パワーインダクタ
Power inductor

車載用パワーインダクタ CLF-D シリーズ
参考出品

Power inductor CLF-D series for automotive

- Magnetic shield type wound inductor for power circuits.
- It can be used at a wide temperature range. −55～+150°C (Including self-temperature rise)
- 1 to 470μH, wide E-6 Series lineup allows for various usages.

大電流、低抵抗薄膜ﾊﾟﾜｰｲﾝﾀﾞｸﾀ TFM-GHMｼﾘｰｽﾞ

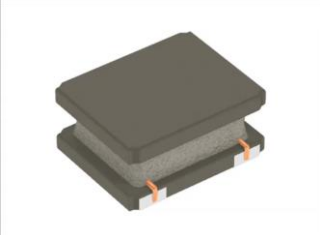
High current, low DCR thin film power inductor TFM-GHM series

- Small case size (2520 & 2016 [mm] Case size), Low Profile (1.0mm Max)
- Inductance line up 0.47uH ~ 2.2uH
- High DC Bias characteristics are realized with metal core.

金属磁性材料使用　巻線型ｲﾝﾀﾞｸﾀ VLS-HBXｼﾘｰｽﾞ

Wound inductor using a metallic magnetic material, VLS-HBX series

- Magnetic shield type wound inductor using a metallic magnetic material.
- Magnetically shielded configuration allowing for high-density mounting.
- The optimal structural design and metallic material was achieved high current, low Rdc, high efficiency.



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パワーインダクタ
Power inductor

参考出品

車載用パワーインダクタ New CLF-D シリーズ
Power inductor CLF-D series for automotive

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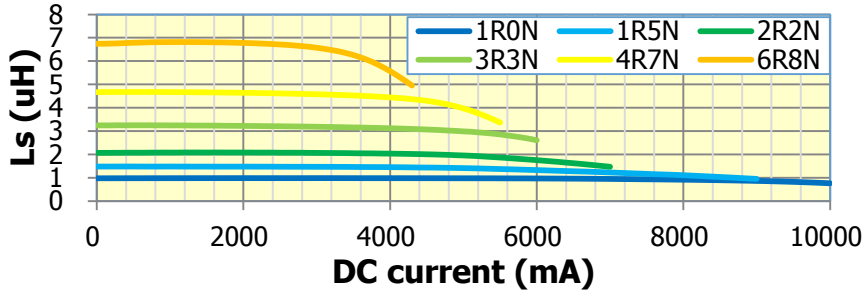
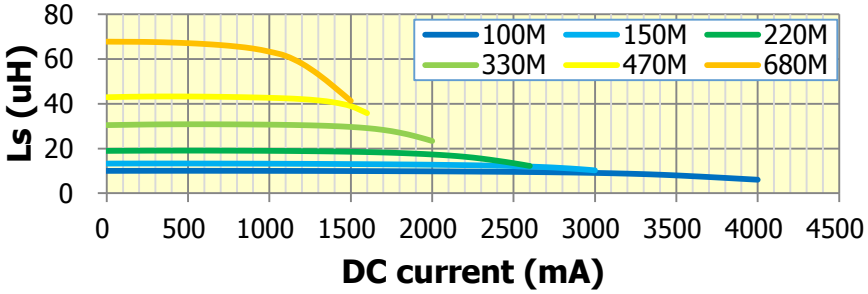
Major Applications

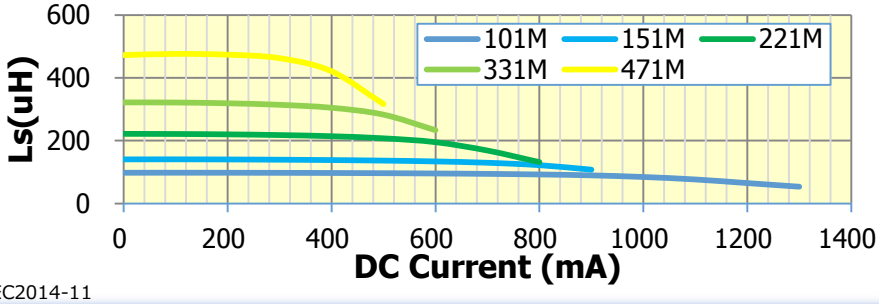
- Equipment used for automobiles (ECM, airbags, headlights, electronic power steering, meters, ABS, other)

Characteristics | Specifications | Examples

CLF7045NIT series　Inductance saturation curve







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Characteristics | Specifications | Examples

Product name	L at100kHz (uH)	RDC(Ω)	Idc1 (A)	Idc2 (A)
CLF7045NIT-1R0N-D	1.0 ±30%	0.009±30%	6.7	4.8
CLF7045NIT-1R5N-D	1.5 ±30%	0.010±30%	5.5	4.5
CLF7045NIT-2R2N-D	2.2 ±30%	0.013±30%	4.2	4.1
CLF7045NIT-3R3N-D	3.3 ±30%	0.016±30%	3.5	3.7
CLF7045NIT-4R7N-D	4.7 ±30%	0.018±30%	3.1	3.3
CLF7045NIT-6R8N-D	6.8 ±30%	0.022±30%	2.5	3.1
CLF7045NIT-100M-D	10 ±20%	0.033±20%	2.1	2.6
CLF7045NIT-150M-D	15 ±20%	0.048±20%	1.7	2.0
CLF7045NIT-220M-D	22 ±20%	0.069±20%	1.4	1.8
CLF7045NIT-330M-D	33 ±20%	0.097±20%	1.1	1.6
CLF7045NIT-470M-D	47 ±20%	0.130±20%	0.97	1.4
CLF7045NIT-680M-D	68 ±20%	0.170±20%	0.81	1.1
CLF7045NIT-101M-D	100 ±20%	0.270±20%	0.61	0.86
CLF7045NIT-151M-D	150 ±20%	0.450±20%	0.53	0.72
CLF7045NIT-221M-D	220 ±20%	0.630±20%	0.47	0.57
CLF7045NIT-331M-D	330 ±20%	0.800±20%	0.36	0.49
CLF7045NIT-471M-D	470 ±20%	1.200±20%	0.28	0.41

TDK Magnetics Business Group: 03-6852-7229

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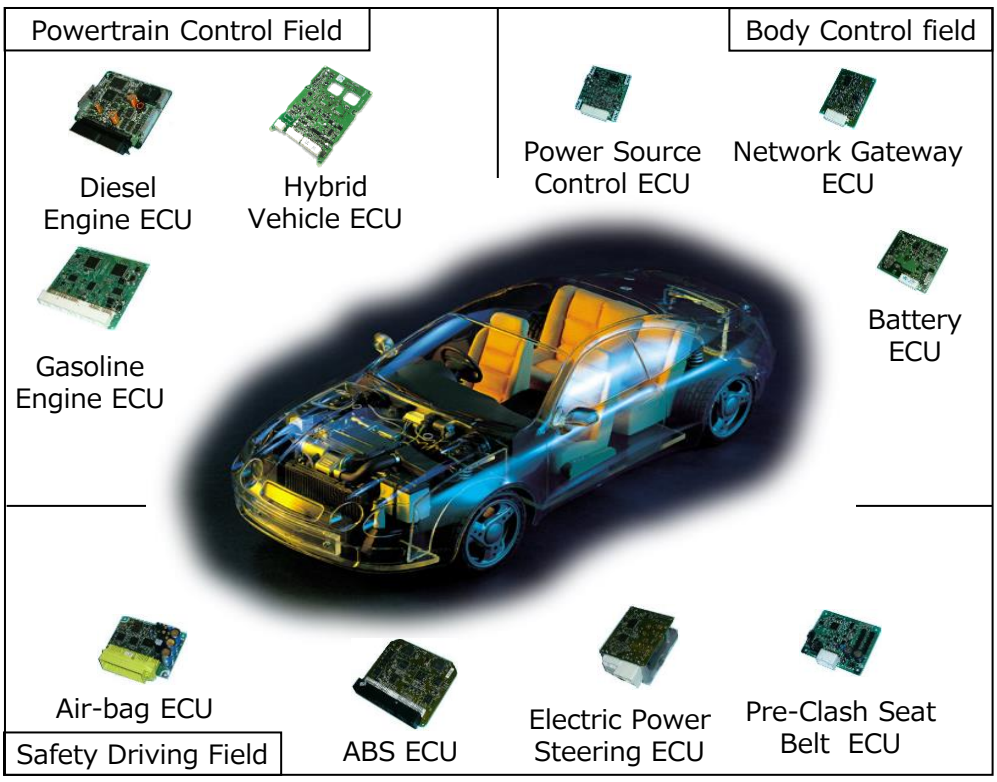
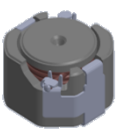
Characteristics | Specifications | Examples





CLF7045NIT

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High current, low DCR thin film power inductor TFM-GHM series

Features

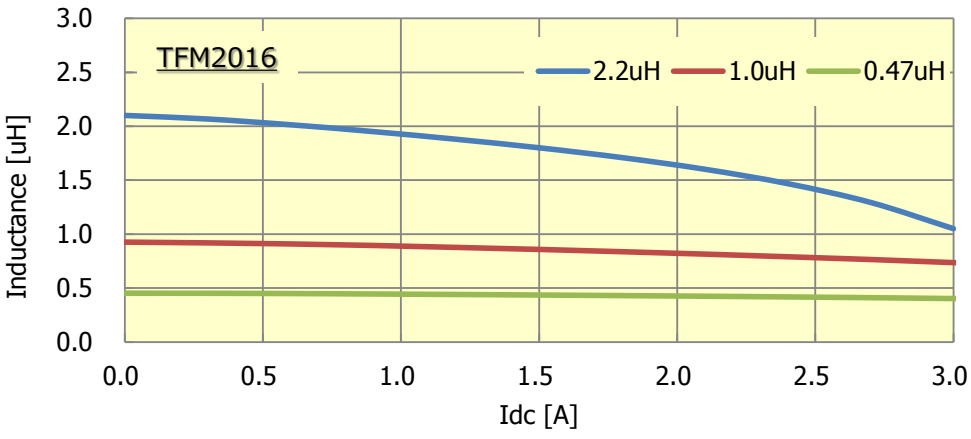
- Small case size (2520 & 2016 [mm] Case size), Low Profile (1.0mm Max)
- Inductance line up 0.47uH ~ 2.2uH
- High DC Bias characteristics are realized with metal core.

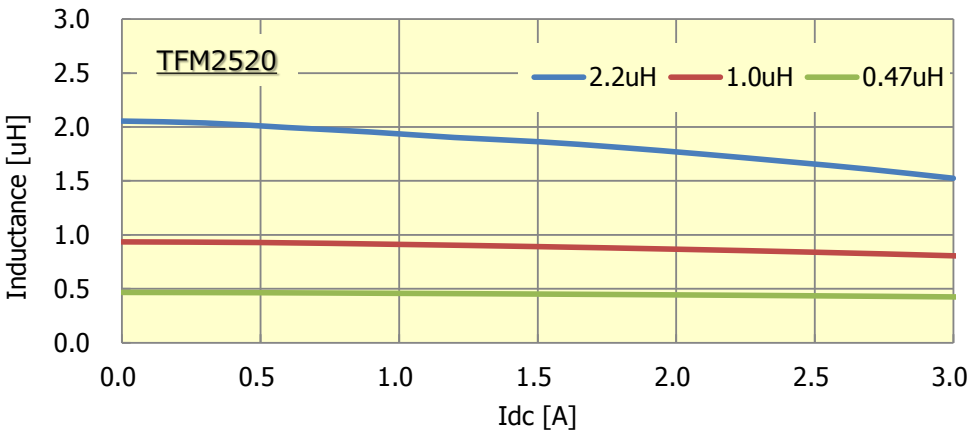
Major Applications

- Used for Smart phone, Tablet, etc
- For Power circuit module

Characteristics | Specifications | Examples

Inductance vs. DC Bias





TDK Magnetics Business Group: 03-6852-7229

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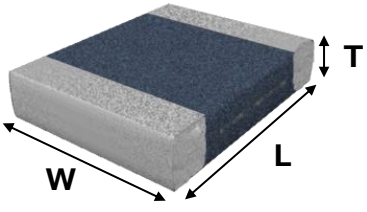
Characteristics | Specifications | Examples

Characteristics

Size [mm]	Identification	Inductance [uH]	DCR [mOhm]	Rated current	
				Idc-1 [A]	Idc2 [A]
2.0 x 1.6	TFM201610GHM-R47MTAA	0.47	32	5.0	3.9
	TFM201610GHM-1R0MTAA	1.0	50	3.8	3.1
	TFM201610GHM-2R2MTAA	2.2	142	2.6	1.9
2.5 x 2.0	TFM252010GHM-R47MTAA	0.47	20	4.8	4.6
	TFM252010GHM-1R0MTAA	1.0	45	4.0	3.2
	TFM252010GHM-2R2MTAA	2.2	85	3.5	2.3

Idc-1 : Depend on the Inductance Saturation. (-30% Reduction from Nominal value).
Idc-2 : Depend on the self temperature rise. (40deg.C Max.)

Dimensions



Size	L	W	T
2016	2.0 +/-0.2	1.6 +/-0.2	1.0 Max
2520	2.5 +/-0.2	2.0 +/-0.2	1.0 Max

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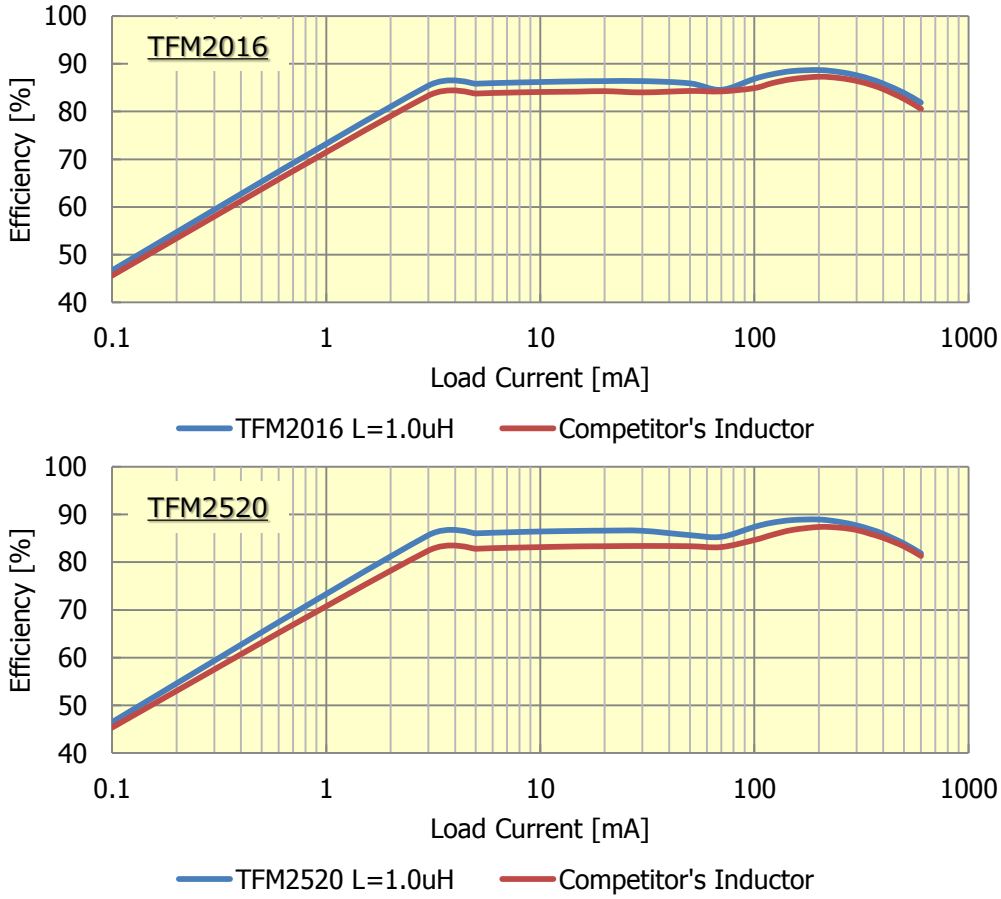
Characteristics | Specifications | Examples

Power circuit Efficiency data (3.7V In / 1.8V Out / 4MHz Switching)



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Power inductor

金属磁性材料使用　巻線型ｲﾝﾀﾞｸﾀ VLS-HBXｼﾘｰｽﾞ
Wound inductor using a metallic magnetic material, VLS-HBX series

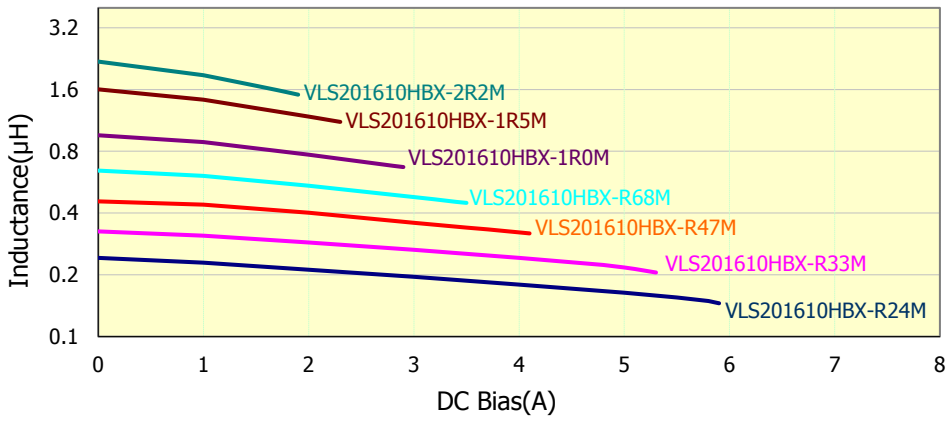
Features

- Magnetic shield type wound inductor using a metallic magnetic material.
- Magnetically shielded configuration allowing for high-density mounting.
- The optimal structural design and metallic material was achieved high current, low Rdc, high efficiency.

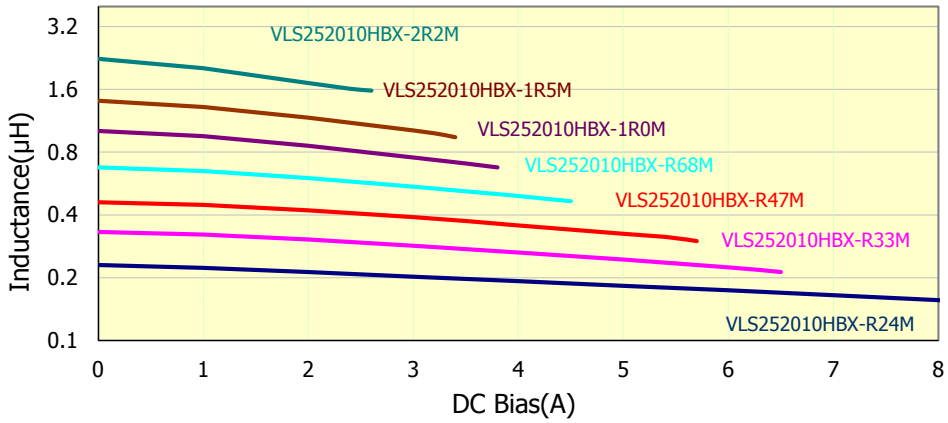
Major Applications

- Smart phones, tablet terminals
- Other portable device

Characteristics | Specifications | Examples



INDUCTANCE vs. DC BIAS CHARACTERISTICS



INDUCTANCE vs. DC BIAS CHARACTERISTICS

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Characteristics | Specifications | Examples

VLS201610HBX Electrical Characteristics

L		Test Freq. (MHz)	DC Resistance (Ω)		Rated DC Current*(A)				TDK Identification
					Idc1		Idc2		
(μH)	Tol.		max.	typ.	max.	typ.	max.	typ.	
0.24	±20%	1	0.030	0.023	4.81	5.15	3.74	4.40	VLS201610HBX-R24M
0.33	±20%	1	0.039	0.031	4.42	4.79	2.85	3.35	VLS201610HBX-R33M
0.47	±20%	1	0.041	0.034	3.50	4.00	2.81	3.30	VLS201610HBX-R47M
0.68	±20%	1	0.053	0.044	3.10	3.53	2.47	2.90	VLS201610HBX-R68M
1.0	±20%	1	0.072	0.060	2.50	2.90	2.13	2.50	VLS201610HBX-1R0M
1.5	±20%	1	0.116	0.097	2.00	2.20	1.63	1.92	VLS201610HBX-1R5M
2.2	±20%	1	0.170	0.142	1.70	1.90	1.45	1.70	VLS201610HBX-2R2M

*Rated DC current ; The lower value between Idc1 and Idc2
Idc 1 : Depend on the Inductance Saturation. (-30% Reduction from Initial L Value)
Idc 2 : Depend on the Self Temperature Rise (40deg.C Typ.)

VLS252010HBX Electrical Characteristics

L		Test Freq. (MHz)	DC Resistance (Ω)		Rated DC Current*(A)				TDK Identification
					Idc1		Idc2		
(μH)	Tol.		max.	typ.	max.	typ.	max.	typ.	
0.24	±20%	1	0.029	0.022	6.55	7.10	3.91	4.60	VLS252010HBX-R24M
0.33	±20%	1	0.031	0.025	5.03	5.46	3.74	4.40	VLS252010HBX-R33M
0.47	±20%	1	0.035	0.029	4.53	5.25	3.32	3.90	VLS252010HBX-R47M
0.68	±20%	1	0.048	0.040	3.62	4.17	2.98	3.50	VLS252010HBX-R68M
1.0	±20%	1	0.065	0.054	3.22	3.57	2.55	3.00	VLS252010HBX-1R0M
1.5	±20%	1	0.094	0.078	2.70	3.00	2.02	2.38	VLS252010HBX-1R5M
2.2	±20%	1	0.120	0.100	2.30	2.60	1.76	2.07	VLS252010HBX-2R2M

*Rated DC current ; The lower value between Idc1 and Idc2
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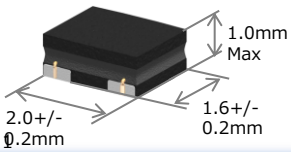
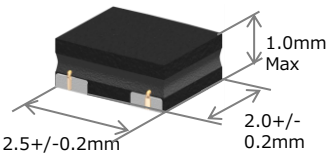
VLS201610HBX Dimensions



VLS252010HBX Dimensions



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Major Applications

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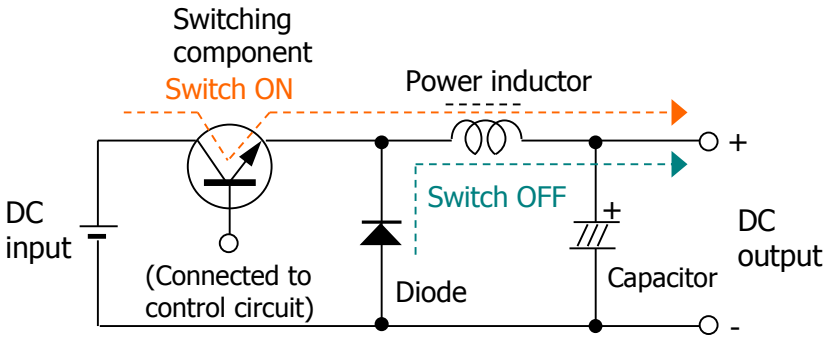
Characteristics | Specifications | Examples

- Power Inductor for DC-DC converter of the smartphone

Buck converter

Input voltage＞Output voltage



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