Unique TAIYO YUDEN Inductor Series

Inductors

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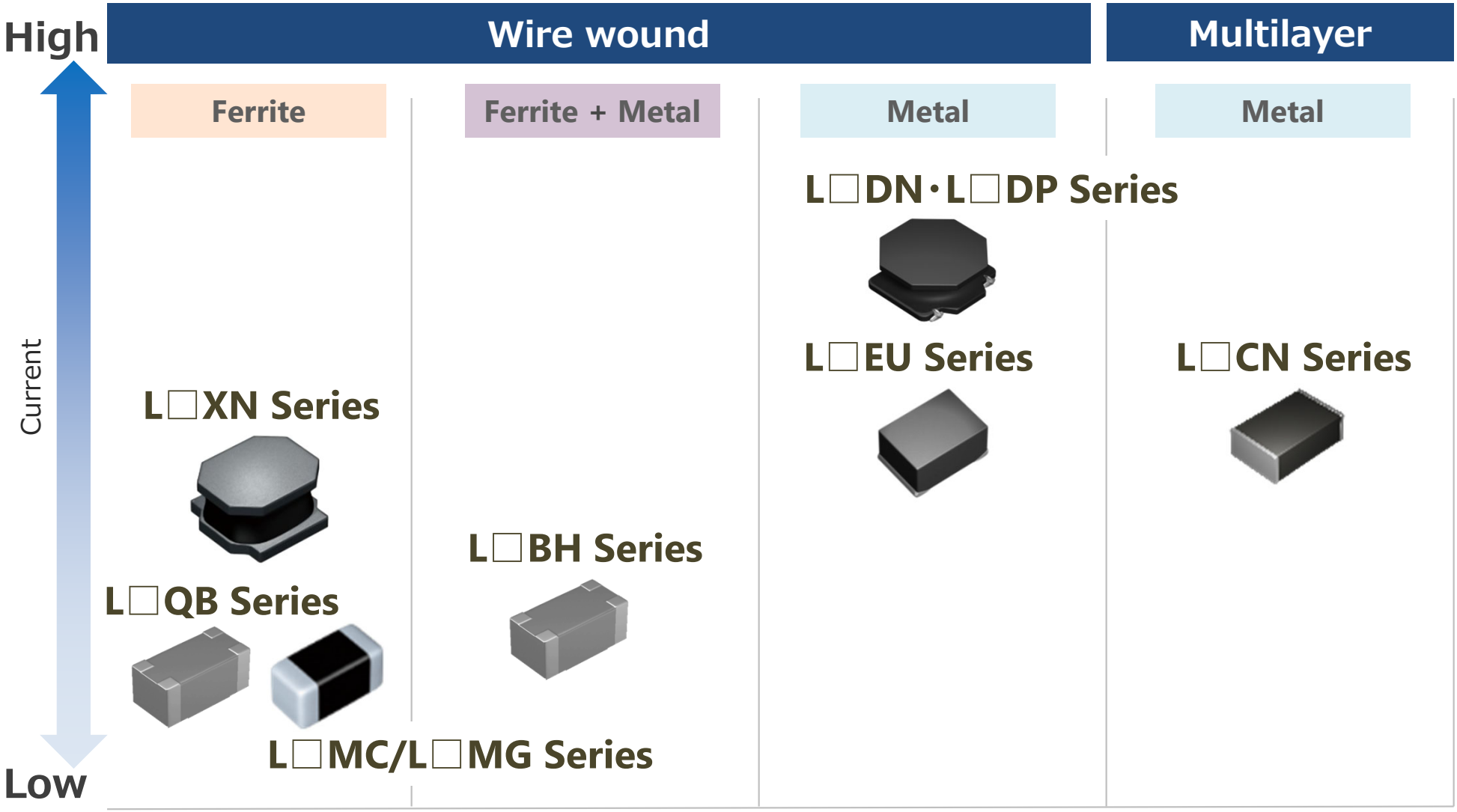
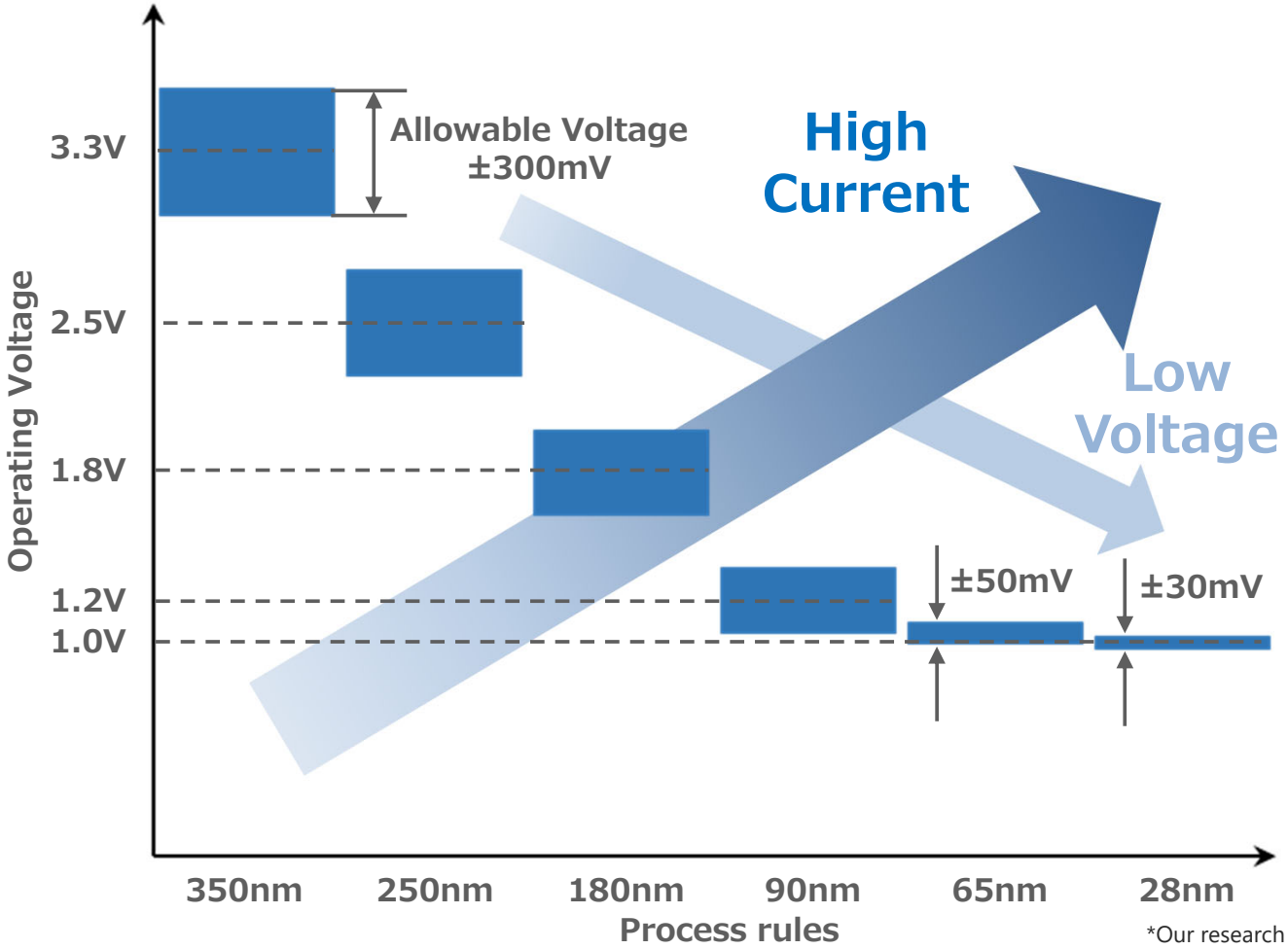


※The names of series noted in the text are excerpted from part numbers that indicate the types and characteristics of the products, and therefore are neither product names nor trademarks.
The second letter of the product series name indicates equipment category.
(e.g. General Electronic Equipment for Consumer = S)

Inductors

1 Power Inductor Trends

Transition of Semiconductor Power Supply Voltage



Miniaturization of
Semiconductor Process Rules

Compact, Multifunctional
and High-Performance

Semiconductor power supply
requires **high current**
and **low voltage**.

Compact and high current
power inductors are required.

2 Issues / Solutions from the current situation

Issues

High-Performance Compact Electronic Devices.
⇒ Small size and high current power inductors are required.

Challenges

- High Current ⇒ Land patterns need to be changed for bigger case sizes.
- Small Size ⇒ Insufficient inductance or saturation current.

Solution

Select metal inductors with small size and high current capabilities.

Next slide..

Inductors

3 Solution

Are you satisfied with your inductor ?

Replace ferrite with metal power inductors for better performance.
Choose the best inductor for your purpose.

POINT.1
Increase Current
about x1.5

POINT.2
Reduce DCR
about -30%

POINT.3
Reduce Volume
about -65%

3 Solution

Option.1

With the Same 4mm Square Size

High Current and Low DCR

LSXN Series

Ferrite Power Inductor

Isat (max) 3 A / Rdc (max) 50.4 mΩ

LSDP Series

Metal Power Inductor

Isat (typ) 4.5 A / Rdc (typ) 34 mΩ

Increase Current about x1.5

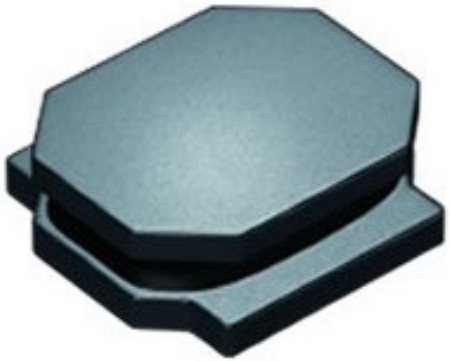
Reduce DCR about -30%

3 Solution

Option.2

With the Same Inductance and Isat

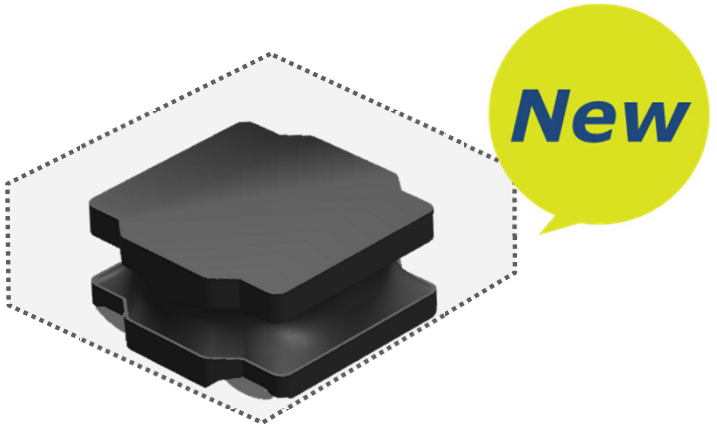
Miniaturization with Same Spec



LSXN Series

Ferrite Power Inductor

Case Size 5.0×5.0×4.1 (mm)



LSDP Series

Metal Power Inductor

Case Size 4.0×4.0×2.0 (mm)

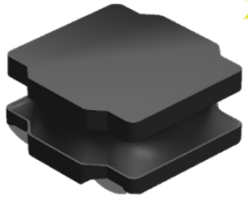
Reduce Volume
about -65%

3 Solution

Wire-Wound Metal Power Inductors L□DN/L□DP Series

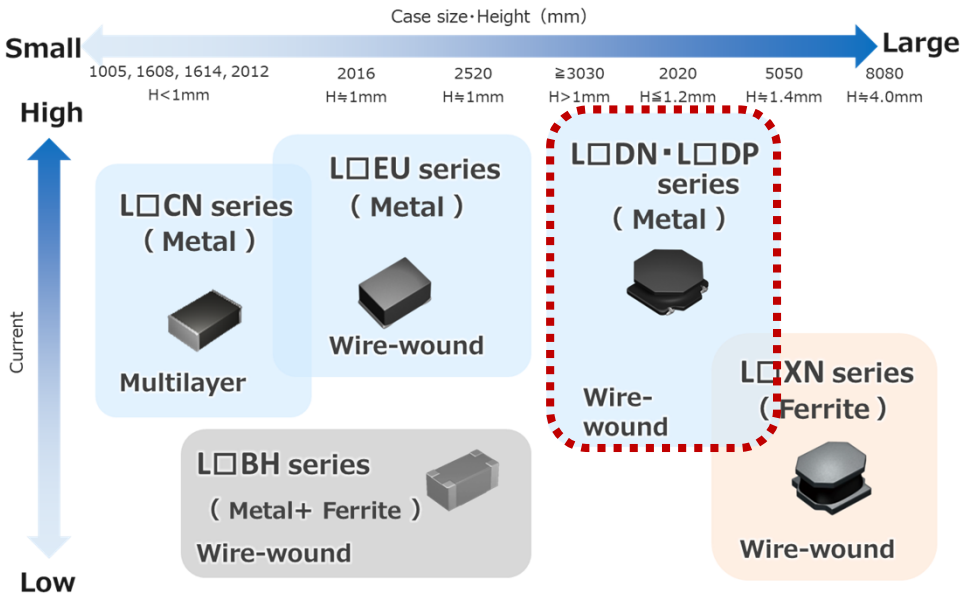
L□DN/L□DP series are characterized by high current, small case size, and low profile, with the new magnetic materials that were developed to dramatically improve DC bias characteristics while the existing process of LSXN series power inductors can be used.

L□DN Series



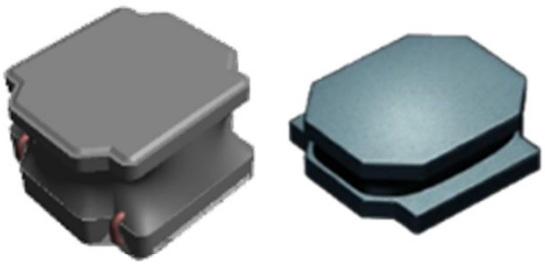
L□DP Series

New



Laptop, Tablet, HDD・SDD, TV, Various Electronic Devices / Choke Coils for DC Converter, Filter Circuits.

3 Solution



L□XN Series

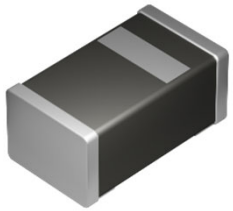
Wire-Wound Ferrite Power Inductors

Compact
High Current
Energy Saving

L□EU Series

Wire-Wound Metal Power Inductors

Ultra-Compact
Low Profile
Energy Saving



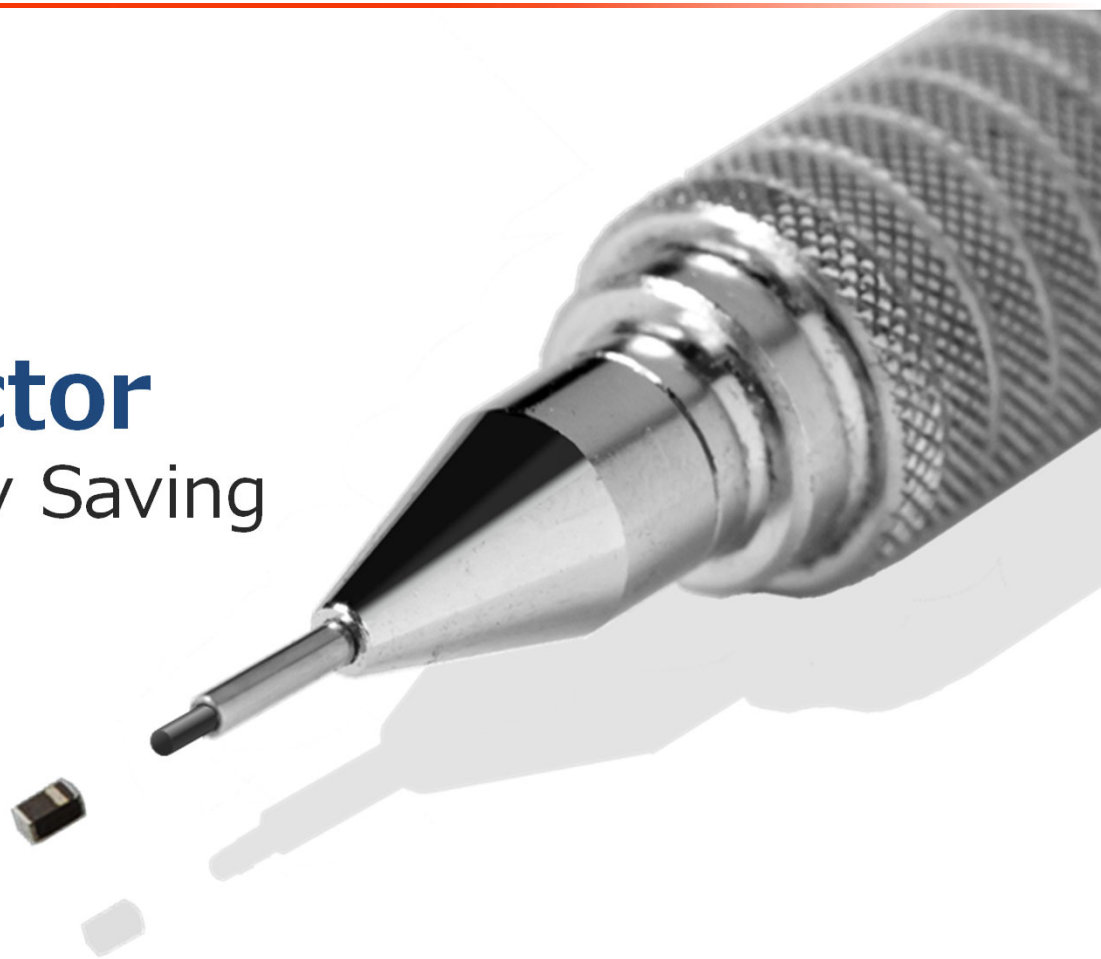
L□CN Series

Multilayer Metal Power Inductors

3 Solution

Ultra Small Metal Power Inductor

for Miniaturization / Energy Saving



Case Size **0402inch**

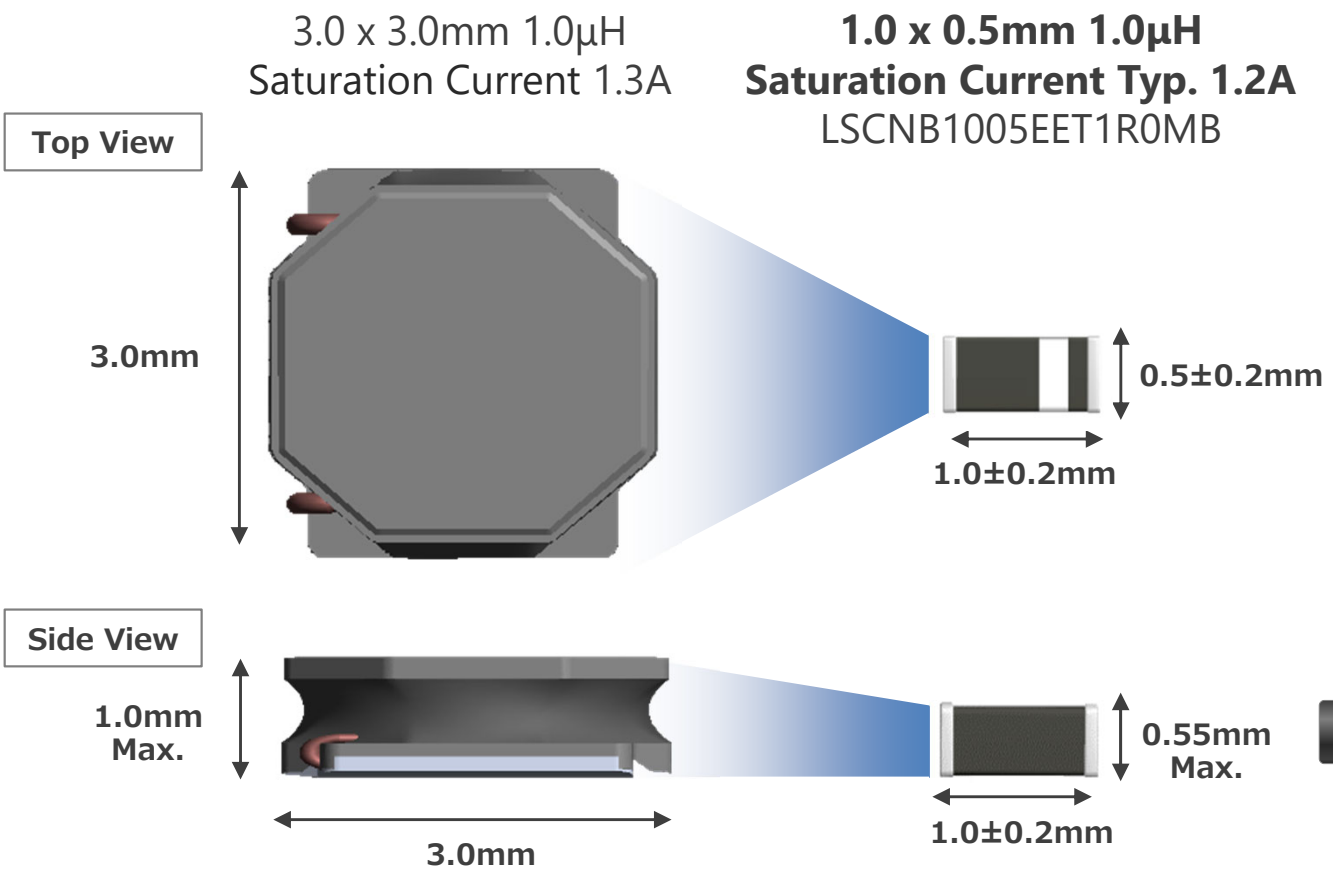
Inductance **1.0μH**

Saturation current **1.0A**

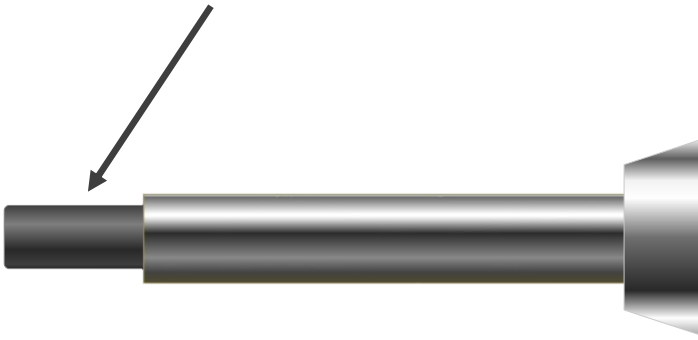
3 Solution

-95% of the Area, -97% of the Volume*

Compared to Equivalent Ferrite Power Inductors



About the Same Size as the Lead of a 0.5mm Mechanical Pencil!

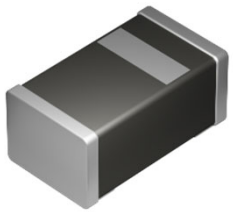


*Compared to our company

3 Solution

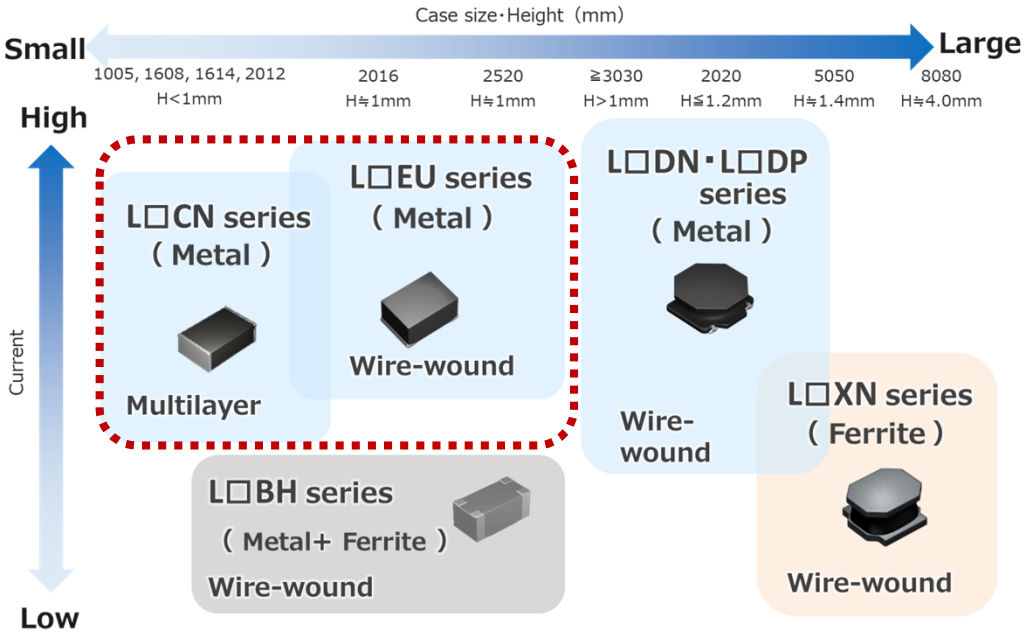
Metal Power Inductors L□CN(Multilayer) /L□EU(Wire-Wound) Series

L□CN series realized high-performance and miniaturization by combining magnetic materials and multilayer structure－the world first method
L□EU series realized high current and low DCR by improving metal materials in wire-wound structure



L□CN Series

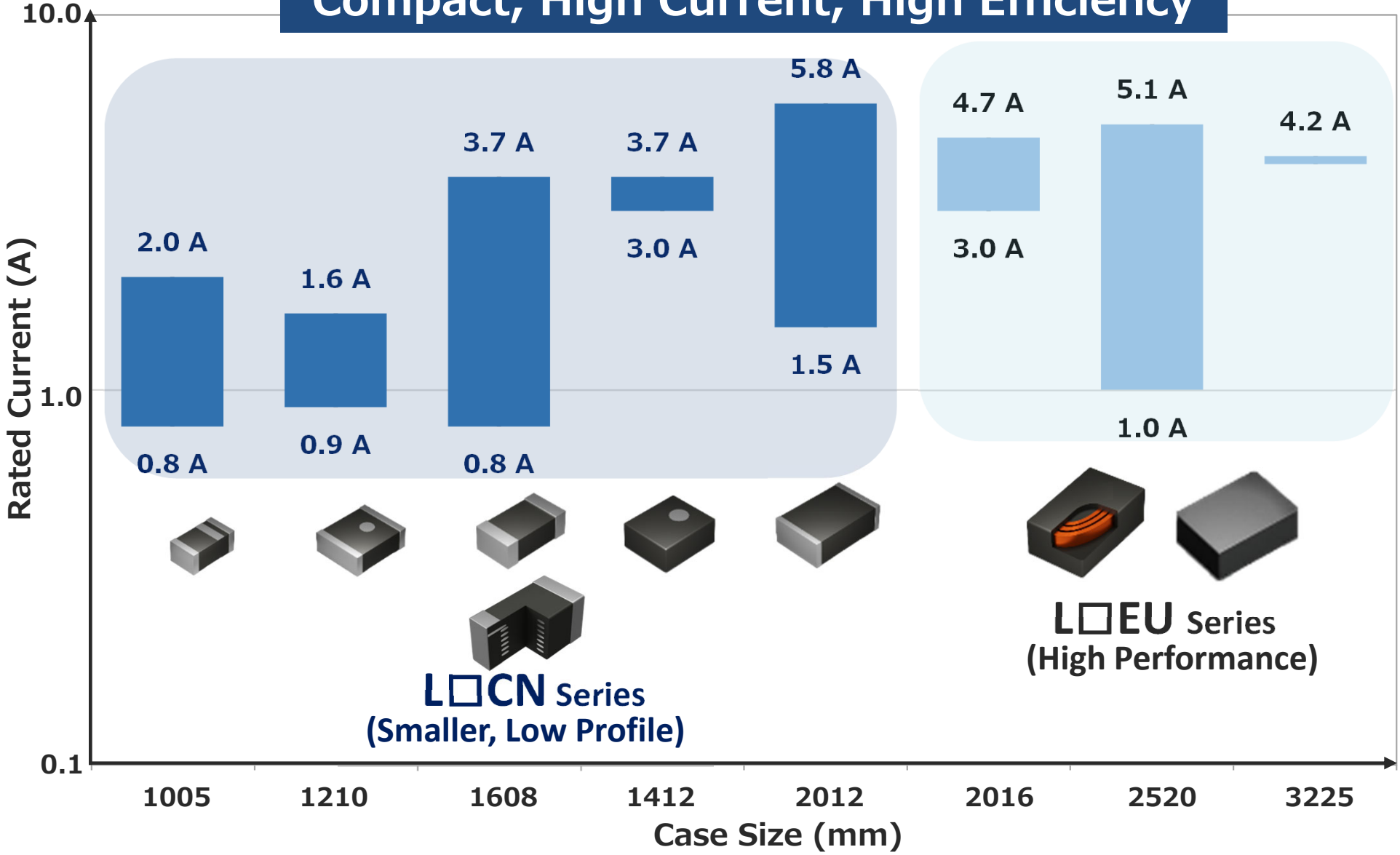
L□EU Series



Smartphone, Smart Watch, Wireless Earbuds

3 Solution

Compact, High Current, High Efficiency



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