8/ILP-3E6

Properties of core sets under power conditions

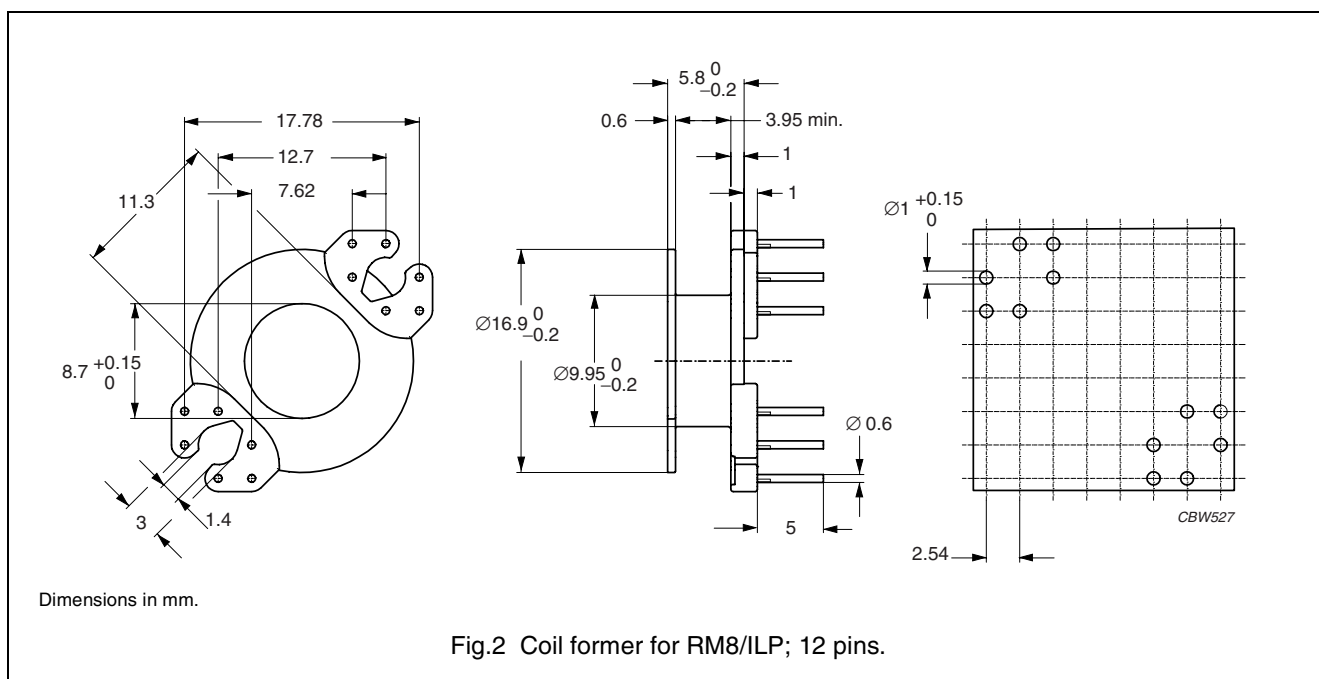
GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 25 kHz; B = 200 mT; T = 100 °C	f = 100 kHz; B = 100 mT; T = 100 °C	f = 100 kHz; B = 200 mT; T = 25 °C	f = 100 kHz; B = 200 mT; T = 100 °C	f = 400 kHz; B = 50 mT; T = 100 °C
3C90	≥ 320	≤ 0.23	≤ 0.24	–	–	–
3C94	≥ 320	–	≤ 0.18	–	≤ 0.92	–
3C95	≥ 320	–	–	≤ 1.1	≤ 1.04	–
3C96	≥ 340	–	≤ 0.14	–	≤ 0.73	≤ 0.32
3F3	≥ 315	–	≤ 0.21	–	–	≤ 0.36
3F35	≥ 300	–	–	–	–	≤ 0.2
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; B = 50 mT; T = 100 °C	f = 500 kHz; B = 100 mT; T = 100 °C	f = 1 MHz; B = 30 mT; T = 100 °C	f = 1 MHz; B = 50 mT; T = 100 °C	f = 3 MHz; B = 10 mT; T = 100 °C
3C90	≥ 320	–	–	–	–	–
3C94	≥ 320	–	–	–	–	–
3C95	≥ 320	–	–	–	–	–
3C96	≥ 340	≤ 0.7	–	–	–	–
3F3	≥ 315	–	–	–	–	–
3F35	≥ 300	≤ 0.3	≤ 2.2	–	–	–
3F4	≥ 250	–	–	≤ 0.56	–	≤ 0.9
3F45	≥ 250	–	–	≤ 0.45	≤ 1.7	≤ 0.75

General data coil former

PARAMETER	SPECIFICATION
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E41429 (M)
Pin material	copper-clad steel, tin (Sn) 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



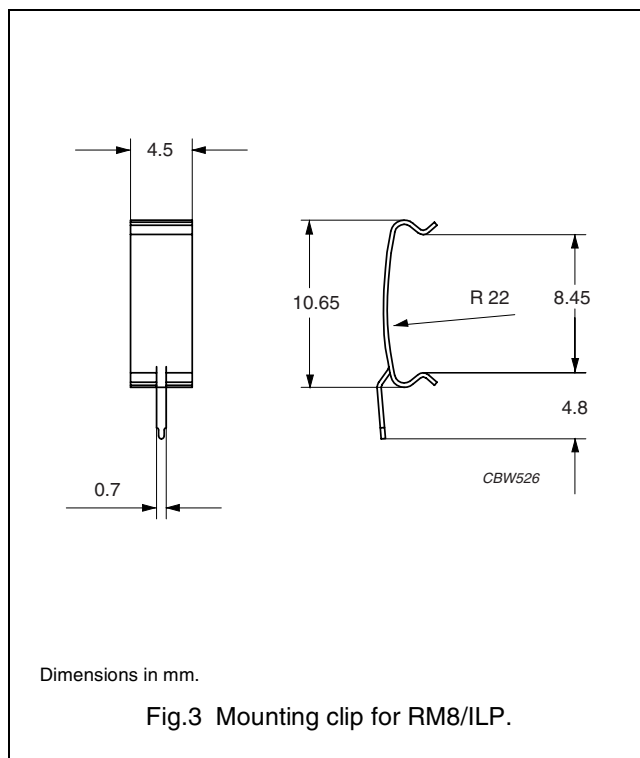
Winding data and area product for RM8/ILP coil former

NUMBER OF SECTIONS	NUMBER OF PINS	PIN POSITIONS USED	WINDING AREA (mm ²)	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	12	all	13.3	3.95	41.8	863	CSV-RM8/ILP-1S-12P-Z
1	10	1, 2, 3, 4, 6, 7, 9, 10, 11, 12	13.3	3.95	41.8	863	CSV-RM8/ILP-1S-10P-Z
1	10	1, 2, 3, 4, 6, 8, 9, 10, 11, 12	13.3	3.95	41.8	863	CSV-RM8/ILP-1S-10P-ZA

MOUNTING PARTS

General data

ITEM	SPECIFICATION
Clamping force	≈15 N
Clip material	stainless steel (CrNi)
Clip plating	tin (Sn)
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1
Type number	CLI/P-RM8/ILP






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.

DISCLAIMER

Life support applications — These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Ferroxcube customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Ferroxcube for any damages resulting from such application.

PRODUCT STATUS DEFINITIONS

STATUS	INDICATION	DEFINITION
Prototype		These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change.
Design-in		These products are recommended for new designs.
Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support		These products are not recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.