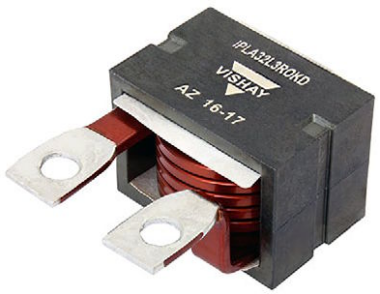
High Current Planar Choke Inductor



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

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

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

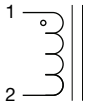
QUICK REFERENCE DATA	
Type	Inductor
Size (L x W x H)	31 mm x 43 mm x 22.2 mm
Terminals	Leadframe or wires
Inductance range (1)	1 µH to 4 µH (2)
Frequency range	100 kHz to 800 kHz

Notes

(1) Other values on request

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

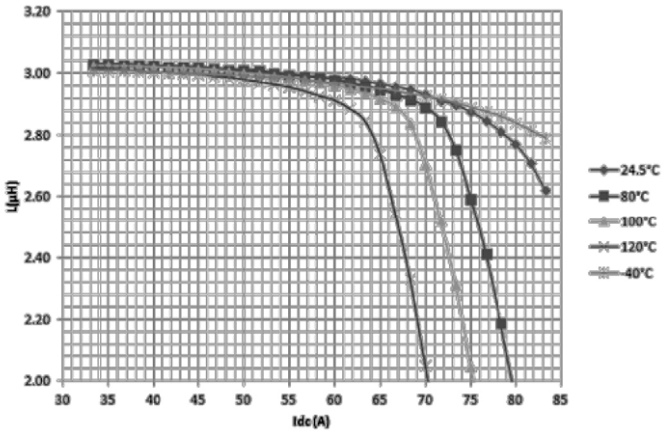
CLASSICAL FRAMEWORKS - Other topologies on request

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

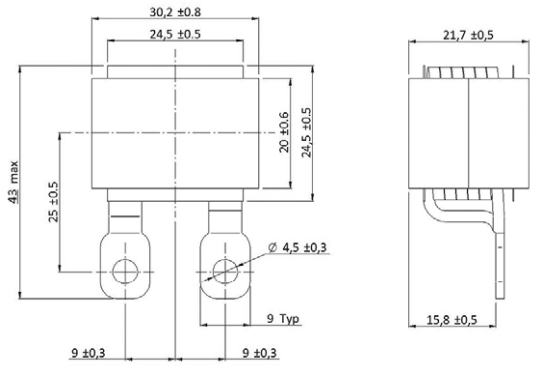
ELECTRICAL SCHEMES



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)

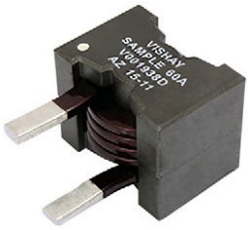
PART NUMBER EXAMPLES

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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