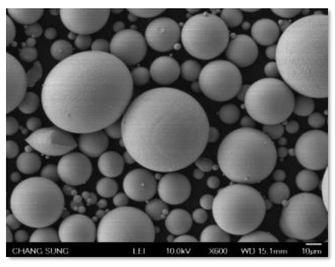
Composite Molded Inductor(CMI)

Realizing Imagination, Structural Innovation!

What is CMI?

Composite Mold Inductor (CMI) is composed of a composite of high-quality soft magnetic powders and reliable polymer materials. Its liquid-phase processing to magnetic paste, enables simple fabrication of inductors with highly integrated and flexible structures.

What is Magnetic Paste?



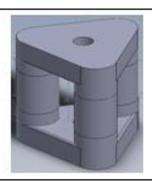
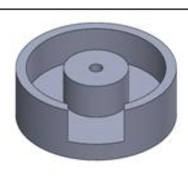
[Metal Powder]

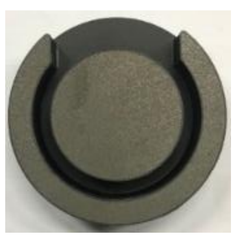
[Polymer]

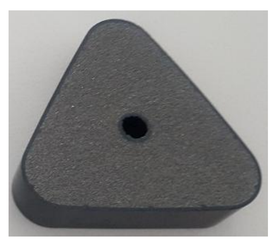
Mixing

[Magnetic Paste]

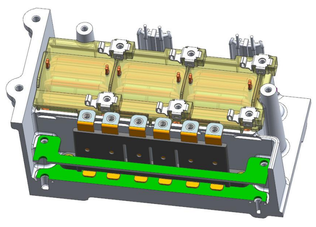
[Molded Inductors]

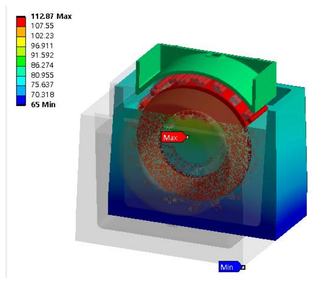
3-Phase Core	Round Block & Cylinder Core	Saturn Core	Pot Core	Big Toroidal Core
				



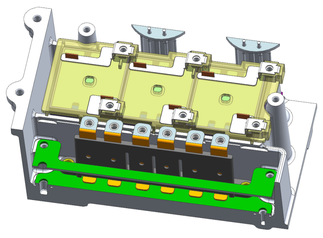


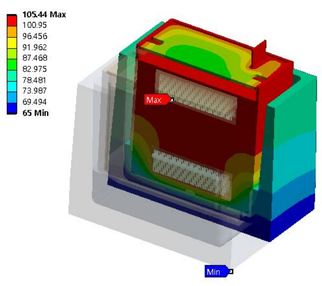
What is Better?





[PFC Toroidal Inductor]





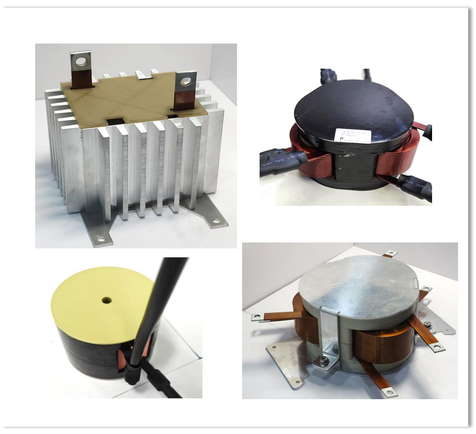
[CMI]

	Toroidal	CMI
Core	CH400060 x 2ea	Magnetic Paste [AM]
Wire & Turns	Φ1.6 2P 40Ts	7.5*0.55 / 43Ts
Current Density (A/mm^2)	7.97	7.80
DCR (mΩ, @25℃ / 100℃)	15.0 / 19.3	14.8 / 19.2
Wire Loss [Irms] (W, @25℃ / 100℃)	15.3 / 19.8	15.2 / 19.6
Core Loss (W, @65kHz)	1.7	3.4
Temperature (℃, @22kW)	112	105
Inductance (uH, @0A / 32A / 45A)	250 / 150 / 100	340 / 140 / 120
Size (mm)	48*120*48	45*124*45
Volume (mm^3)	320,473	251,100

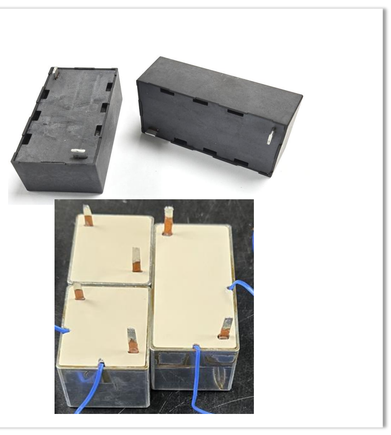
Where is it applied?

48V Mild Hybrid System

Residential PV / ESS



Industrial PV / ESS



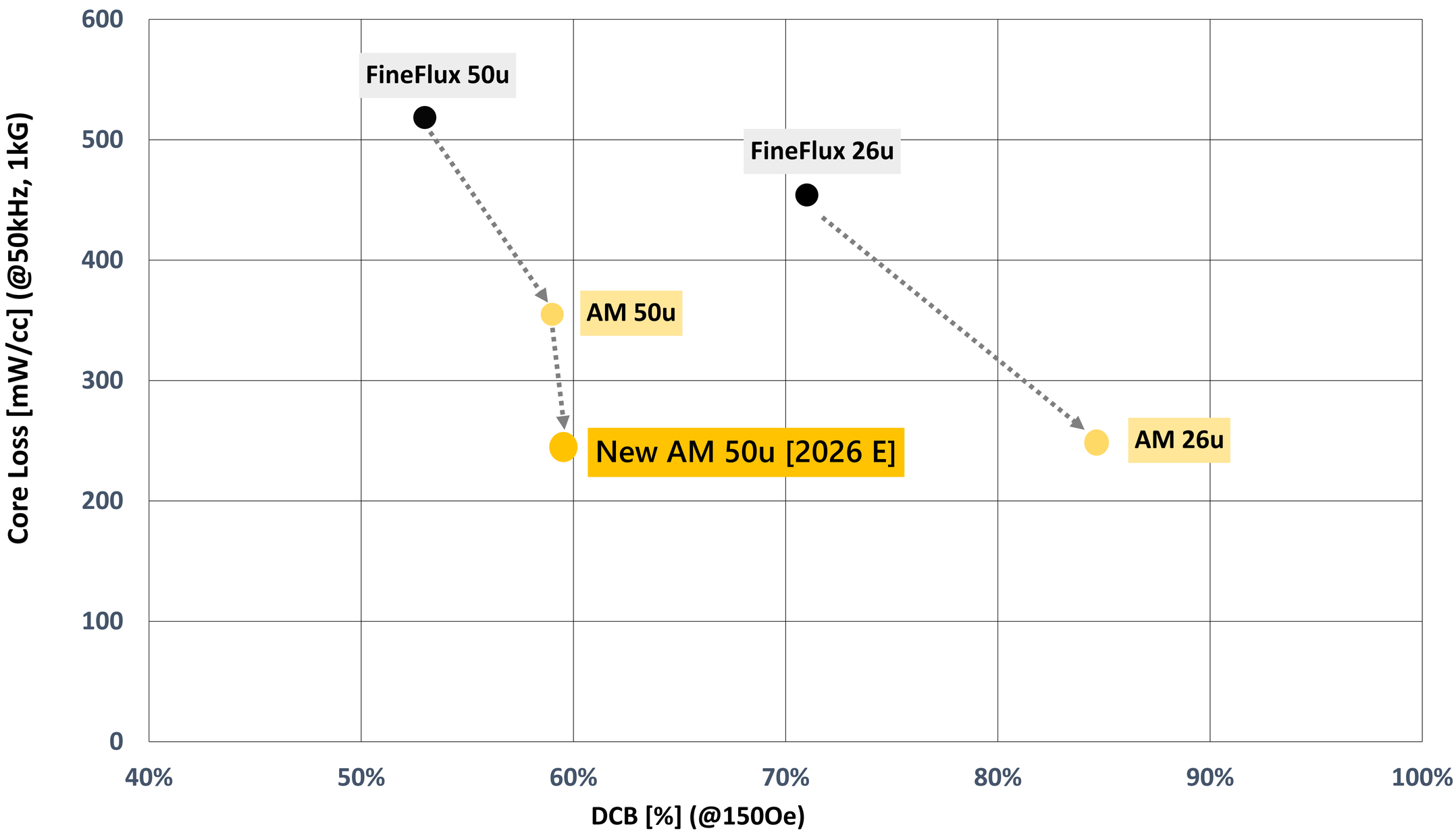
EV OBC / LDC

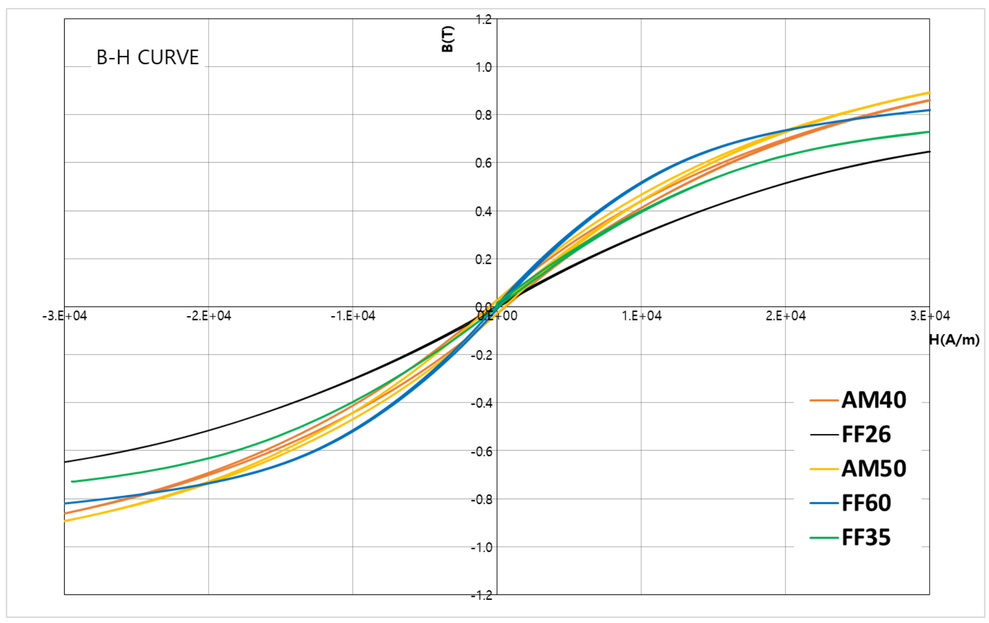
Composite Molded Inductor(CMI)

Realizing Imagination, Structural Innovation!

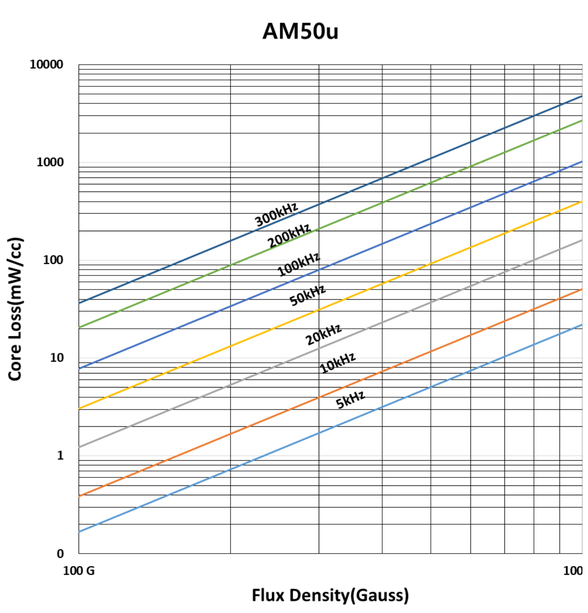
Material Characteristics

Paste Series	Perm. (u)	DCB (%) (@150Oe)	Core Loss (mW/cc)		B max (Gauss)	Density (g/cm^3)	Thermal Conductivity (W/mK)
			100kHz /500G	50kHz /1,000G			
FF Series (Fe-Si-Al)	26	71	215	400	12,000	5.3~5.4	3.0 ~ 4.0
	35	69	300	480		5.6~5.7	
	60	45	270	430		5.9~6.0	
AM Series (Amorphous)	40	62	260	430	15,000	5.6~5.7	3.0 ~ 4.0
	50	57	260	350		5.7~5.8	

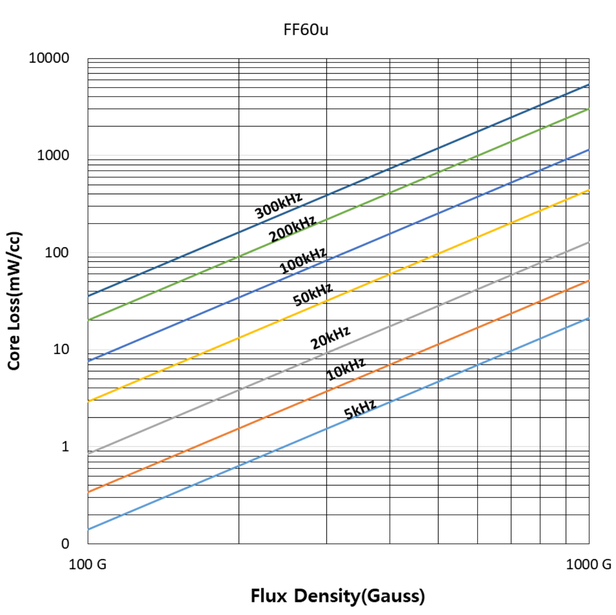




[B-H Curve]



[Core Loss AM 50u]



[Core Loss FF 60u]