DELTA
Smarter. Greener. Together.

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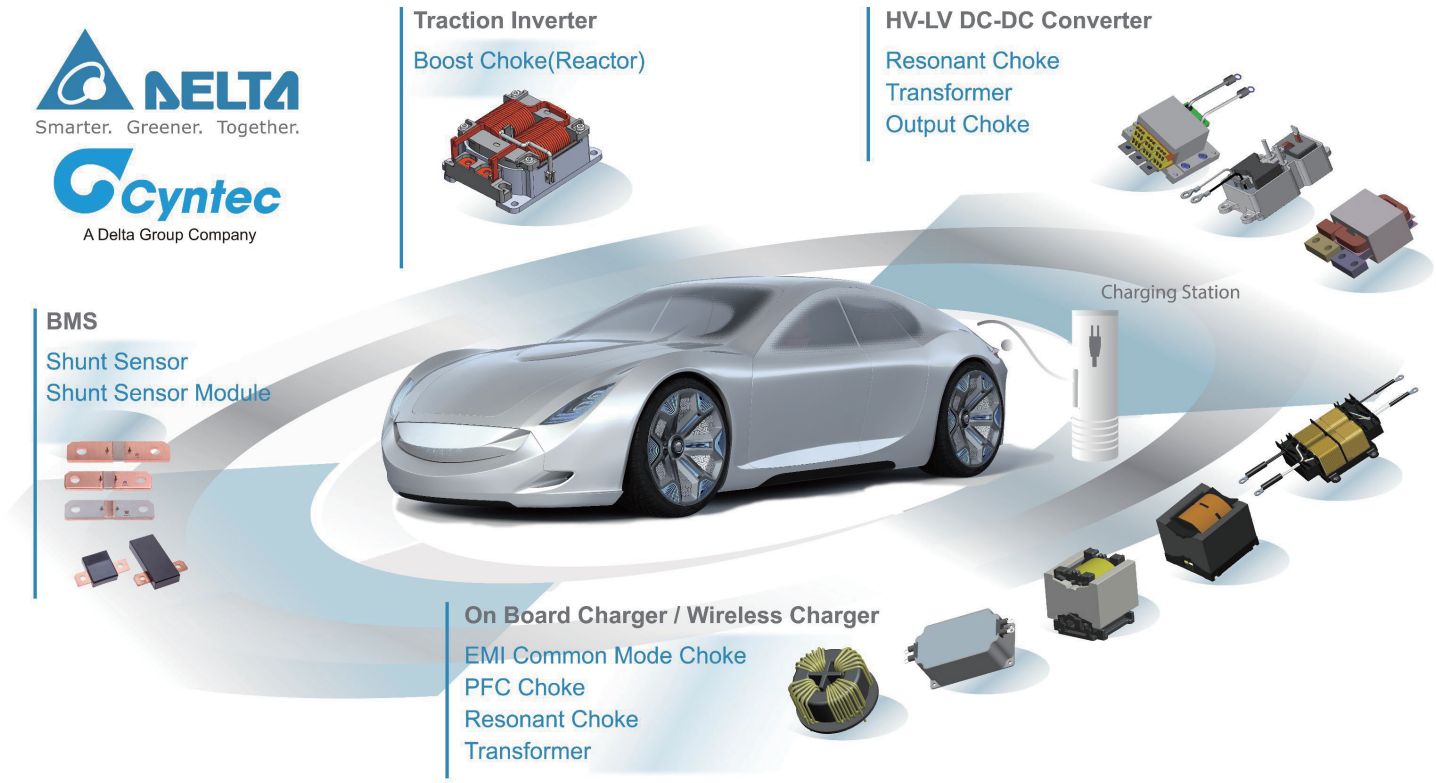
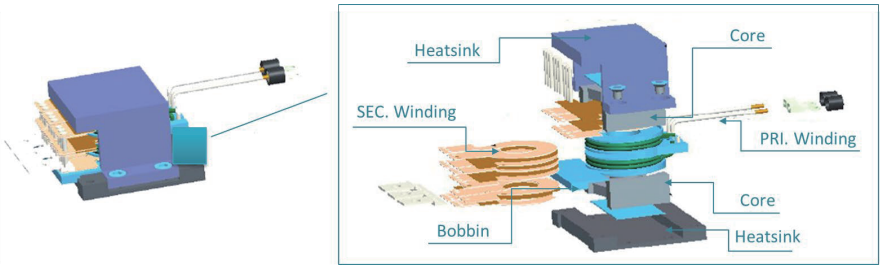


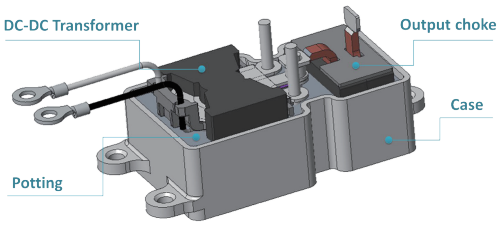
OBC / HV-LV DC-DC用高出力トランス

効率的な放熱を有するトランス/チョークモジュール

Hybrid winding configuration design with balanced current distribution among winding

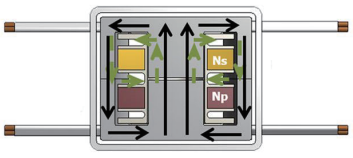


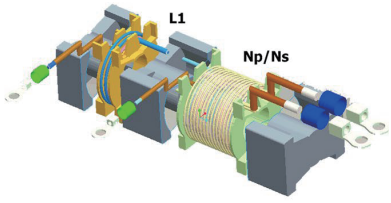
High power density integration with efficient and cost effective heat dissipation



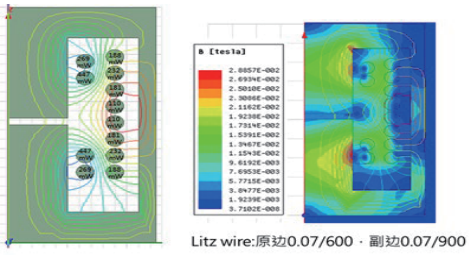
高効率の統合LLCトランス

High Leakage transformer design with sectional winding and controlled reluctance



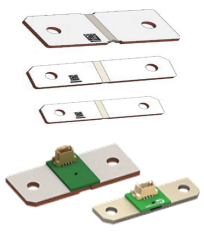


Winding configuration optimization to minimize high frequency copper loss



Litz wire:原边0.07/600 · 副边0.07/900

シャントセンサー　BMS（バッテリーマネージメントシステム）用



Series	Part Number	Dim (mm)		Power Rating(W)	Resistance Values(mΩ)	Resistance Tolerance	TCR (ppm/°C)
		L	W				
6918	VSMA6918SY	69.25	18.0	36	0.1	5%(J)	0.1mΩ: ±100
	VSPA6918SY	69.25	18.0	36	0.1	5%(J)	0.1mΩ: ±100
8420	VSMA8420SY	84.0	20.0	36	0.1 / 0.05	5%(J)	0.1mΩ: ±100 / 0.05 mΩ: ±150
	VSPA8420SY	84.0	20.0	36	0.1 / 0.05	5%(J)	0.1mΩ: ±100 / 0.05 mΩ: ±150
8436	VSMA8436SY	84.0	36.0	36	0.025	5%(J)	0.025mΩ: ±100
	VSPA8436SY	84.0	36.0	36	0.025	5%(J)	0.025mΩ: ±100

Contact window
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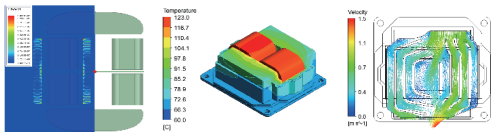
ブーストチョーク

Capabilities for Boost Choke



- Electrical design (Inductance, Isat, DCR, Winding & Core Loss)
- Thermal / Stress simulation
- Vibration / Noise simulation
- Mechanical / Safety design

- Alloy powder / Amorphous / Self-developed magnetic core
- B-H & μ-H curve / Core loss / Saturation flux density / Cost

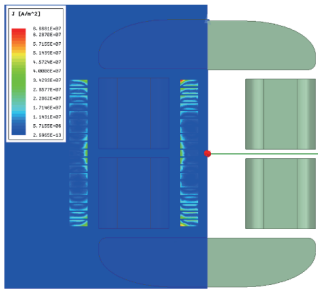
- Choke performance evaluation
- Noise evaluation
- Water cooling tester

- Edgewise winding
- Laser stripping / Arc welding
- Assembly / Termination
- Potting process / Varnish

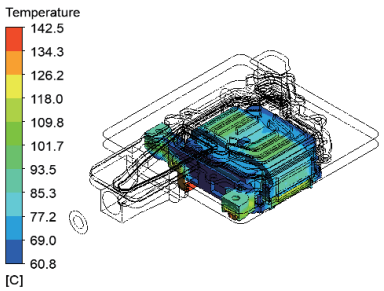
Multi-physics CAE Capabilities

Built up multi-physics (includes electrical, thermal, mechanical, and noise analysis) CAE capabilities for better reactor performance and robust design.

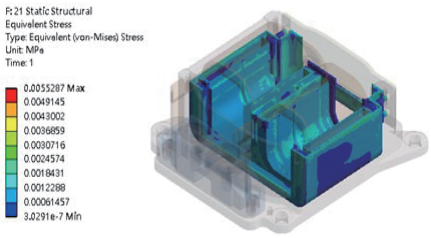
Magnetic Analysis



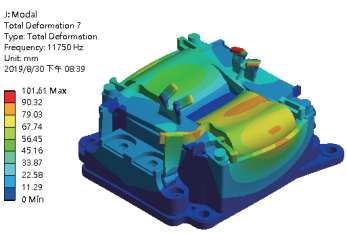
Thermal Analysis



Stress Analysis

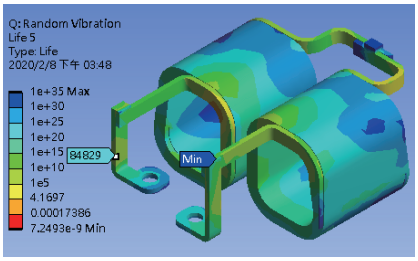


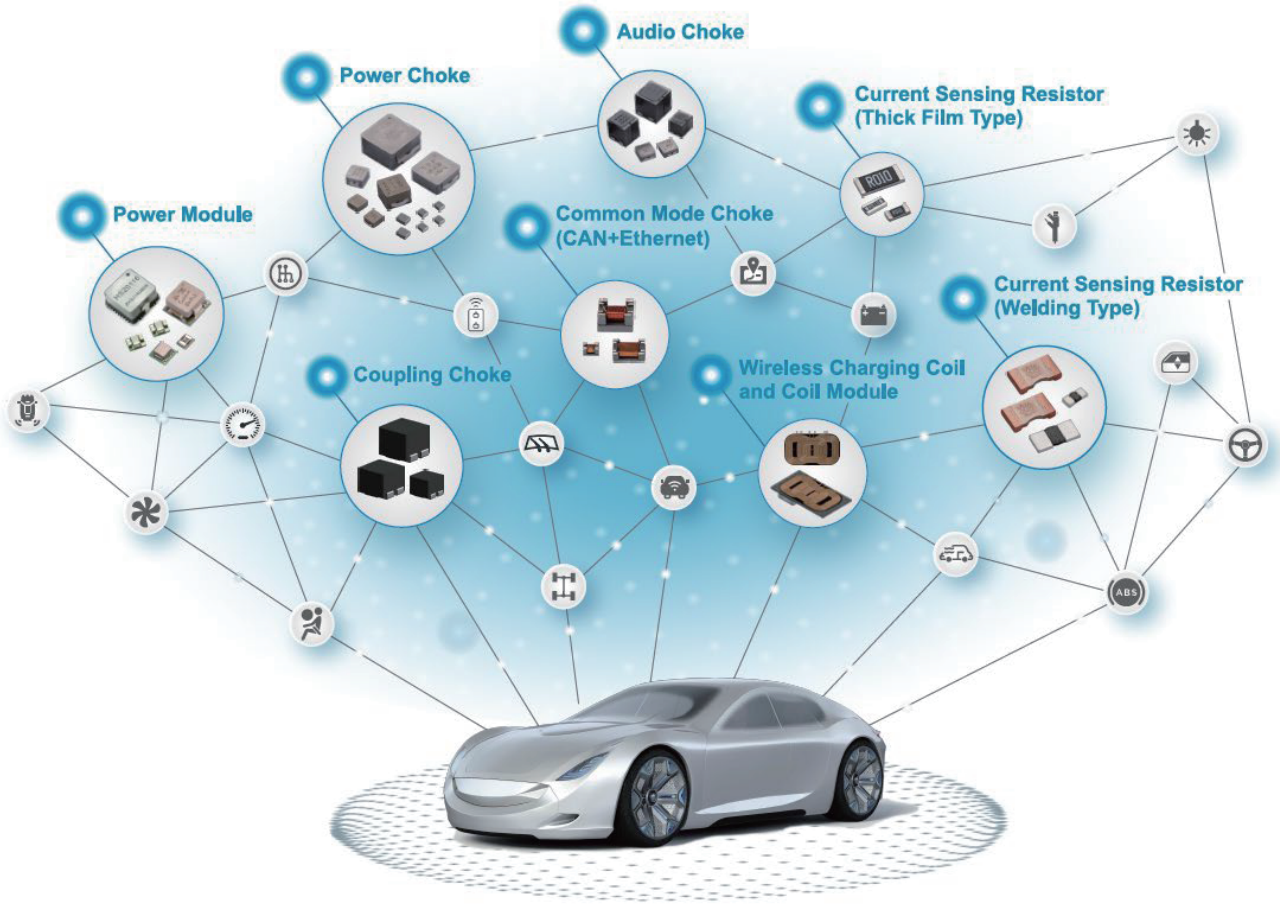
Vibration Analysis



Noise Analysis

Fatigue Analysis

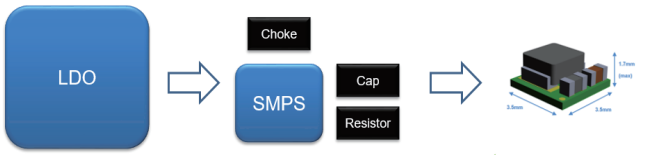




高度なパッケージング技術

省スペース

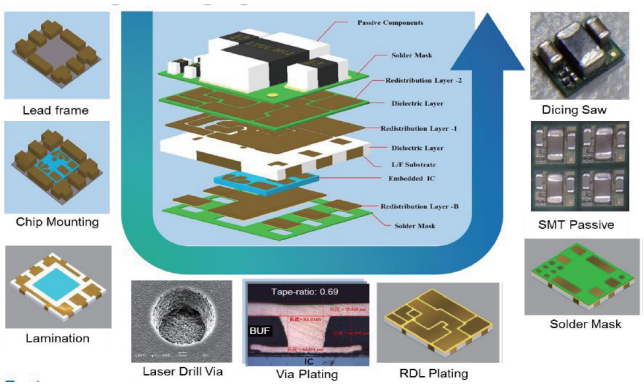
Linear Regulators → Switching Regulators → POL Power Modules



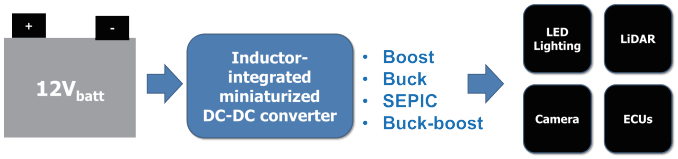
- Low efficiency
- Large size

- High efficiency
- More components
- More optimization effort

- High efficiency
- Integrated passives
- Optimized EE and thermal performance

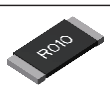


異なるトポロジーによる幅広いアプリケーション



Part Number	Size (mm)	Freq.	Vin	Vout	Iout
VUN12AD01-SH	3.5X3.5X1.7	0.42MHz	4.5-28.0V	3.0-8.5V	1.0Amp
VUN12AD02-KM	6.0X6.0X3.5	0.43MHz	4.0-36.0V	0.9-8.0V	2.0Amp
VUN12AD02-KMH	6.0X6.0X2.6	2.1MHz	4.0-36.0V	0.9-8.0V	2.0Amp
VUN12AD03-KM	6.0X6.0X3.5	0.43MHz	4.0-36.0V	0.9-5.0V	3.0Amp

電流検出抵抗

Welding Type (VSML Series)				
Size	1206	2512	2726	3922
				
Resistance	1 – 10 mΩ	0.3 - 10 mΩ	0.2 – 0.5 mΩ	0.2 - 4 mΩ
Power Rating	max to 1.5W	max to 6W	max to 12W	max to 9W

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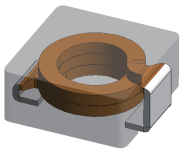
ADAS向け低インピーダンス高電流チョーク

Key Feature

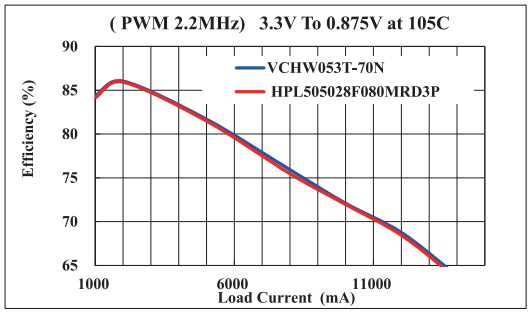
- Low DCR & High Saturation
- Better thermal stability
- Better conversion efficiency for CCM



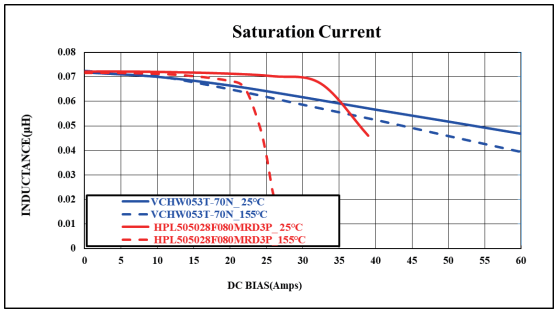
Sample available now!

Vendor	P/N	Value (nH)	Dimensions (Max.)	DCR (mOhm)		Idc (A)		Isat (A)		Max. Operating Tem (℃)
				Typ.	Max.	Typ.	Max.	Typ.	Max.	
T company	HPL505028F080MRD3P	80	5.2*5.2*2.8	0.8	0.88	34		36		155
Cyntec	VCHW053T-70NMS5	70	5.8*5.45*3.0	0.7	0.77	37	33	50	42	155

Efficiency test



Thermal stability

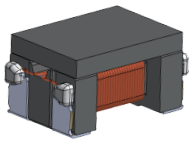


- ✓ Better efficiency at 105C by 0.4% over 10A.
- ✓ High saturated current for lower ripple and better transient response
- ✓ Better thermal stability

CAN＆Ethernet コモンモードチョーク

Key Feature

- Metal Lead Frame
- High Mechanical Reliability (Vibration, Shock, Temperature Cycle)
- Products for Different Protocols



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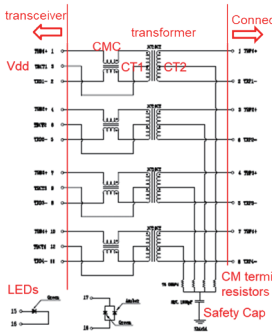
Standard	IEC62228-3 CiA 110		OPEN Alliance IEEE 802.3 xx		
Speed	Classical CAN	CAN-FD	Ethernet		
	<1Mbits	2Mbtis / 5MBits	10Base 10Mbits	100Base 100Mbits	1000Base 1Gbits
Products	VFB4532 Series	VFB3225 Series VFC3225 Series VFB4532-101V	VFC3225-131CB (under development)	VFE3225-201	VFE3225-800NB

Low Speed → High Speed

LANトランス　LC501AM

Chip LAN Transformer

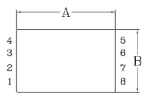
LAN Common Mode Choke



RJ-45 Integrated Connector Module

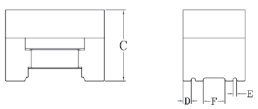
- Ethernet RJ45 Connector
- Automotive OBD Application
- 4 Pairs, 8 data lines
  1 CMC and 1 LAN Transformer in each pair
- AEC-Q200 compliance Products

Outline Dimension



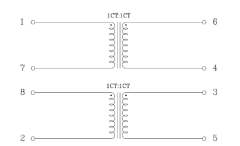
A = 6.70 MAX./0.264 MAX.
B = 4.40 MAX./0.173 MAX.
C = 4.60 MAX./0.181 MAX.
D = 0.62 MAX./0.024 MAX.
E = 0.41 MAX./0.016 MAX.
F = 1.50 MAX./0.059 MAX.

Note:
The dimensions had already passed incoming inspection, no need to check Cpk



Sample available now!

Schematic



Land Pattern Recommendation