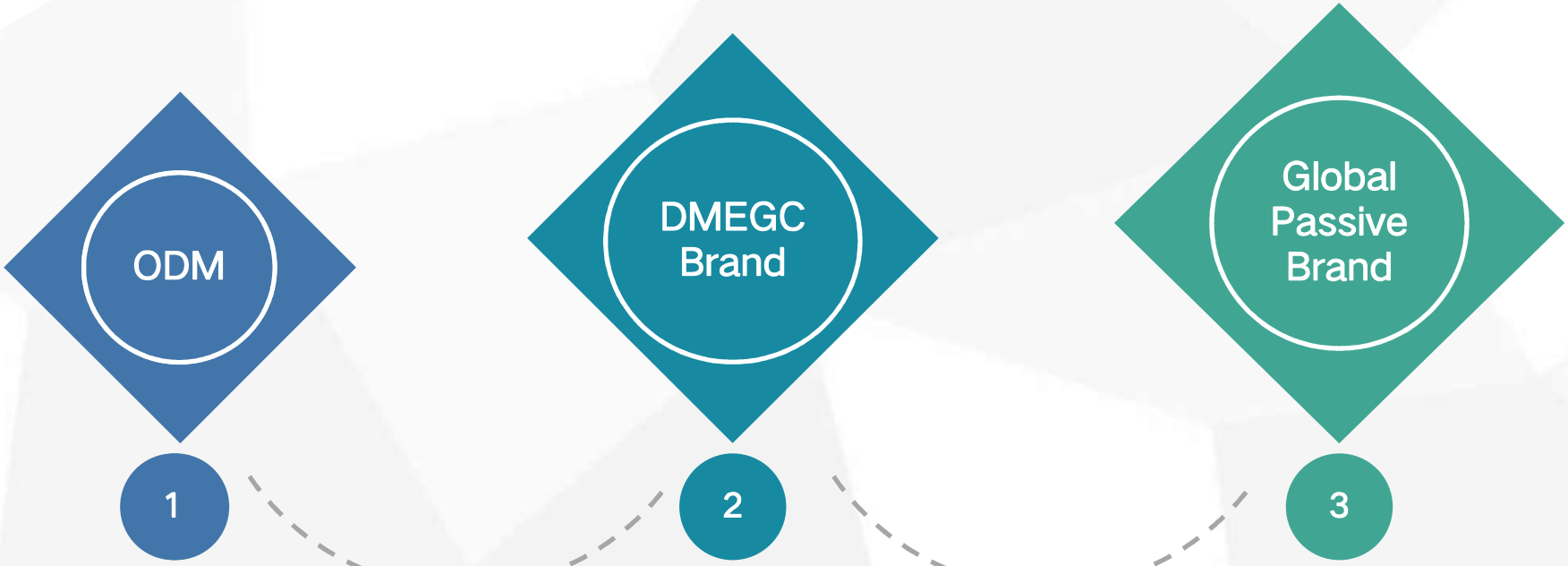
DMEGC Molded Inductors



Started doing molded inductor ODM for global passive brands in 2002

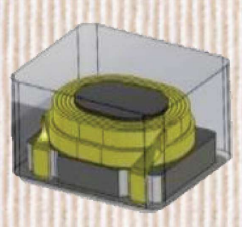
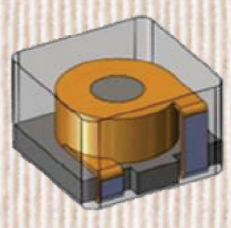
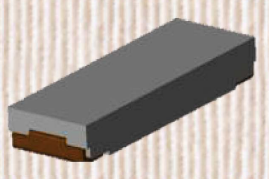
Started promoting DMEGC brand molded inductors in 2020

Magnetic material+passive component business strategy. DMEGC brand molded inductors. DMEGC brand multilayer inductors and chip beads, comon mode coils, more yet to come.

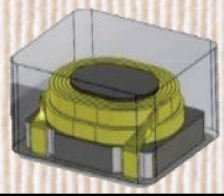
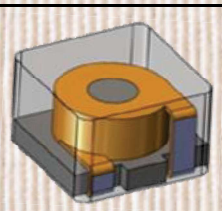
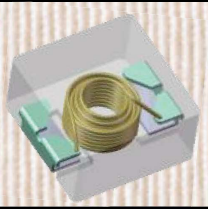
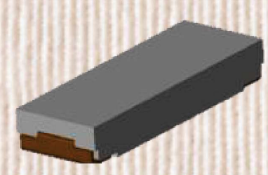
Keep increasing DMEGC brand recognition worldwide

Strengthen global presence. Establish a solid brand.

DMEGC Molded Inductors

Process	T-core Winding Process	T-core Threading Process	Lead-Frame Process	Copper Sintered Inductor
				
Key Technologies	✓ Precision forming technology ✓ Winding technology ✓ Electroplating process	✓ Precision forming technology ✓ Winding & core technology ✓ Tin dipping process	✓ Precision forming technology ✓ Winding & welding technology	✓ Precision molding technology ✓ Sintering & impregnation technology ✓ Electroplating process
Performance Advantages	✓ Large design space ✓ Low DCR / high current	✓ Large design space ✓ Low DCR / high current	✓ Wide range inductance ✓ Low DCR / high current ✓ High mechanical properties	✓ Lower DCR (< 1m Ω) ✓ High current (60 ~ 90A) ✓ high efficiency

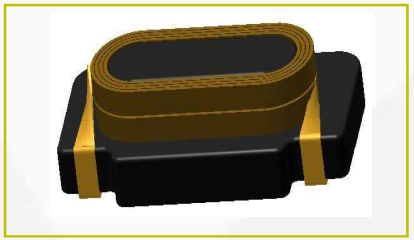
DMEGC Molded Inductors

Process	T-core Winding Process	T-core Threading Process	Lead-Frame Process			Copper Sintered Inductor
						
Application	Consumer/Industrial/ Automotive	Automotive	Consumer/ Industrial	Automotive	Automotive	Consumer/ Industrial
Temperature	-40-125℃	-40-155℃	-40-125℃	-40-125℃	-40-155℃	-40-125℃
Main Series Customizable	DCTC(A)160808 DCTC(A)141206 DCTC(A)201208/10 DCTC(A)201608/10 DCTC(A)252012/10 DCTC(A)322512/10	DCTC0420 DCTA0531 DCTA0631 DCTA0661 DCTA0754	DCYC0420 DCHC0430 DCYC0530 DCYC0730 DCYC10XX DCYC13XX DCYC1770	DCYA0420 DCYA0530 DCYA0730 DCYA10XX DCYA13XX DCYA1770	DCYA0530 DCYA0730 DCYA0854 DCYA10XX DCYA13XX DCYA1770 DCYA221C	DCSC130520 DCSC100750
Inductance	60nH~6.8uH	1.0uH~10uH	100nH~100uH	100nH~100uH	100nH~100uH	50nH~220nH
DCR	15~250mΩ	4.0~100mΩ	0.50-270mΩ	0.50-270mΩ	0.50-270mΩ	< 1mΩ
Current	1.9~7.1A	2.0-50A	2.0~100A	2.0~100A	2.0~100A	55~90A

T-Core Winding Processes

T-core molding

Assemble T-core and copper wire



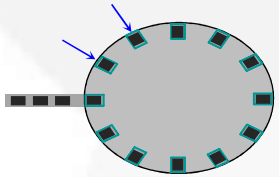
Powder filling & press molding

Coating

Peeling

Electroplating

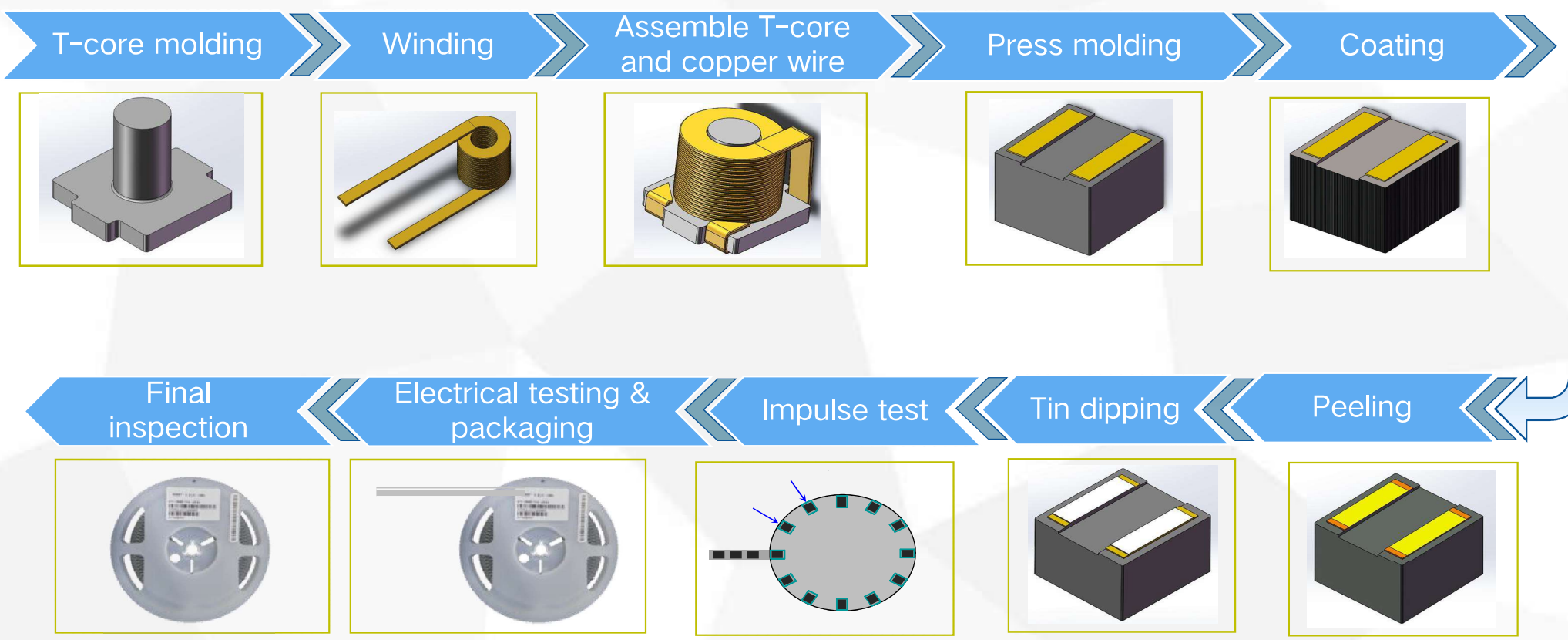
Impulse test



Electrical testing & packaging

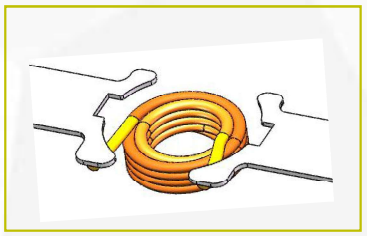
Final inspection

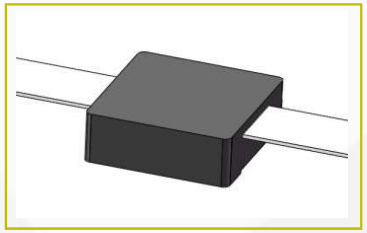
T-Core Threading Processes

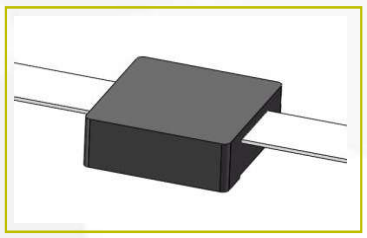


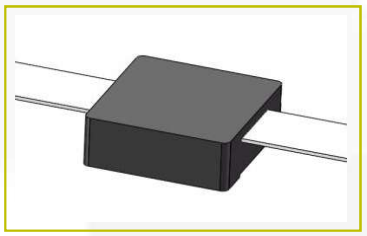
Lead Frame Processes

Winding & welding → Press molding → Baking → Coating

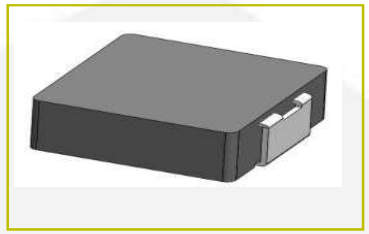


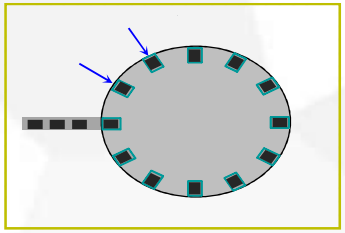




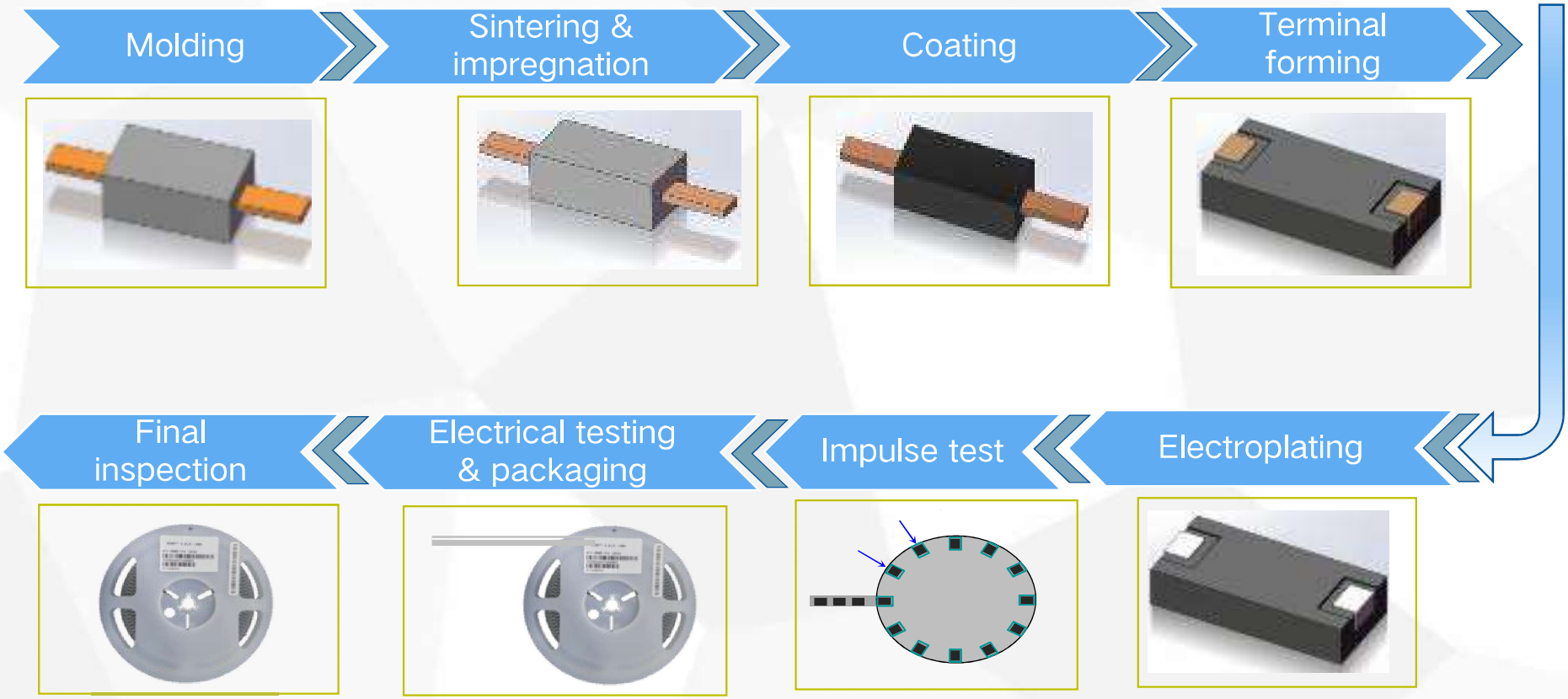


Electrode forming → Impulse test → Electrical testing & packaging → Final inspection





Copper Sintered Inductor Processes



Molded Inductors High Runner Series

Customizable

AEC-Q200 Qualified

Phone/ Pad

DCTC1210055
DCTC141206
DCTC160808
DCTC201208
DCTC201210
DCTC201610
DCTC252010

TV/OA/ Camera

DCTC201612
DCTC252012
DCTC322512
DCTC0420
DCYC0520
DCYC0730
DCYC1030

Wearable

DCTC160806
DCTC160808
DCTC160810
DCTC201208
DCTC201210
DCTC201610

PC/ Audio

DCTC252012
DCTC322512
DCTC0412
DCTC0420
DCYC0518
DCYC0520
DCYC0718
DCYC0730
DCYC1020
DCYC1030

Security /Server

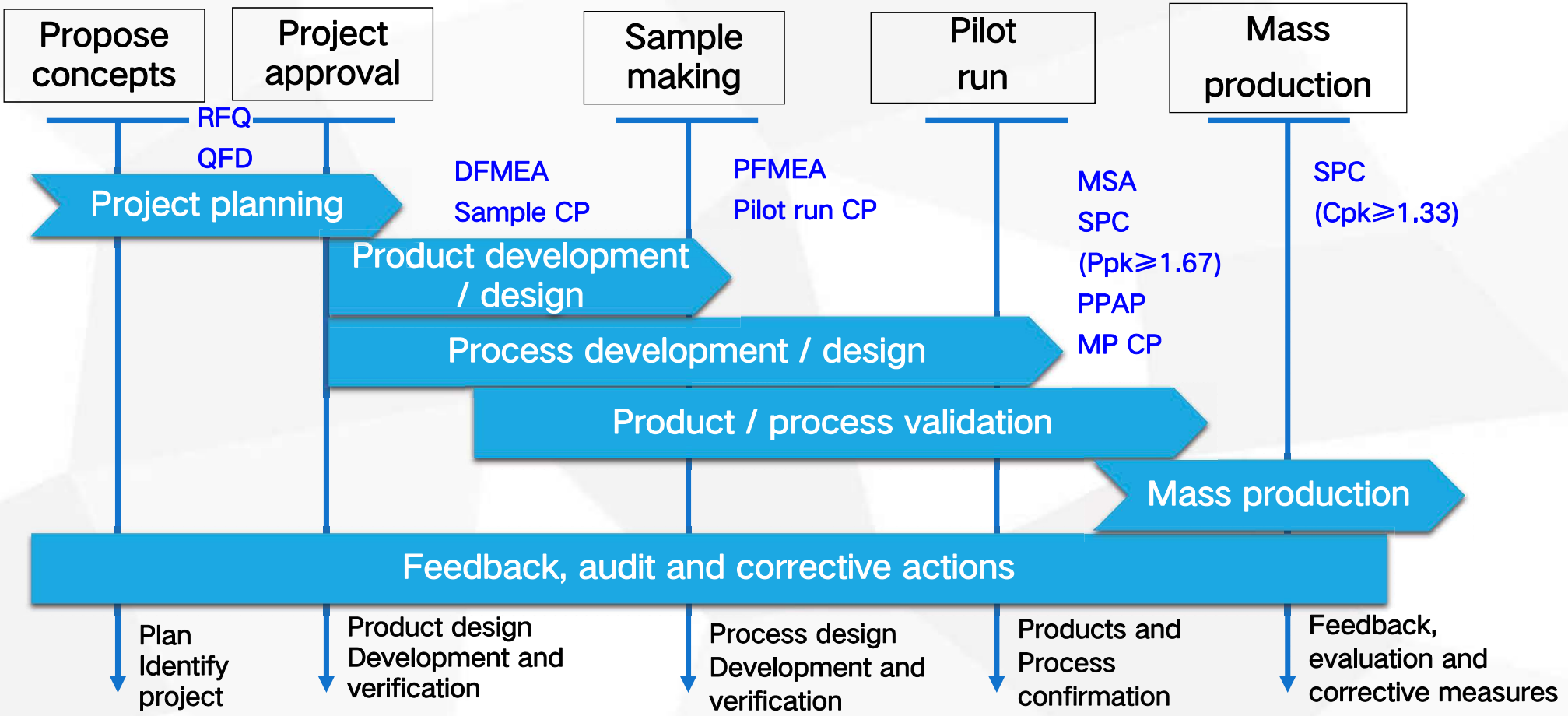
DCTC252010
DCTC252012
DCTC322512
DCTC0420
DCYC0530
DCYC0730
DCYC1030
DCYC140515
DCYC140519
DCYC100750

Automotive /Medical

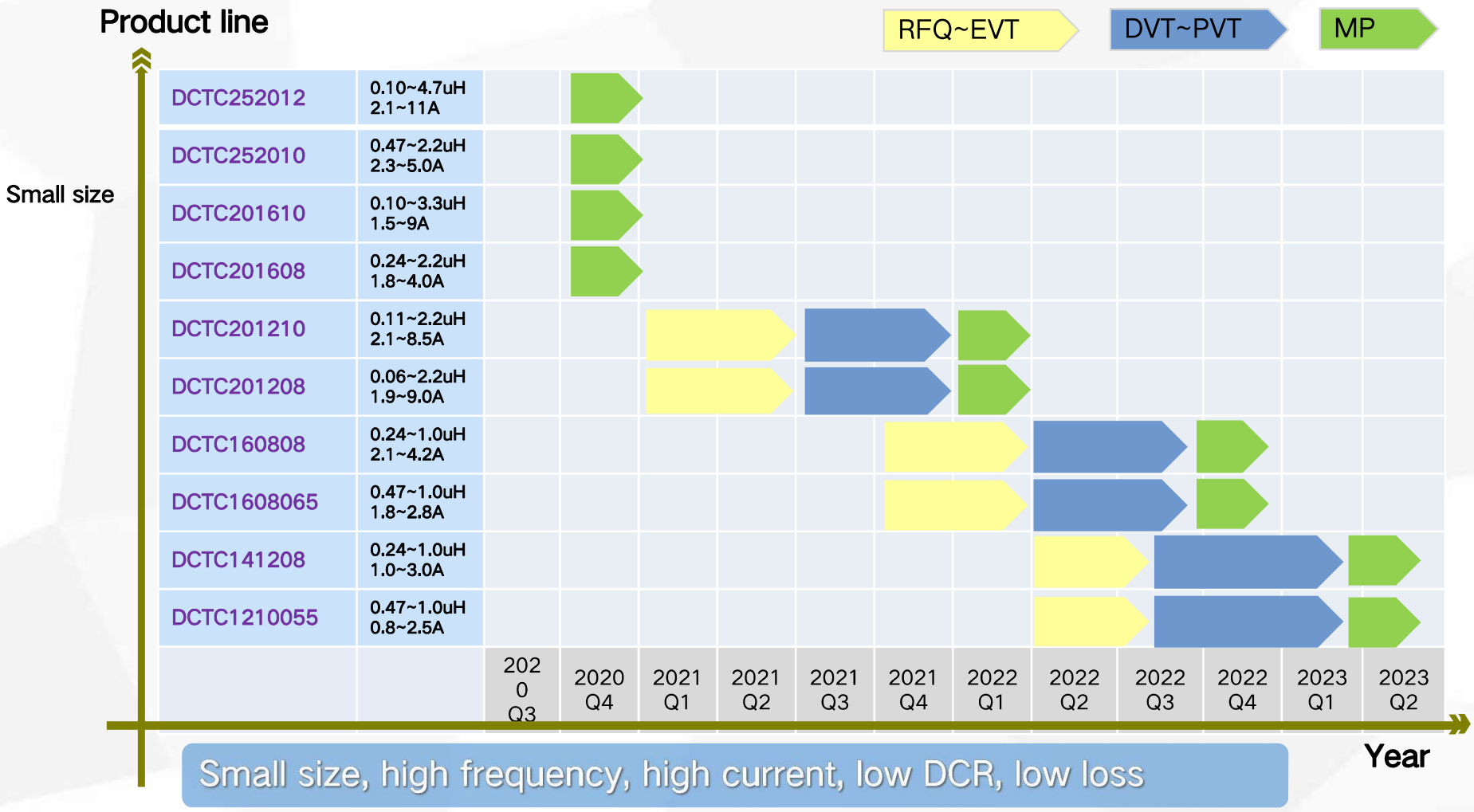
DCTA252010
DCTA252012
DCTA0420
DCYA0530
DCYA0730
DCYA0750
DCYA0854
DCYA1030
DCYA1040
DCYA1350
DCYA1770
DCYA221C

A member of Hengdian Group

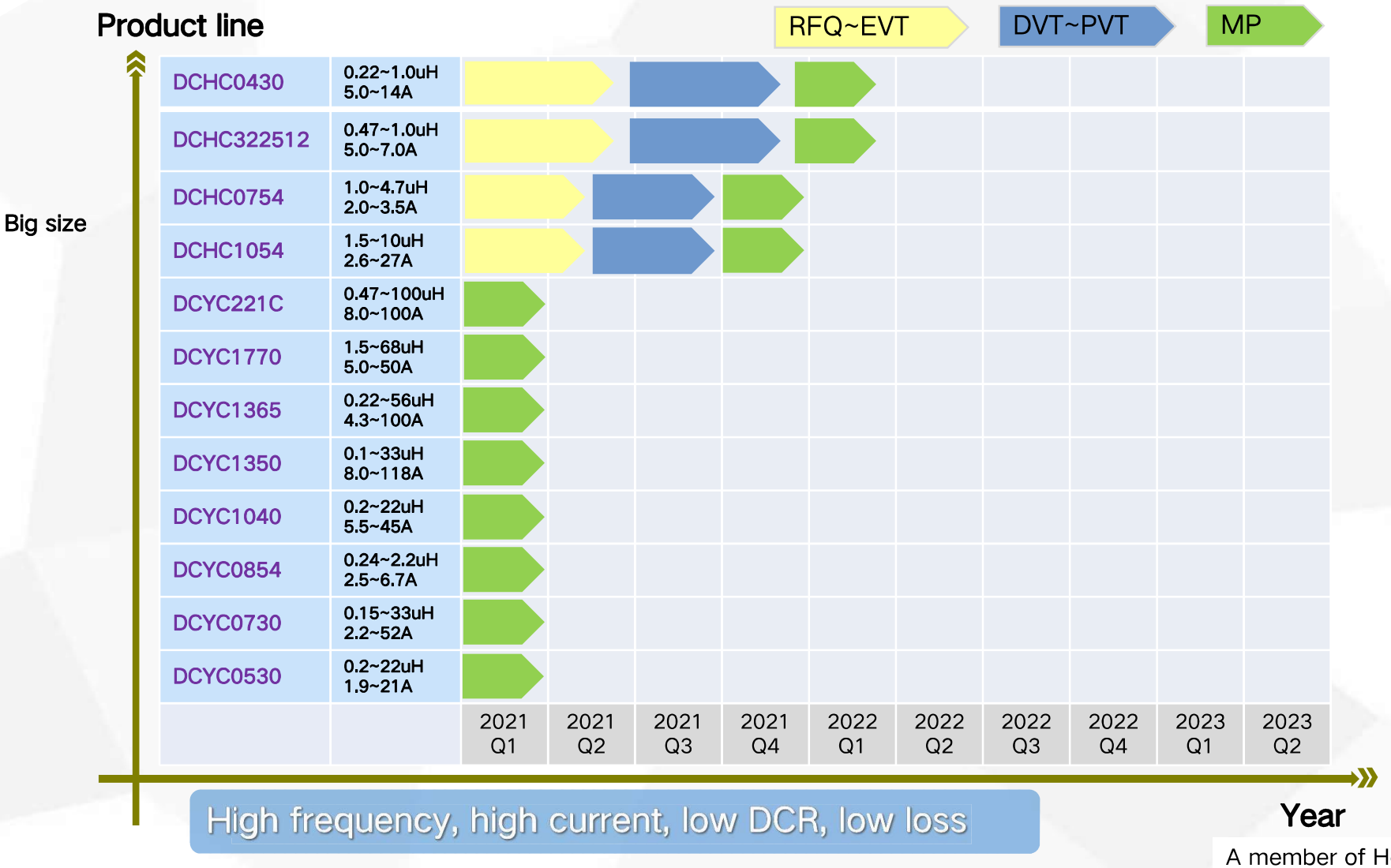
New Product Development Processes



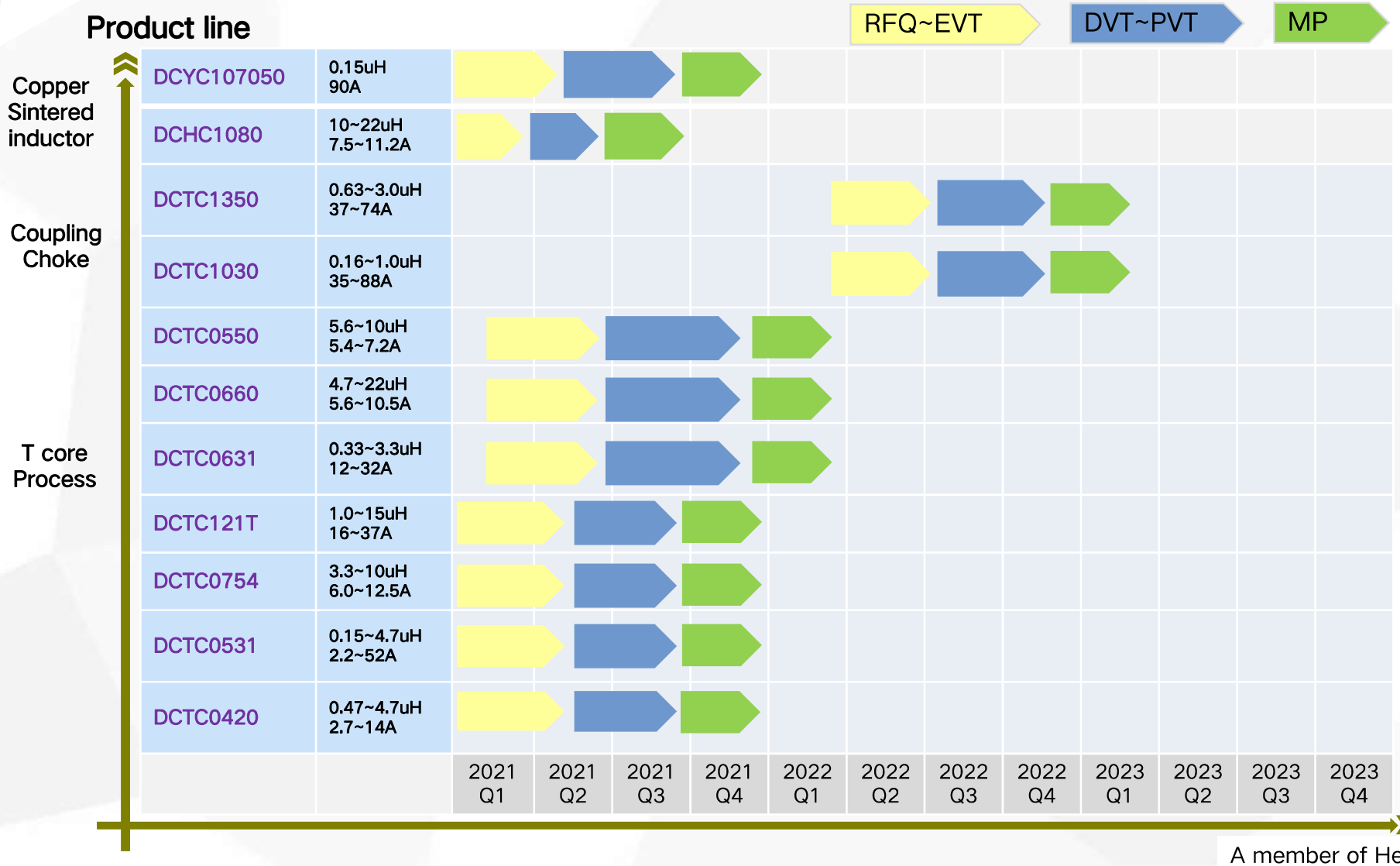
Molded Inductors Product Roadmap



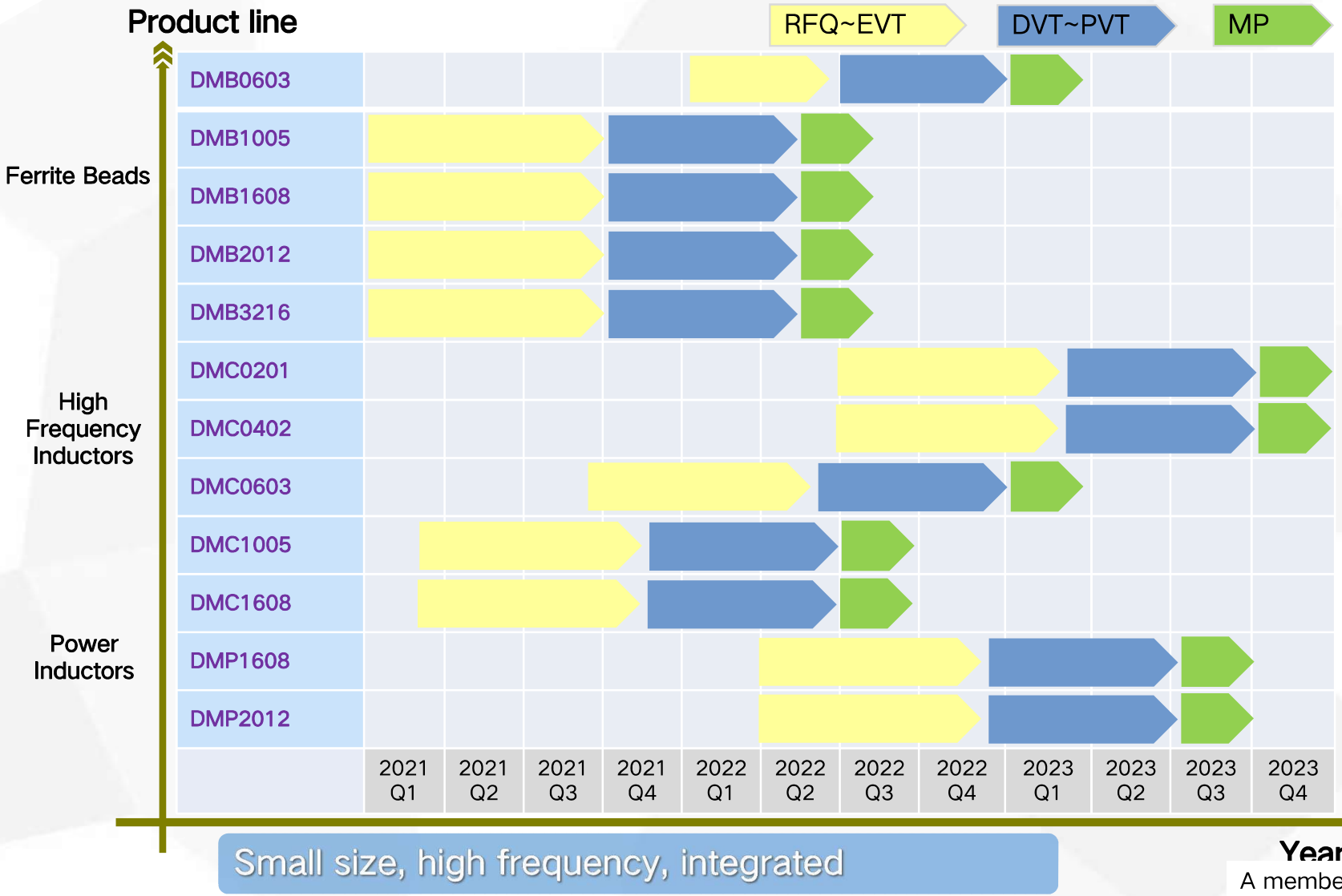
Molded Inductors Product Roadmap



New Process Molded Product Roadmap

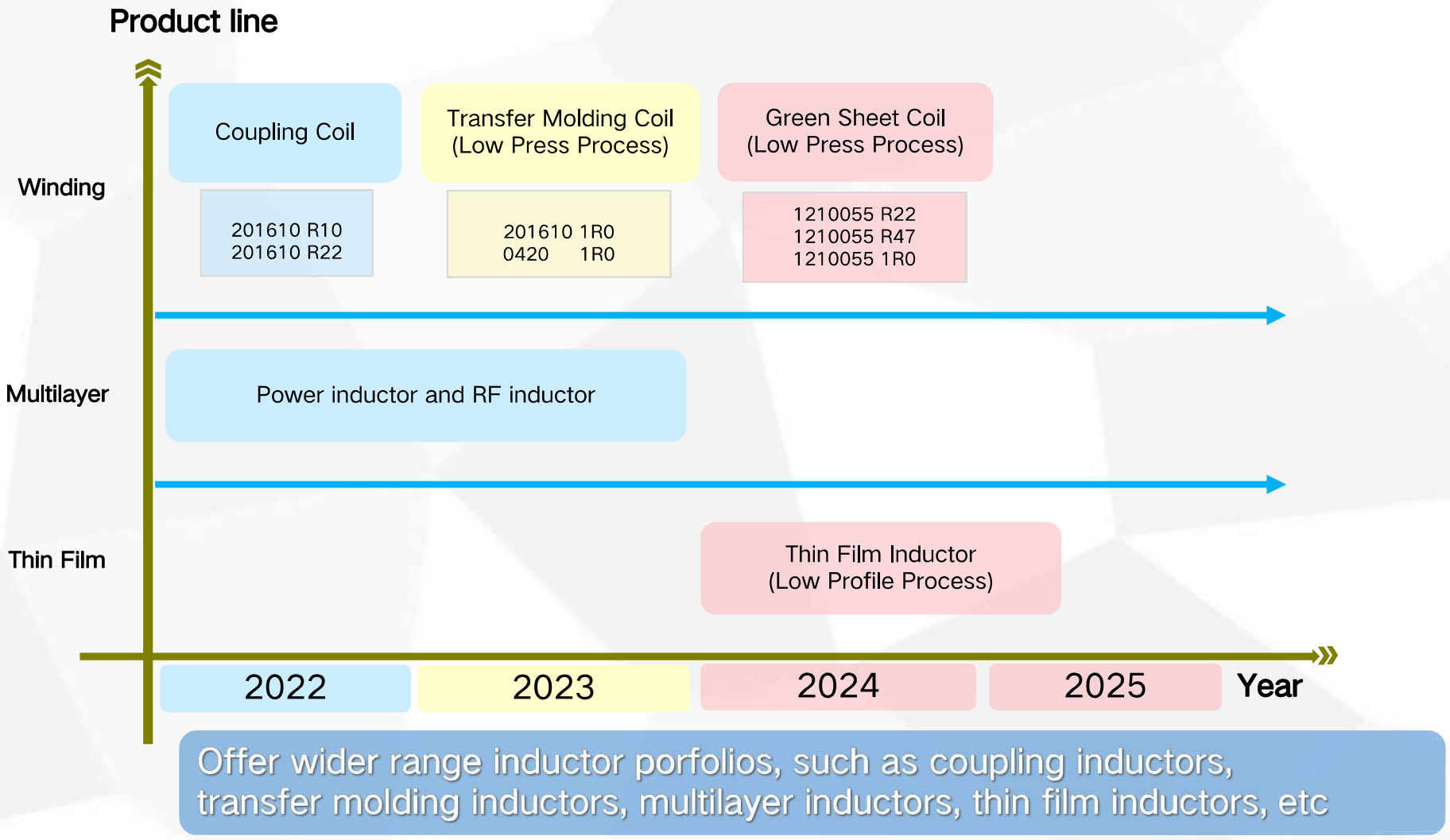


Multilayer Inductors Product Roadmap



Small size, high frequency, integrated

New Product Category Development Roadmap



Offer wider range inductor porfolios, such as coupling inductors, transfer molding inductors, multilayer inductors, thin film inductors, etc

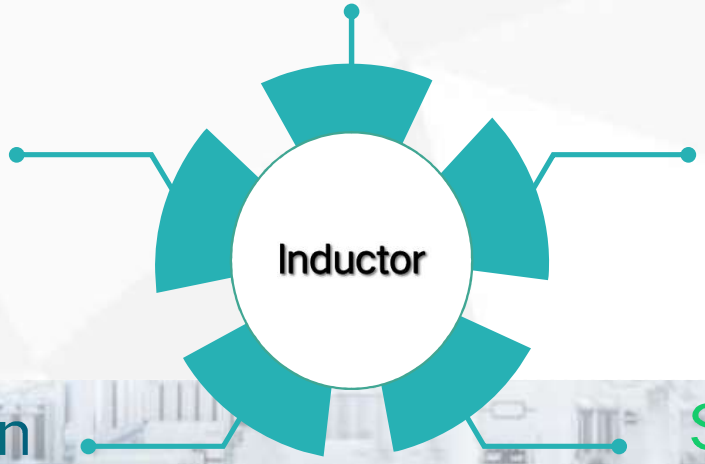
Key Advantages

Materials

Self develop powder material, flexible to provide high performance and low cost solutions

Manufacturing

42 years manufacturing management experience



Enterprise Power

A strong industry background to support sustainable development

Automation

Dedicated equipment automation team to achieve high precision and high production efficiency

Services

Technology+quality+delivery+sales professional

DMEGC R&D Innovation Platform

National R&D Platform

Industry first magnetic material post-doctoral scientific research station; nationally recognized magnetic material technology center, national model company of intellectual property rights, national science and technology innovation base, etc.

Provincial R&D Platform

DMEGC was recognized by Zhejiang Province as key enterprise institute in 2016

DMEGC's main role in social organizations

- Rotating chairman and vice chairman of China Electronic Components Industry Association
- Chairman of Magnetic Material and Components Branch of China Electronic Components Industry Association
- Vice chairman of China Electronic Materials Industry Association
- Chairman of New Materials IndustryTechnology Innovation Alliance of Yangtze River Delta G60 Science and Technology Innovation Corridor

DMEGC Technology Cooperation Platform

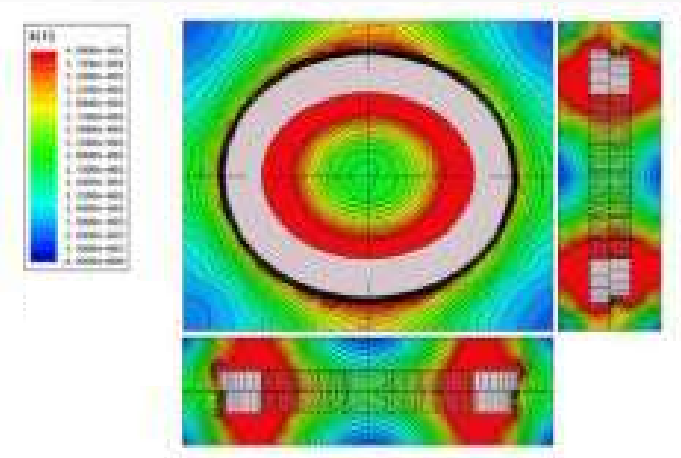
Powder Material Technology

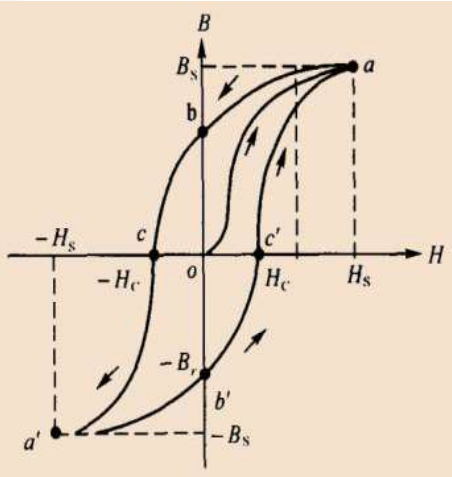
Category	Material system	Permeability(μ)	Bs(mT)	Core loss (@1M 20mT,mw/cm^3)
High Saturation	Amorphous / Carbonyl Fe	20~45	1400~2000	500~1200
Low Loss	Amorphous / Nanocrystalline	20~45	1000~1600	300~700
High Permeability & Low Loss	FeNi/FeSiAl	60~160	1000~2000	300~500

- ✓ A wide range of powders with excellent properties such as high permeability, high saturation and low loss.
- ✓ Self-make powder materials to achieve low cost.

R&D Technology

Part Number	L0	DCR (mOhm)		Idc(A)	Isat(A)
	(uH)	Typical	Max	Max	Max
DCYA0530A-R33M-C	0.33	2.9	3.4	14	16
DCYA0530A-1R0M-C	1.0	10	11.4	8.4	8.5
DCYA0530A-6R8M-C	6.80	61	70	3.3	4
DCYA0730A-R47M-C	0.47	3.7	4.14	13	17
DCYA0730A-2R2M-C	2.20	12.5	15.5	7.0	8.5
DCYA0730A-100M-C	10.0	65	75	3.3	4.4
DCYA1365A-1R0M-C	1.0	1.49	1.75	28	34
DCYA1365A-100M-C	10	15	17.2	8.3	13.5
DCYA1365A-330M-C	33	40.8	45	5	7.5





1.Customer Requirements
2.Maxwell design and optimize the coil
3.Material Requirement

According to the customer requirement, simulate the best coil design → Deduce U*H requirement of powder → Balance loss and other needs to select the best powder material.

Intelligent Manufacturing

Tooling Development in House

Full Automated Production

DMEGC Experiment Platform

Thermal Shock Cycling

High Temperature

Solderability

Salt Spray

RV ESD

Reflow

Biased Humidity

Mechanical Shock

Terminal Strength

Vibration

DMEGC Testing Platform

SEM Scanning Electron Microscope

OMEC Laser Particle Size Analyzer

B-H Tester

XRD Tester

ZSX100E Fluorescence Analyzer

TGA Analyzer

DSC Analyzer

TMA Tester