

Solution For Green Car

High Efficiency, High Reliability,
High Quality solution for Green Car

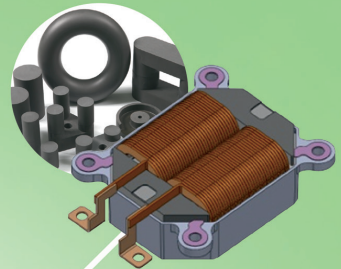


Metal Powder

- Powder Metallurgy
- Break Pad

Magnetic Core & Reactor

- HDC : 20kW-40kW
- LDC : 1.7kW-2kW
- OBC : 3.3kW-7.2kW
- WPT : 3.3kW-6.6kW



Clad Metal

- Switching
- Car Seat



Conductive Paste

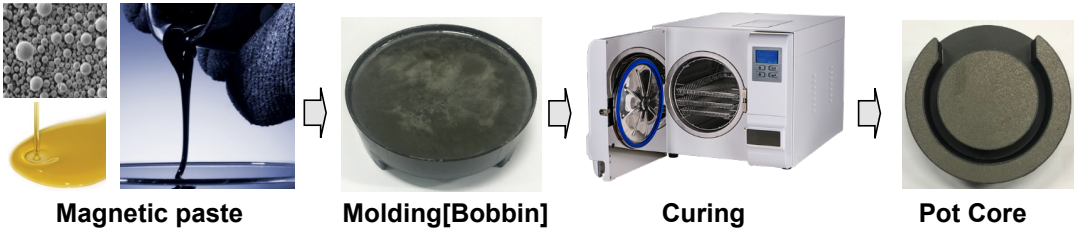
- Switching

Functional Film

- EMI Absorber Sheet
- Thermal Conductive Sheet



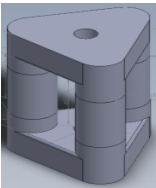
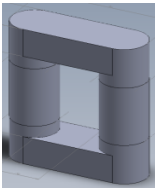
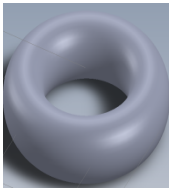
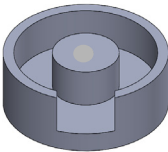
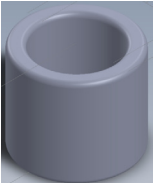
CONCEPT OF MAGNETIC PASTE APPLYING



Magnetic paste hardening process :

Flexibility for shape and size and materials with simple process

NOVEL INNOVATION OF POT CORE : FLEXIBILITY OF SIZE & SHAPE

3-Phase Core	Round Block & Cylinder Core	Saturn Core	Pot Core	Big Toroidal Core
				



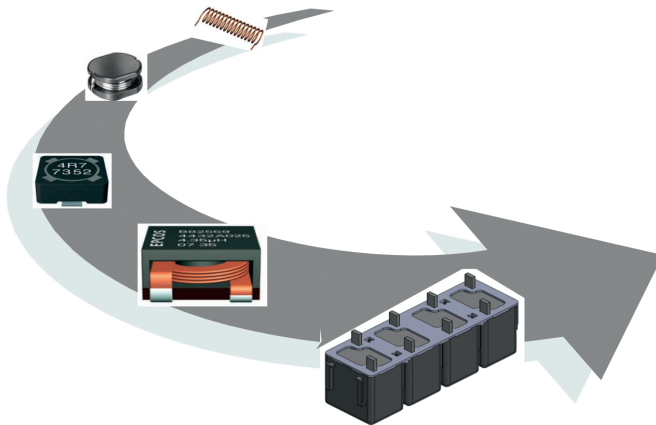
- Design Flexibility and Productivity
- Higher Degree of Freedom in Design
- Improved Productivity by Molding process
- **AEC-Q200 qualification**

CSC Molded Inductor

Metal power Inductor For Automobile Power Conversion System



CSC INNOVATION TECHNOLOGY



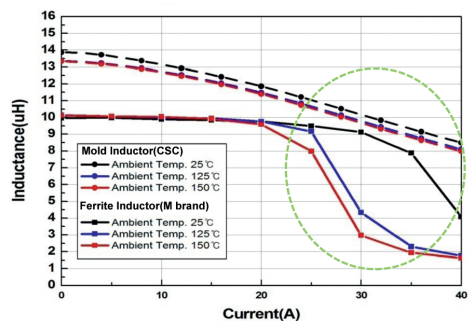
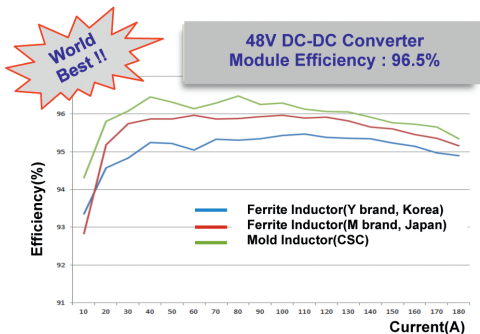
Innovative Materials

Innovative Structure

- High impact resistance
- High efficiency
- Smaller size
- High thermal performance
- AEC-Q200 qualification

CSC Molded Inductor(CMI)

Molded Power Inductor For AUTOMOTIVE 12V/48V DC-DC CONVERTER



- ※ CSC molded inductor for 48V module efficiency is higher than ferrite inductor.(0.6% ↑)
- ※ Stability at high temperature and high frequency compare to Ferrite inductors is better.

www.changsung.com

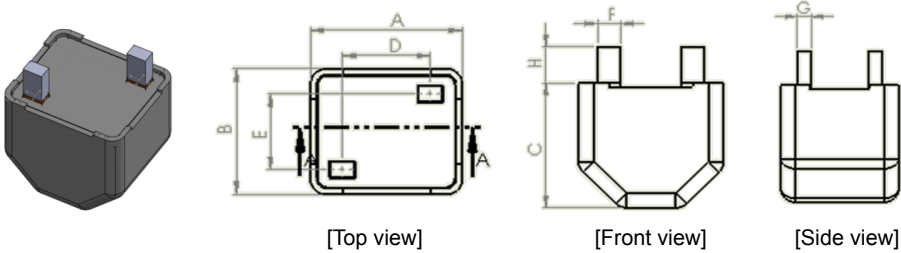
**PLEASE CONTACT YOUR SPECIALIST EUROPEAN REPRESENTATIVE:
MRC Components GmbH & Co. KG | Tel +49 8161 9848-0 | info@csc-mrc.com**

CMI191719

Metal power Inductor For Power Conversion System



SHAPE AND DIMENSION



A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)	H(mm)
19 ± 0.3	16.4 ± 0.3	19 ± 0.3	11 ± 0.3	9.9 ± 0.3	3.0 ± 0.2	2.1 ± 0.2	2.8 ± 0.3

FEATURES

- Magnetic alloy power choke coil.
- Magnetic shielded.
- Low acoustic noise and high efficiency.
- High Temperature Stability.
- Low DCR & Loss, in this package size.
- AEC-Q200 and RoHS compliant.

SPECIFICATION

Parts No.	Inductance(μH)	Tolerance(%)	DCR(mΩ) Max(typ.)	Rated DC Current(A) ΔL/L=30%
CMI191719-1R0	1.0	±30	0.55(0.44)	105A
CMI191719-1R3	1.3	±30	0.6(0.54)	100A
CMI191719-1R5	1.5	±30	0.6(0.54)	95A
CMI191719-2R2	2.2	±20	1.0(0.84)	78A
CMI191719-3R3	3.3	±20	1.3(1.12)	65A
CMI191719-4R7	4.7	±20	2.1(1.85)	53A

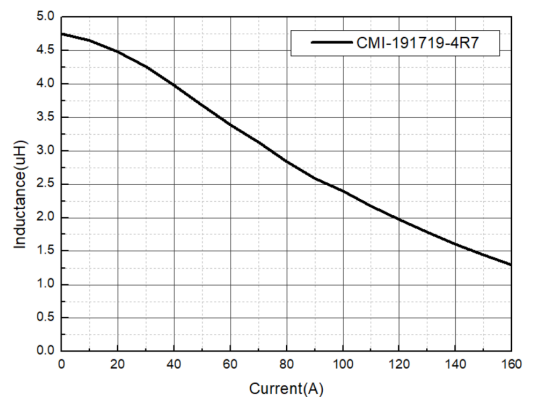
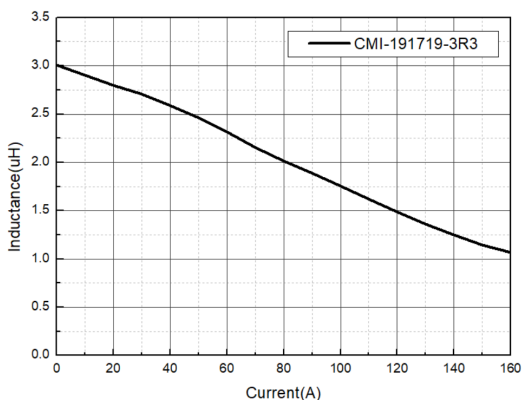
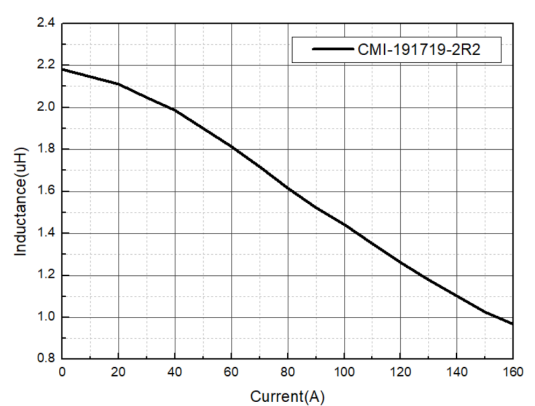
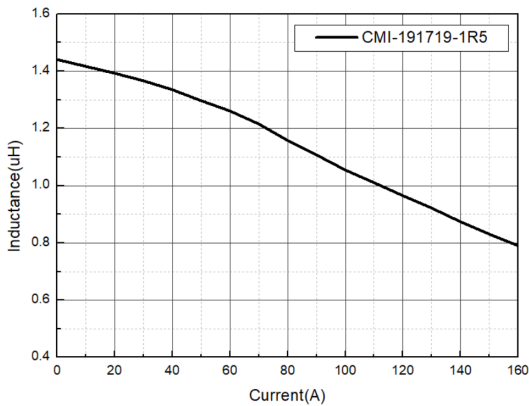
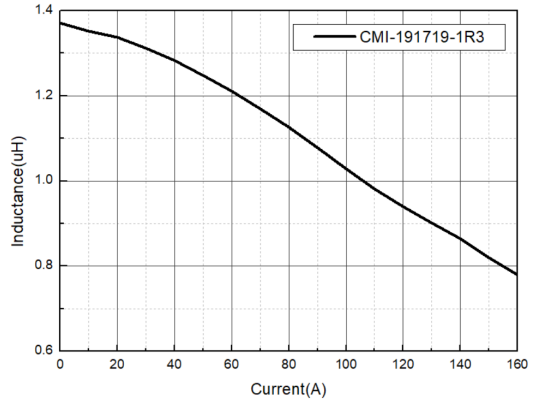
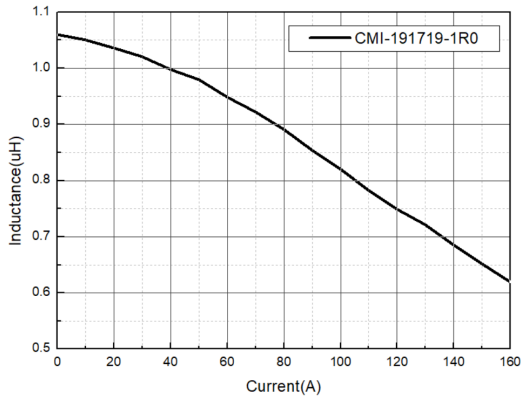
- Inductance is measured with a LCR meter 4294A(Agilent Technologies) or equivalent.(@1MHz, 0.5Vrms)
- DC Resistance is measured with a Digital Multimeter 3541(Hioki) or equivalent.
- Maximum allowable DC current is that which caused a 30% inductance reduction from the initial value.

CMI191719

Metal power Inductor For Power Conversion System



PERFORMANCE GRAPHS



www.changsung.com

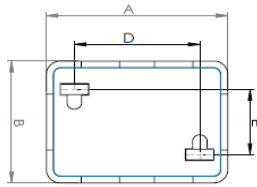
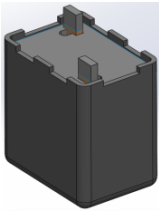
PLEASE CONTACT YOUR SPECIALIST EUROPEAN REPRESENTATIVE:
MRC Components GmbH & Co. KG | Tel +49 8161 9848-0 | info@csc-mrc.com

CMI261927

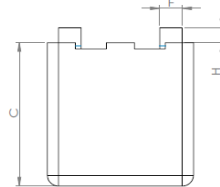
Metal power Inductor For Power Conversion System



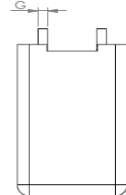
SHAPE AND DIMENSION



[Top view]



[Front view]



[Side view]

A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)	H(mm)
26 ± 0.3	18.4 ± 0.15	27 ± 0.3	18 ± 0.3	9.9 ± 0.3	4.0 ± 0.2	1.7 ± 0.2	2.8 ± 0.3

FEATURES

- Magnetic alloy power choke coil.
- Magnetic shielded.
- Low acoustic noise and high efficiency.
- High Temperature Stability.
- Low DCR & Loss, in this package size.
- AEC-Q200 and RoHS compliant.

SPECIFICATION

Parts No.	Inductance(μ H)	Tolerance(%)	DCR(m Ω) Max(typ.)	Rated DC Current(A) Δ L/L=30%
CMI261927-1R0	1.0	±30	0.30(0.24)	95A (20%)
CMI261927-2R2	2.2	±20	0.55(0.44)	85A
CMI261927-3R3	3.3	±20	0.70(0.57)	75A
CMI261927-4R7	4.7	±20	1.0(0.82)	60A
CMI261927-6R0	6.0	±20	1.2(0.97)	55A
CMI261927-100	10.0	±20	2.0(1.70)	42A

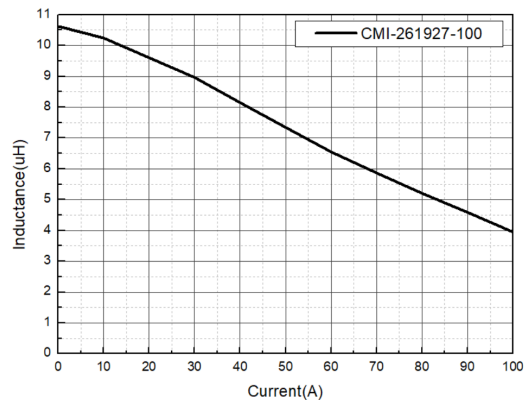
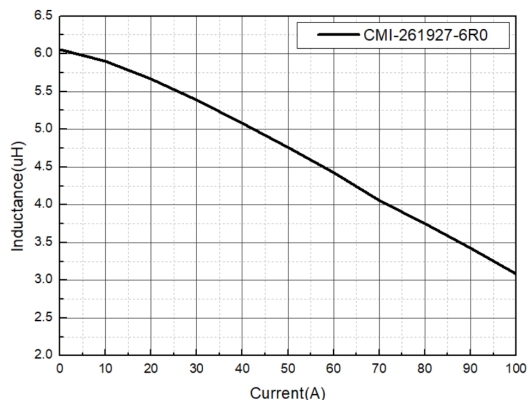
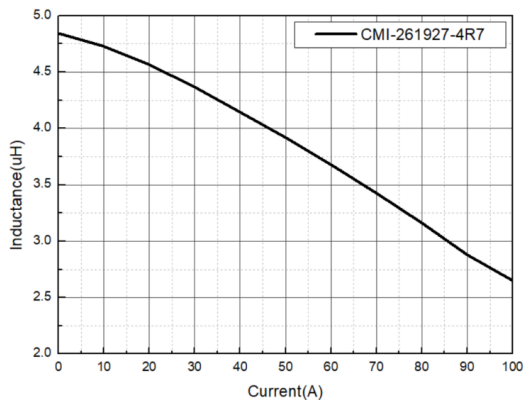
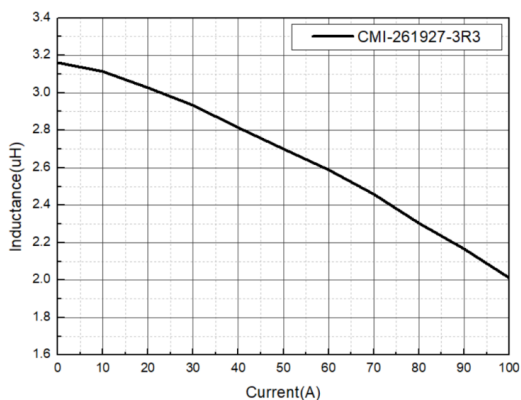
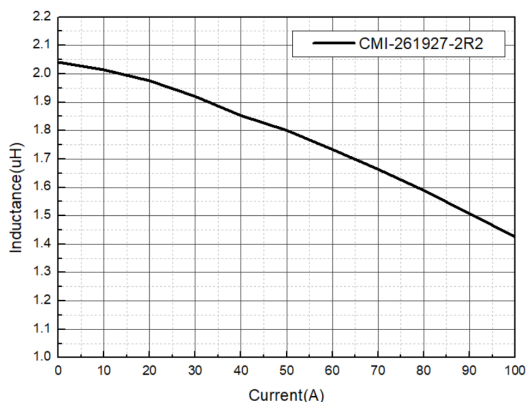
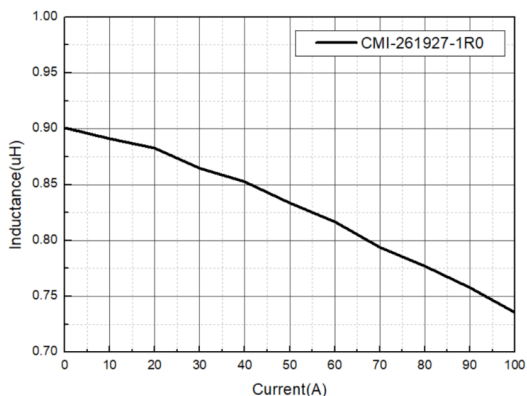
- Inductance is measured with a LCR meter 4294A(Agilent Technologies) or equivalent. (@1MHz, 0.5Vrms)
- DC Resistance is measured with a Digital Multimeter 3541(Hioki) or equivalent.
- Maximum allowable DC current is that which caused a 30% inductance reduction from the initial value.

CMI261927

Metal power Inductor For Power Conversion System



PERFORMANCE GRAPHS



www.changsung.com

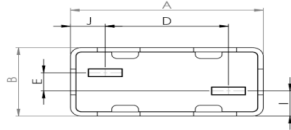
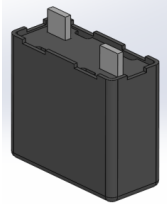
PLEASE CONTACT YOUR SPECIALIST EUROPEAN REPRESENTATIVE:
MRC Components GmbH & Co. KG | Tel +49 8161 9848-0 | info@csc-mrc.com

CMI361636

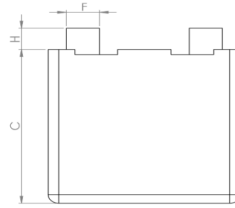
Metal power Inductor For Power Conversion System



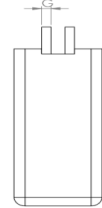
SHAPE AND DIMENSION



[Top view]



[Front view]



[Side view]

A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)	H(mm)
36 ± 0.3	16 ± 0.3	36 ± 0.3	23 ± 0.3	4.25 ± 0.3	6.0 ± 0.2	1.6 ± 0.2	5.0 ± 0.5

FEATURES

- Magnetic alloy power choke coil.
- Magnetic shielded.
- Low acoustic noise and high efficiency.
- High Temperature Stability.
- Low DCR & Loss, in this package size.
- AEC-Q200 and RoHS compliant.

SPECIFICATION

Parts No.	Inductance(μH)	Tolerance(%)	DCR(mΩ) Max(typ.)	Rated DC Current(A) ΔL/L=30%
CMI361636-1R0	1.0	±30	0.35(0.27)	330A
CMI361636-1R4	1.4	±30	0.6(0.45)	275A
CMI361636-2R2	2.2	±20	0.7(0.58)	230A
CMI361636-3R3	3.3	±20	0.85(0.72)	190A
CMI361636-4R7	4.7	±20	1.35(1.14)	145A
CMI361636-6R8	6.8	±20	2.3(1.89)	110A
CMI361636-100	10.0	±20	2.8(2.32)	100A

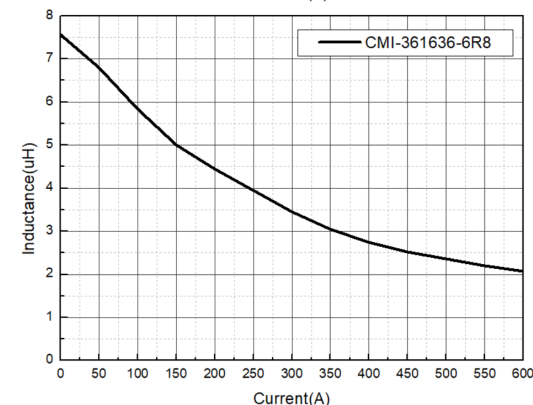
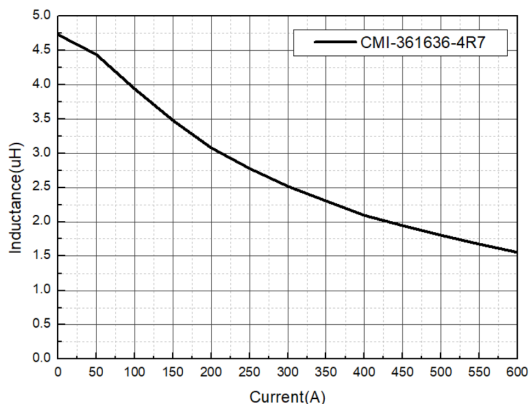
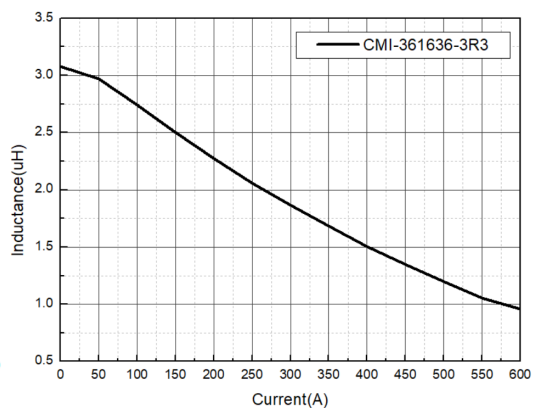
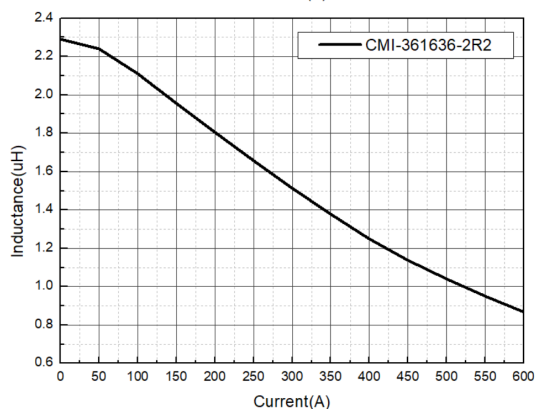
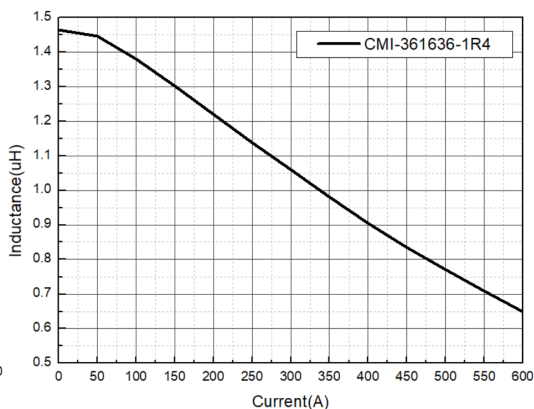
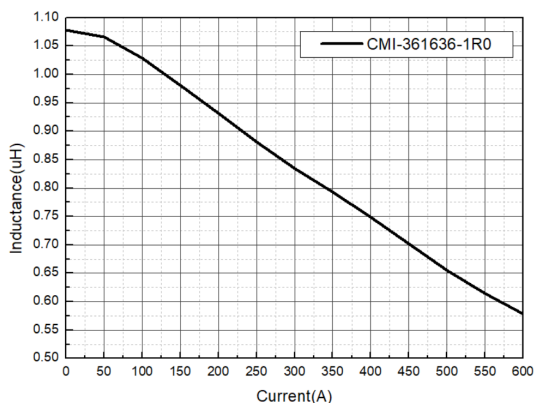
- Inductance is measured with a LCR meter 4294A(Agilent Technologies) or equivalent.(@1MHz, 0.5Vrms)
- DC Resistance is measured with a Digital Multimeter 3541(Hioki) or equivalent.
- Maximum allowable DC current is that which caused a 30% inductance reduction from the initial value.

CMI361636

Metal power Inductor For Power Conversion System



PERFORMANCE GRAPHS



www.changsung.com

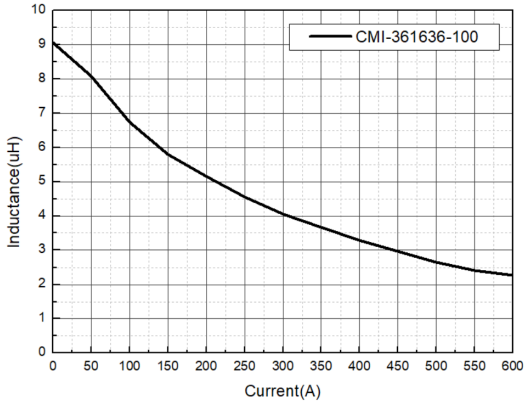
PLEASE CONTACT YOUR SPECIALIST EUROPEAN REPRESENTATIVE:
MRC Components GmbH & Co. KG | Tel +49 8161 9848-0 | info@csc-mrc.com

CMI361636

Metal power Inductor For Power Conversion System



PERFORMANCE GRAPHS



CSC Flex Core - POT Core



POT CORE : HIGH RELIABILITY PERFORMANCE

- Improvement of withstand voltage characteristics (Surface Resistivity : $> 10^{14} \Omega$)
- Improvement of Humidity characteristics
- Use of Thermal bobbin : Excellent thermal conductivity(2~5W/mk)
(PPS Base, UL94 V-0)
- Excellent mechanical strength

POT CORE : MATERIAL INTRODUCTION

Materials	Fine Flux series	Mega Flux series
Composition	Fe - Si - Al alloy	Fe - Si alloy
Available Permeability(μ)	19, 26, 35, 50	19, 26, 35
B max(Gauss)	14,000	16,000
Curie Temperature($^{\circ}$ C)	500	700
Available Shape	POT, Big Toroidal, Saturn, 3-phase etc.	

POT CORE : PROPERTY COMPARISON

Material	Permeability, μ			Core Loss
	@50 Oe	@100 Oe	@150 Oe	@10kHz, 500G
Fine Flux Pot Core 35 μ (FPTF10825-035)	31.6	27.5	24.2	2.2 mW/cm ³
Mega Flux Pot Core 26 μ (FPTK10825-026)	24.2	22.5	20.8	5.7 mW/cm ³
Fe Pot Core (2 pcs)	39.0	29.2	23.5	12.9 mW/cm ³
Fe Pot Core (4 pcs)	58.2	38.5	24.9	12.5 mW/cm ³

www.changsung.com

PLEASE CONTACT YOUR SPECIALIST EUROPEAN REPRESENTATIVE:
MRC Components GmbH & Co. KG | Tel +49 8161 9848-0 | info@csc-mrc.com

High Frequency

Reactor / Transformer

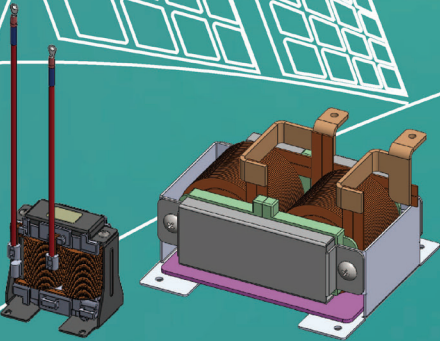
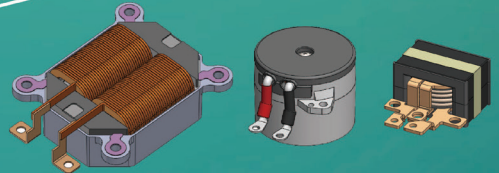
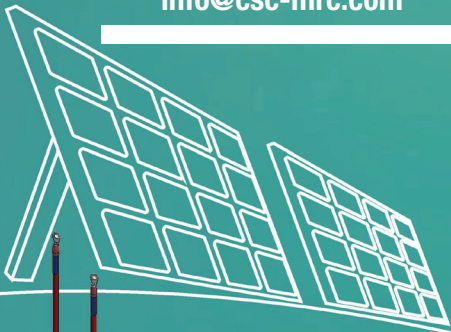
Calm & Cool



COMPONENTS

YOUR SPECIALIST
EUROPEAN REPRESENTATIVE

Tel +49 8161 9848-0
www.csc-mrc.com
info@csc-mrc.com



GREEN ENERGY SOLUTION