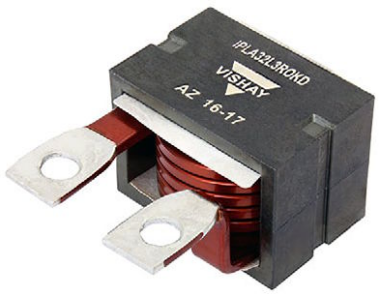
High Current Planar Choke Inductor



In addition to catalogue product presented here, many custom products have been engineered see on following page few examples.

FEATURES

- For high power density DC/DC converter application
- High current capabilities
- Very stable performances versus temperature
- Very compact design (low profile and weight)
- Low EMI, magnetically shielded
- High self-resonance frequency
- Recommended frequency range (100 kHz; 800 kHz)
- Operating temperature range: -55 °C; 125 °C with heatsink dissipation
- Flexible pin out design (tapped output terminals, layout, …)
- Material temperature grade: 180 °C
- Custom design on request

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

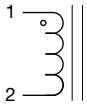
QUICK REFERENCE DATA	
Type	Inductor
Size (L x W x H)	31 mm x 43 mm x 22.2 mm
Terminals	Leadframe or wires
Inductance range (1)	1 µH to 4 µH (2)
Frequency range	100 kHz to 800 kHz

Notes

(1) Other values on request

(2) Please refer to “part number examples” table on the next page

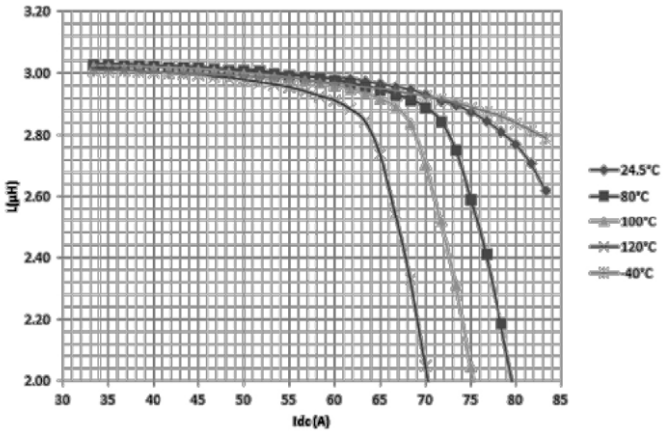
CLASSICAL FRAMEWORKS - Other topologies on request

L(1-2) 100 kH / 0.1 V	WINDING R_{DC} (1-2)	INSULATION: WINDING / CORE 500 V_{DC}	POWER LOSSES ASSESSMENT UNDER 70 A_{DC} AND WINDING AT 120 °C	ELECTRICAL SCHEME
3 µH ± 10 %	0.62 mΩ	R_i > 10 MΩ	3 W (1)	

Note

(1) **Caution:** power losses draining shall be managed by customer device

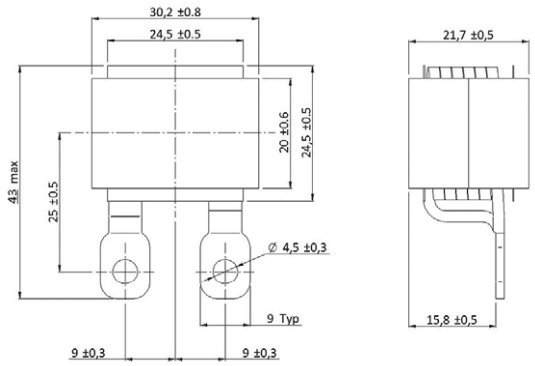
ELECTRICAL SCHEMES



TYPICAL THERMAL RESISTANCE

NATURAL CONVECTION	HEATSINK 1 FACE	HEATSINK 2 FACES
10.5 W/mK	4 W/mK	2 W/mK

MECHANICAL DIMENSIONS FOR IPLA32L (lead frames with smooth holes)



Note

- Standard model: lead frame with holes (not threaded)

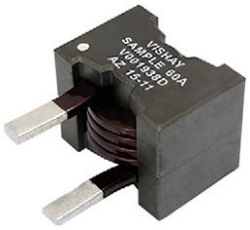
PART NUMBER EXAMPLES

PART NUMBER	L (µH)	*I* (A)	Δ*I* (A)	LOSS (W)	ΔT [1] (°C)
IPLA32L1R0KD	1	110	22	7	75
IPLA32L2R0KD	2	100	20	5.8	60
IPLA32L3R0KD	3	70	14	2.8	30
IPLA32L4R0KD	4	50	10	1.5	15

Note

[1] ΔT °C assessed with natural convection. When ΔT °C > 40 °C it's advised to use a fitted thermal device to keep core temperature ≤ 125 °C

EXAMPLES OF CUSTOM DESIGNS ALREADY ENGINEERED

Custom IPLA 32L (no holes in lead frame)	Custom IPLA 32L (special lead frame shapes)	IPLA 32N (threaded holes in lead frames)
		
3 µH / 45 A	3 µH / 70 A	3 µH / 140 A

SAP PART NUMBERING

MODEL	SIZE	STYLE	VALUE	RATIO	SPECIAL
4 digits **IPLA**	2 digits **32** = EC 32	1 digit **W** = wire **L** = leadframe **N** = leadframe with threaded nuts	3 digits **3R0** = 3 µH **101** = 100 µH **300** = 30 µH	1 digit **M** = ± 20 % **A** = ± 15 % **K** = ± 10 %	6 digits

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