

DATA SHEET

RM5/ILP

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

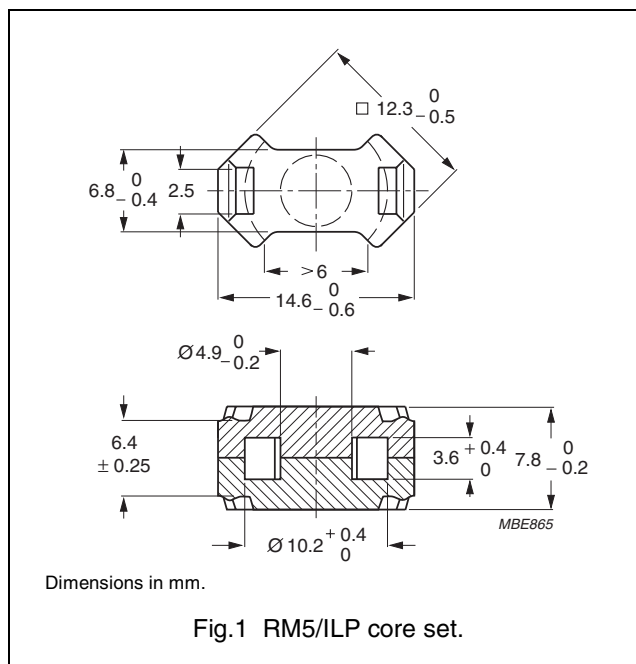
Supersedes data of September 2004

2008 Sep 01

CORE SETS

Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	0.710	mm ⁻¹
V_e	effective volume	430	mm ³
l_e	effective length	17.5	mm
A_e	effective area	24.5	mm ²
A_{min}	minimum area	18.1	mm ²
m	mass of set	≈ 2.6	g



Core sets for general purpose transformers and power applications

Clamping force for A_L measurements, 20 ±10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3C90	2350 ±25%	≈ 1340	≈ 0	RM5/ILP-3C90
3C94	2350 ±25%	≈ 1340	≈ 0	RM5/ILP-3C94
3C95	2710 ±25%	≈ 1545	≈ 0	RM5/ILP-3C95
3C96	2100 ±25%	≈ 1190	≈ 0	RM5/ILP-3C96
3F3	2000 ±25%	≈ 1140	≈ 0	RM5/ILP-3F3
3F35	1700 ±25%	≈ 970	≈ 0	RM5/ILP-3F35
3F4	1250 ±25%	≈ 710	≈ 0	RM5/ILP-3F4
3F45	1250 ±25%	≈ 710	≈ 0	RM5/ILP-3F45

Core sets for filter applications

Clamping force for A_L measurements, 20 ±10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3B46	3200 ± 25 %	≈ 1810	≈ 0	RM5/ILP-3B46

Core sets of high permeability grades

Clamping force for A_L measurements, 20 ±10 N.

GRADE	A_L (nH)	μ_e	AIR GAP (μ m)	TYPE NUMBER
3E5	8500 +40/-30%	≈ 4830	≈ 0	RM5/ILP-3E5
3E6	10000 +40/-30%	≈ 5680	≈ 0	RM5/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; B̂ = 200 mT; T = 100 °C	f = 100 kHz; B̂ = 100 mT; T = 100 °C	f = 100 kHz; B̂ = 200 mT; T = 25 °C	f = 100 kHz; B̂ = 200 mT; T = 100 °C	f = 400 kHz; B̂ = 50 mT; T = 100 °C
3C90	≥320	≤ 0.06	≤ 0.06	–	–	–
3C94	≥320	–	≤ 0.04	–	≤ 0.26	–
3C95	≥320	–	–	≤ 0.24	≤ 0.22	–
3C96	≥340	–	≤ 0.03	–	≤ 0.2	≤ 0.08
3F3	≥300	–	≤ 0.06	–	–	≤ 0.08
3F35	≥300	–	–	–	–	≤ 0.06
3F4	≥250	–	–	–	–	–

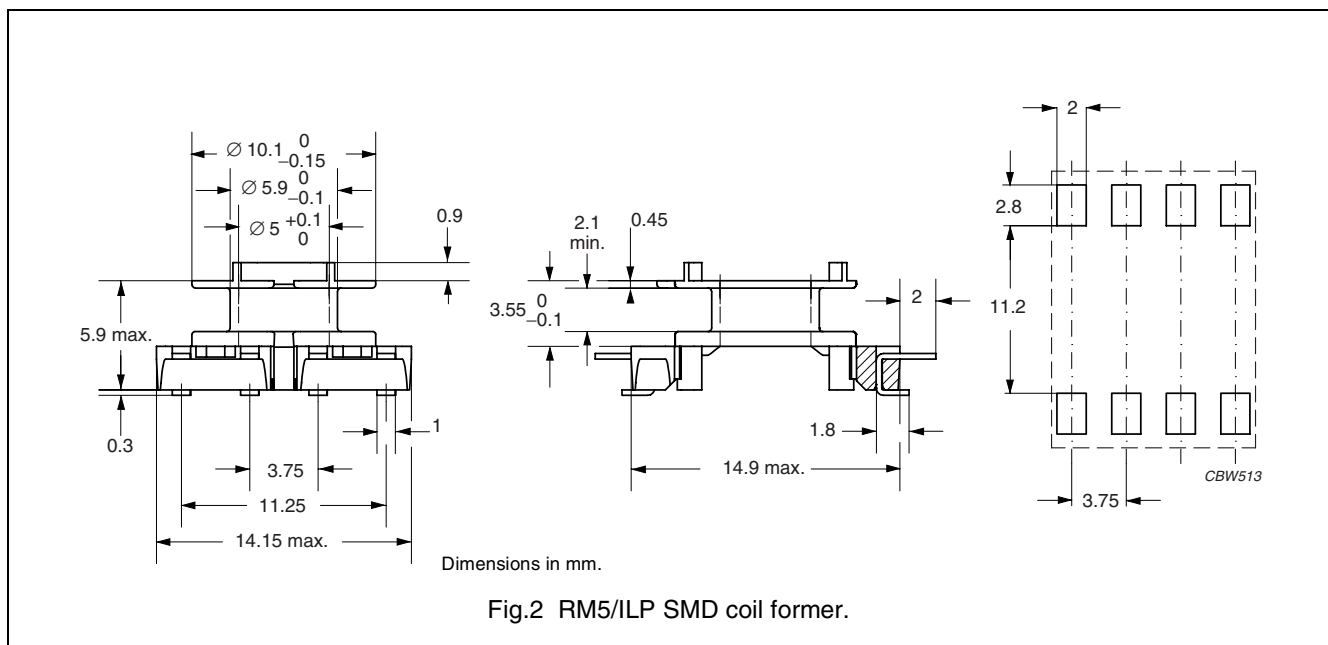
Properties of core sets under power conditions (continued)

GRADE	B (mT) at	CORE LOSS (W) at				
	H = 250 A/m; f = 25 kHz; T = 100 °C	f = 500 kHz; B̂ = 50 mT; T = 100 °C	f = 500 kHz; B̂ = 100 mT; T = 100 °C	f = 1 MHz; B̂ = 30 mT; T = 100 °C	f = 1 MHz; B̂ = 50 mT; T = 100 °C	f = 3 MHz; B̂ = 10 mT; T = 100 °C
3C90	≥320	–	–	–	–	–
3C94	≥320	–	–	–	–	–
3C95	≥320	–	–	–	–	–
3C96	≥340	≤ 0.16	–	–	–	–
3F3	≥300	–	–	–	–	–
3F35	≥300	≤ 0.09	≤ 0.6	–	–	–
3F4	≥250	–	–	≤ 0.13	–	≤ 0.2
3F45	≥250	–	–	≤ 0.1	≤ 0.37	≤ 0.17

COIL FORMERS

General data

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: 235 °C, 2 s



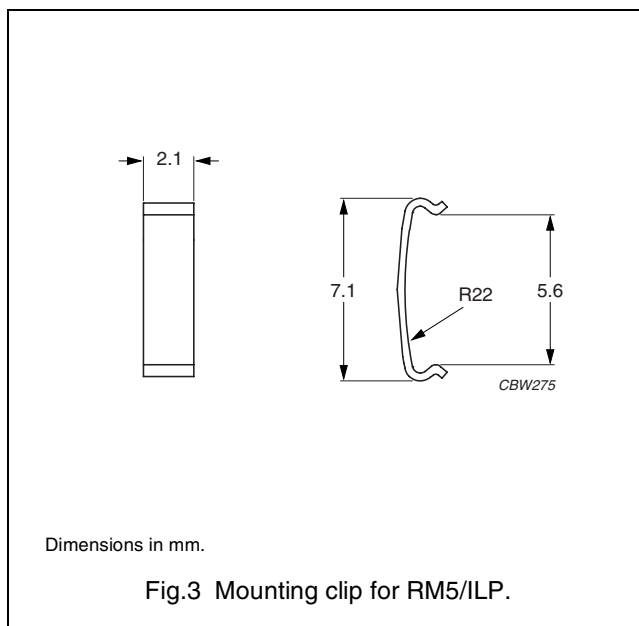
Winding data and area product for 8-pads RM5/ILP SMD coil former

NUMBER OF SECTIONS	WINDING AREA (mm ²)	MINIMUM WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm ⁴)	TYPE NUMBER
1	4.6	2.1	24.9	113	CSV5-RM5/LP-1S-8P

MOUNTING PARTS

General data

ITEM	SPECIFICATION
Clamping force	≈5 N
Clip material	stainless steel (CrNi)
Type number	CLI-RM4/5/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.