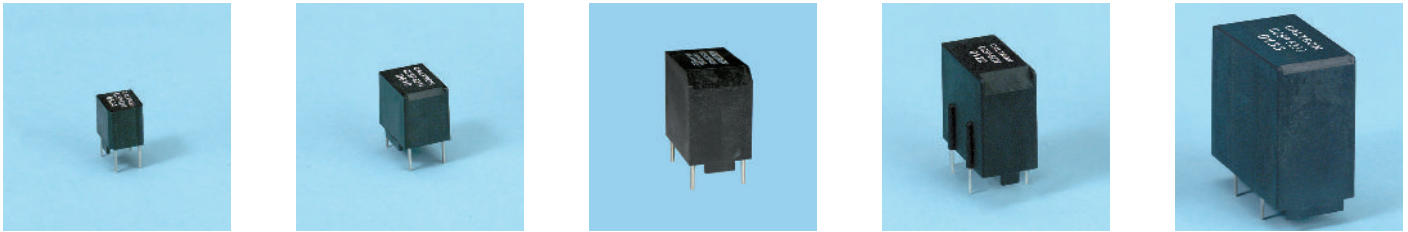


# CURRENT COMPENSATED INTERFERENCE SUPPRESSION CHOKES



## CCSP - 10, 14, 20, 22, 33

## SERIES IN VERTICAL VERSION

Chokes in vertical version enable a very space economising, compact structure on the printed circuit board.

All choke types comply with the guidelines of EN 60938-2 and also bear the test label.

In combination with suitable capacitors, high quality interference suppression filters against parasite interference influences are achieved.

Main application fields are:

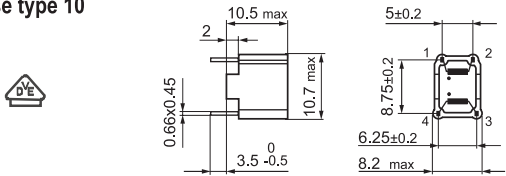
general purpose filtering of parasite disturbance factors, above all with asymmetric interferences e.g. in frequency converters, switch mode power supplies, automotive electronics, etc.

Optimum adaptation of core materials and technical design guarantee the best possible compliance with the world-wide high requirements with the smallest volume.

The simple construction enables high performance parameters with the smallest heat development and an optimum price-performance ratio. Four closed housings are complemented by one version in open structure.

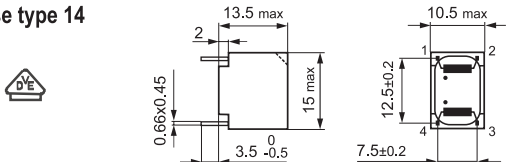
<b>Nominal current</b>	: 0,5 ÷ 6A
<b>Nominal inductance</b>	: 0,5 ÷ 39 mH
<b>Max. operating voltage</b>	: UR (See table)
<b>Test voltage</b>	: 1.8 kVAC / 2s, wdg. to wdg. (1,5 kVAC for 6210 type) 2 kVAC / 2s, wdg. to ambient
<b>Operating frequency</b>	: DC to 400 Hz
<b>Climatic class</b>	: 25/100/21 as per IEC 60068-1
<b>Inflammability</b>	: UL 94 V-0

### Case type 10



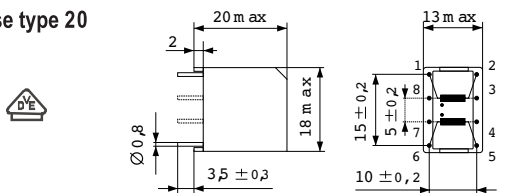
Type	I <sub>N</sub> [A] @ 9a 40°C	L <sub>N</sub> [mH] -30/+50%	R <sub>Cu</sub> [mΩ] ± 10%	P <sub>loss</sub> [W]	f <sub>res</sub> [MHz] approx.	UR [VAC]
CCSP-6210-D504	0.5	2 x 3.9	2 x 500	0.3	1.2	250
CCSP-6210-0102	0.9	2 x 2	2 x 240	0.4	1.6	250
CCSP-6210-02D5	2	2 x 0.5	2 x 50	0.4	4.5	250

### Case type 14



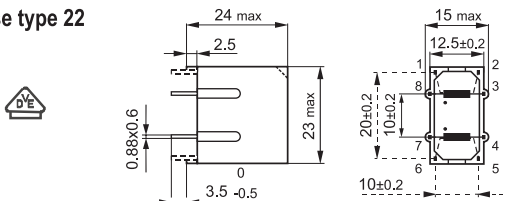
CCSP-6214-D610	0.63	2 x 10	2 x 570	0.4	0.5	250
CCSP-6214-0104	1	2 x 3.9	2 x 250	0.5	1.2	250
CCSP-6214-0201	2	2 x 1	2 x 65	0.5	2.5	250

### Case type 20



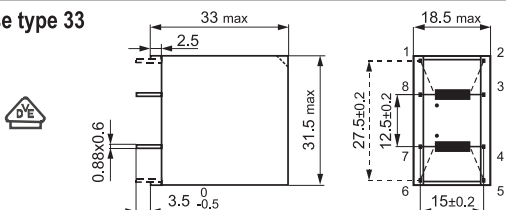
CCSP-C220-D327	0.3	2 x 27	2 x 2000	0.40	0.2	250
CCSP-C220-0107	1.2	2 x 6.8	2 x 260	0.75	0.8	250
CCSP-C220-0204	2.0	2 x 3.9	2 x 80	0.64	1.2	250

### Case type 22



CCSP-6222-0122	1	2 x 22	2 x 500	1	0.3	250
CCSP-6222-0206	2	2 x 5.6	2 x 140	1.1	0.6	250
CCSP-6222-0402	4	2 x 1.5	2 x 36	1.2	1.5	250

### Case type 33



CCSP-6233-0133	1	2 x 33	2 x 700	1.4	0.3	250
CCSP-6233-0207	2	2 x 6.8	2 x 150	1.2	0.5	250
CCSP-6233-0602	6	2 x 2	2 x 24	1.8	1.2	250

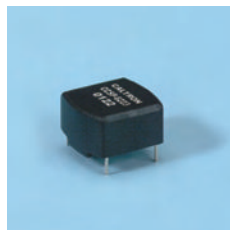
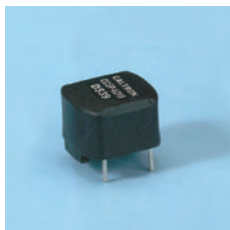
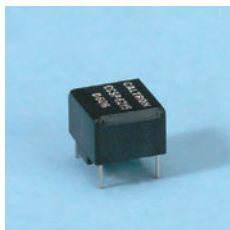
Current derating over 40°C:  $I = I_N \cdot \sqrt{(100 - 9a) / 100}$

L<sub>N</sub> measured according to EN 60938-2

R<sub>Cu</sub> measured at 25°C ambient temperature

SMD versions and customer-specific components on request

# CURRENT COMPENSATED INTERFERENCE SUPPRESSION CHOKES



## CCSP - 15, 18, 23, 28

## SERIES IN HORIZONTAL VERSION

Chokes in horizontal version enable space economising, flat printed circuit board assembly.

All choke types conform to the guidelines of EN 60938-2 and also bear the test label.

In combination with suitable capacitors, high quality interference suppression filters against parasite interference influences are achieved.

Main application fields are:

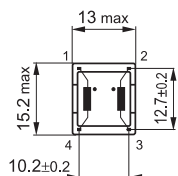
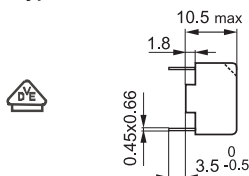
general purpose filtering of parasite disturbance factors, above all with asymmetric interferences e.g. in frequency converters, switch mode power supplies, automotive electronics, etc.

Optimum adaptation of core materials and technical design guarantee the best possible compliance with the world-wide high requirements with the smallest volume.

The simple construction enables high performance parameters with the smallest heat development and an optimum price-performance ratio. The customer has a choice of four closed housings.

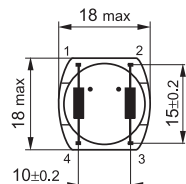
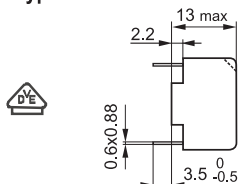
<b>Nominal current</b>	: 0,5 ÷ 4A
<b>Nominal inductance</b>	: 0,5 ÷ 39 mH
<b>Max. operating voltage</b>	: UR (See table)
<b>Test voltage</b>	: 1,8 kVAC / 2s, wdg. to wdg. 2 kVAC / 2s, wdg. to ambient
<b>Operating frequency</b>	: DC to 400 Hz
<b>Climatic class</b>	: 25/100/21 as per IEC 60068-1
<b>Inflammability</b>	: UL 94 V-0

### Case type 15



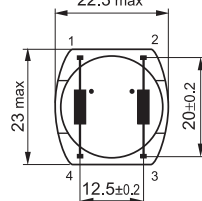
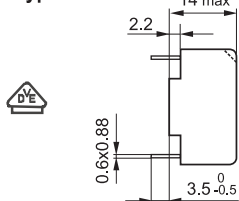
Type	$I_N$ [A] @ 9a 40°C	$L_N$ [mH] -30/+50%	$R_{Cu}$ [mΩ] ± 10%	$P_{loss}$ [W]	$f_{res}$ [MHz] approx.	UR [VAC]
CCSP-6215-D606	0.63	2 x 5.6	2 x 380	0.3	0.8	250
CCSP-6215-0103	1	2 x 3.3	2 x 240	0.5	1.2	250
CCSP-6215-0201	1.5	2 x 1	2 x 90	0.4	2.5	250

### Case type 18



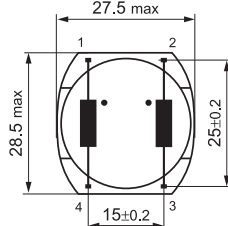
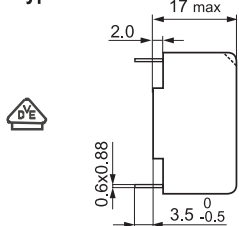
CCSP-6218-D539	0.5	2 x 39	2 x 1200	0.6	0.1	250
CCSP-C218-0107	1.2	2 x 6.8	2 x 200	0.58	0.8	250
CCSP-6218-0203	1.5	2 x 3.3	2 x 110	0.5	1.2	250
CCSP-6218-04D7	4	2 x 0.7	2 x 18	0.6	2.5	250

### Case type 23



CCSP-6223-0122	1	2 x 22	2 x 500	1	0.3	250
CCSP-6223-0206	2	2 x 5.6	2 x 140	1.1	0.6	250
CCSP-6223-0402	4	2 x 1.5	2 x 36	1.2	1.5	250

### Case type 28



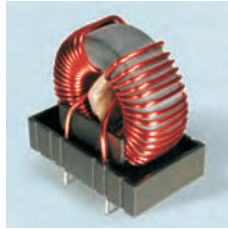
CCSP-6228-0127	1	2 x 27	2 x 400	0.8	0.1	250
CCSP-6228-0207	2	2 x 6.8	2 x 120	1	0.3	250
CCSP-6228-0403	4	2 x 2.7	2 x 48	1.5	0.5	250

Current derating over 40°C:  $I = I_N \cdot \sqrt{(100 - 9a) / 60}$

$L_N$  measured according to EN 60938-2

$R_{Cu}$  measured at 25°C ambient temperature

SMD versions and customer-specific components on request



**CCST - 31**

**OPTIMA SERIES**

## General Information

Chokes in vertical version enable a very space economizing, compact structure on the printed circuit board. All choke types comply with the guidelines of EN 60938-2.

In combination with suitable capacitors, high quality interference suppression filters against parasite interference influences are achieved.

Main application fields are:

General purpose filtering of parasite disturbance factors, above all with symmetric interferences in frequency converters, switch mode power suppliers, automotive electronics, etc.

Optimum adaption of core materials and technical design guarantee the best possible compliance to the world wide high requirement with the smallest volume.

The simple construction enables high performance parameters with the smallest heat development and an optimum price-performance ratio.

## Technical data

Type	$I_N$ [A] @ 9a 40°C	$L_N$ [mH] -30/+50%	$R_{Cu}$ [mΩ] ± 10%	$P_{loss}$ [W]	$f_{res}$ [MHz] approx.	$U_R$ [VAC]
CCST-6231-0139	1	2 x 39	2 x 690	1.4	0.08	440
CCST-6231-0210	2	2 x 10	2 x 220	1.8	0.25	440
CCST-6231-0602	6	2 x 2.2	2 x 27	1.9	1.2	440
CCST-6231-0801	8	2 x 1.2	2 x 16	2	1.6	440

Other ratings can be supplied upon request

Test voltage wdg.- wdg. : U 1800 Vac/2s  
 Operating frequency : DC to 400kHz  
 Climatic class(IEC60068- 1) : 25/100/21  
 Inflammability : UL 94 V- 0

Current derating over 40°C:  $I = I_N \cdot \sqrt{(100 - 9a) / 60}$   
 $L_N$  measured according to EN 60938-2  
 $R_{Cu}$  measured at 25°C ambient temperature

## Case Type 31

