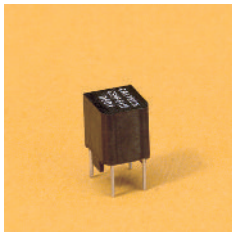
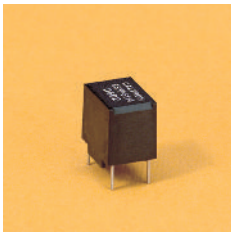
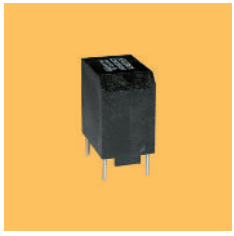
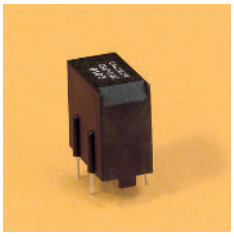
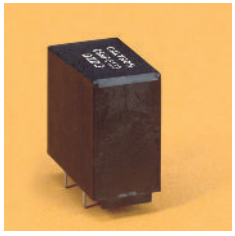
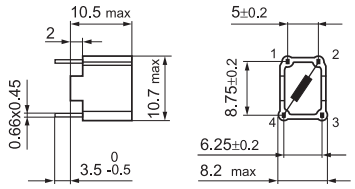






CSHP - 10, 14, 20, 22, 33 SERIES IN VERTICAL VERSION

Chokes in vertical version enable very space economising, compact printed circuit board assembly.
Storage chokes are used in switching power supplies (switch mode regulators) as intermediate energy storage.
These modern supply units offer fundamental advantages compared with older linear regulators:
small construction size, low power losses, good efficiency and best no load operation behaviour.
In order to achieve these advantages, only high quality materials must be used as toroidal core.
CALTRON storage chokes achieve their super qualities above all through the use of the special material Molypermalloy, an 80% nickel-iron compound. Compared with the iron powder core material the thermal behaviour at high switching frequencies (<200kHz) is excellent. The chokes have an almost constant inductance even with high alternating field modulation and high DC pre-magnetising current. The simple construction enables high performance parameters with low heat development and an optimum price-performance ratio. Four closed housings are complemented by one version in open structure.

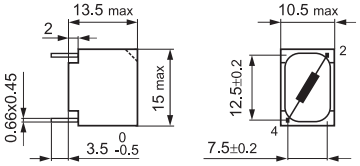
Nominal current	**: 0,63 ÷ 4A**
HF current ripple	**: ΔI = 20% I_N**
Inductance at I_N = 0	**: 15 ÷ 390 µH**
Inductance drop at I_N	**: max. 20%**
Max. operating voltage	**: U_R 600 V_{DC}**
Operating frequency	**: up to 200 kHz**
Test voltage	**: 2 kV_{AC} / 2s, wdg. to ambient**
Climatic class	**: 40/125/21 as per IEC 60068-1**
Inflammability	**: UL 94 V-0**

Case type 10



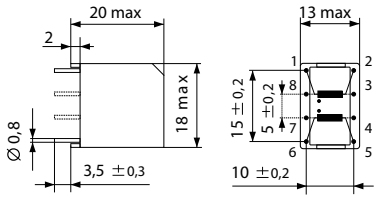
Type	I_N [A] @ ϑa 70°C	L_O [µH] ± 15%	R_{Cu} [mΩ] ± 10%	P_{loss} [W]	f_{res} [MHz] approx.
CSHP-6110-D6D1	0.63	100	550	0.2	10
CSHP-6110-01C4	1	39	280	0.3	18

Case type 14



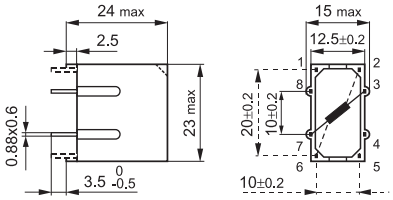
CSHP-6114-D6D2	0.63	150	300	0.1	7
CSHP-6114-01C6	1	56	100	0.1	12
CSHP-6114-02C2	2	15	27	0.1	31

Case type 20



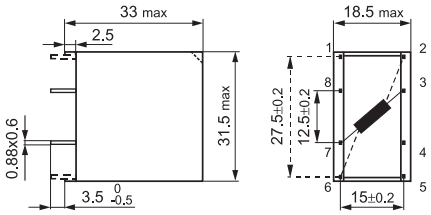
CSHP-6120-D6D5	0.63	470	360	0.2	3
CSHP-6120-01D1	1.3	120	92	0.2	6.5
CSHP-6120-02C5	2	47	37	0.2	12

Case type 22



CSHP-6122-01D2	1.3	220	160	0.3	4.5
CSHP-6122-02D1	2	100	75	0.3	6.5
CSHP-6122-03C4	3.15	39	32	0.3	14

Case type 33

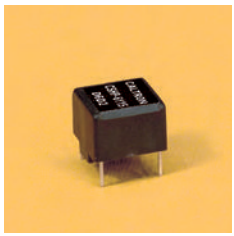
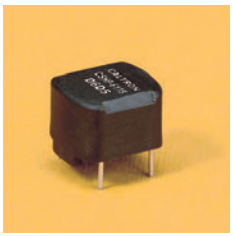
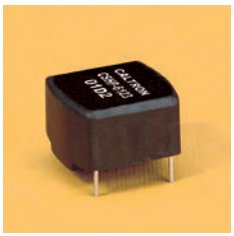
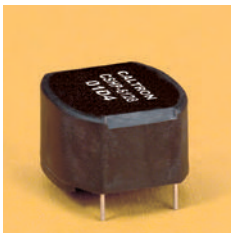


CSHP-6133-02D3	2	330	140	0.6	3.5
CSHP-6133-03D2	3.15	150	40	0.4	5
CSHP-6133-04D1	4	100	35	0.6	6.5

Current derating over 70°C: $I = I_N \cdot \sqrt{(125 - \vartheta a) / 55}$
L_O measured according to EN 60938-2
R_{Cu} measured at 25°C ambient temperature

SMD versions and customer-specific components on request

Energy Storage Chokes

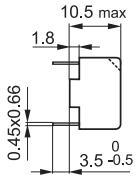





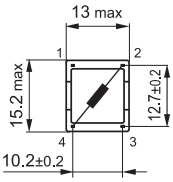
CSHP - 15, 18, 23, 28 SERIES IN HORIZONTAL VERSION

Chokes in horizontal version enable space economising, flat printed circuit board assembly.
Storage chokes are used in switching power supplies (switch mode regulators) as intermediate energy storage.
These modern supply units offer fundamental advantages compared with older linear regulators:
small construction size, low power losses, good efficiency and best no load operation behaviour.
In order to achieve these advantages only high quality materials must be used as toroidal core.
CALTRON storage chokes achieve their super qualities above all through the use of the special material Molypermalloy, an 80% nickel-iron compound. Compared with the iron powder core material the thermal conduct at high switching frequencies (<200kHz) is excellent. The chokes have an almost constant inductance even with high alternating field modulation and high DC pre-magnetising current. The simple construction enables high performance parameters with low heat development and an optimum price-performance ratio. The customer can select between four closed housings.

Nominal current	**: 0,63 ÷ 4A**
HF current ripple	**: ΔI = 20% I_N**
Inductance at I_N = 0	**: 39 ÷ 470 µH**
Inductance drop at I_N	**: max. 20%**
Max. operating voltage	**: U_R 600 V_{DC}**
Operating frequency	**: up to 200 kHz**
Test voltage	**: 2 kV_{AC} / 2s, wdg. to ambient**
Climatic class	**: 40/125/21 as per IEC 60068-1**
Flammability	**: UL 94 V-0**

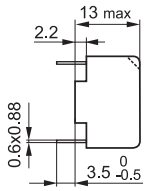
Case type 15

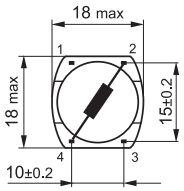




Type	I_N [A] @ ϑa 70°C	L_O [µH] ± 15%	R_{Cu} [mΩ] ± 10%	P_{loss} [W]	f_{res} [MHz] approx.
CSHP-6115-D6D2	0.63	150	300	0.1	6.5
CSHP-6115-01C6	1	56	100	0.1	11

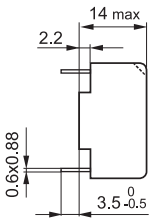
Case type 18

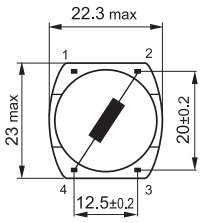




CSHP-6118-D6D5	0.63	470	360	0.2	3
CSHP-6118-01D1	1.3	120	92	0.2	6.5
CSHP-6118-02C5	2	47	37	0.2	12

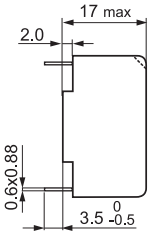
Case type 23

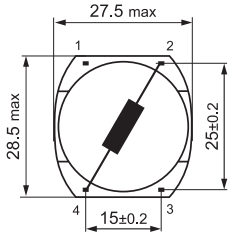




CSHP-6123-01D2	1.3	220	160	0.3	4.5
CSHP-6123-02D1	2	100	75	0.3	6.5
CSHP-6123-03C4	3.15	39	32	0.3	14

Case type 28

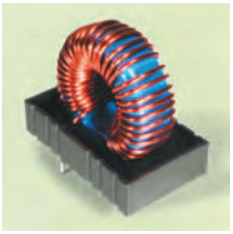




CSHP-6128-01D5	1.3	470	250	0.5	2.5
CSHP-6128-02D2	2	220	110	0.5	3.5
CSHP-6128-04C5	4	47	26	0.5	10

Current derating over 70°C: $I = I_N \cdot \sqrt{(125 - \vartheta a) / 55}$
L_O measured according to EN 60938-2
R_{Cu} measured at 25°C ambient temperature

SMD versions and customer-specific components on request



CSHT - 31 **OPTIMA SERIES**

General Information

Chokes in vertical version enable space economizing, compact printed circuit board assembly.
Storage chokes are used in switching power supply (switch mode regulators) as intermediate energy storage.
These modem supply units offer big advantages compared with older linear regulators:
Small construction size, low power losses, good efficiency and best no load operation behavior.
In order to achieve these advantages only high quality materials must be used as toroidal core.
CALTRON storage chokes achieve their super qualities above all through the use of the special material Molypermalloy, an 80% nickel-iron compound.
Compared with the iron powder core material the thermal behavior at high switching frequencies(<200 kHz) is excellent. The chokes have an almost constant inductance even with high alternating field modulation and high DC premagnetizing current.
The simple construction enables high performance parameters with low heat development and an optimum price/performance ratio.

Technical data

Type	I_N [A] @ ϑa 70°C	L_O [µH] ± 15%	R_{Cu} [mΩ] ± 10%	P_{loss} [W]	f_{res} [MHz] approx
CSHT-6131-02D3	2	390	155	0.6	3
CSHT-6131-03D2	3.15	180	55	0.6	5.5
CSHT-6131-04D1	4	120	37	0.6	7
CSHT-6131-06C4	6.3	39	16	0.6	15

Other ratings can be supplied upon request

HF-current ripple : ΔI max. 20% I
Inductance drop at I : approx. 20%
Climatic class(IEC 60068-1) : 40/125/21
Inflammability : UL 94 V-0

Current derating over 70°C: $I = I_N \cdot \sqrt{(125 - \vartheta a) / 55}$
L_O measured according to EN 60938-2
R_{Cu} measured at 25°C ambient temperature

Case Type 31