CHB Series

RF & Microwave Capacitors, RoHS Compliant

DESCRIPTION

Low ESR, Ultra High-Q
Highest working voltage in class - 1'500V
Porcelain Capacitors
Laser Marked (optional)
High Self-Resonance Frequencies

APPLICATIONS

- Cellular Base Station Amplifiers
- Industrial
- Medical (MRI)
- Scientific

CIRCUIT APPLICATIONS

- DC to RF Conversion
- Matching Networks
- Tuning, Coupling and DC Blocking

I. ELECTRICAL SPECIFICATIONS

Parameter	*Value*
Capacitance	0.1 to 1'000 pF
Tolerances	A, B, C, D below 10 pF F, G, J, K, M above 10 pF
Working Voltage (WVDC)	see Capacitance Value chart
Temperature Coefficient	100 +/-30ppm/°C, -55°C to +125°C
Insulation Resistance	10^6 MΩ min
Dielectric Withstanding (test voltage applied for 5 seconds)	2.5 x WVDC for WVDC ≤ 500V 1.5 x WVDC for 500V < WVDC
Aging	none
Piezo Effects	none

NB: the temperature range for the CHB up to 100pF is upgraded from +125°C to +175°C.

II. MECHANICAL SPECIFICATIONS

Parameter	*Value*	*Comment*
Case Size	B	1111

NB:
- all the terminations are backward compatible and lead-free.
- the non-magnetic terminations are all Magnetism-free Rated.

MR certified®

ITAR Free®

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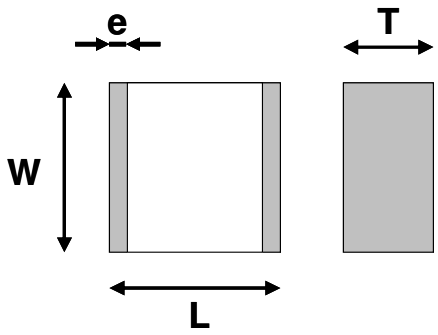
Termination Type	Code	CHB
Standard (tin-plated nickel)	S	**AVAILABLE**
Non-magnetic (tin-plated copper)	C	**AVAILABLE**

III. ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Life Test	2'000 hours, +125°C at 2.0 x WVDC (standard WVDC range)
Moisture Resistance Test 1	240 hours, 85% relative humidity at +85°C (ESA/SCC n°3009)
Moisture Resistance Test 2	56 days, 93% relative humidity at +40°C 0V, 5V, WVDC

IV. OUTLINE DIMENSIONS

Parameter	B (1111)
Length (L)	2.80 ±0.40mm
Width (W)	2.80 ±0.40mm
Thickness (T)	2.60 mm (max.)
End-Band (e)	0.40 ±0.25mm



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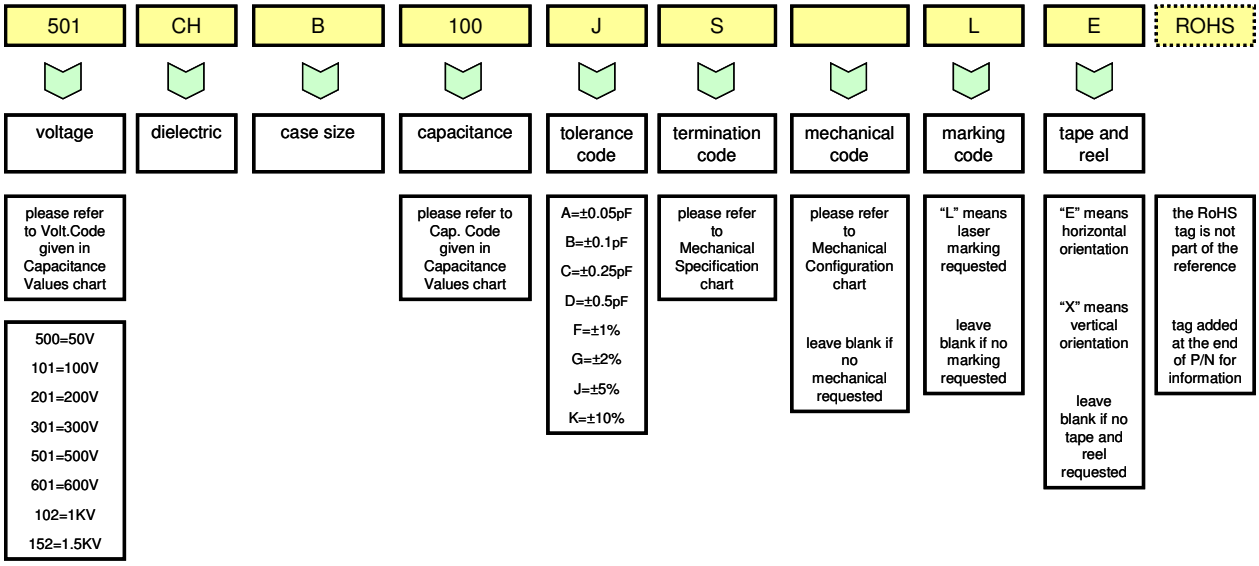
V. How to order



NB: for capacitance values lower than 10pF, tolerances A, B, C and D apply. For capacitance values equal to or higher than 10pF, tolerances F, G, J and K apply;

VI. Tape and Reel

The following chart gives the number of components per reel.

	CHB
Parts per Reel	1'000

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VII. CAPACITANCE VALUES

Value (pF)	Cap. Code	B (1111)		Value (pF)	Cap. Code	B (1111)	
		Standard	Extended			Standard	Extended
0.1	0R1	500V	1500V	18	180	500V	1500V
0.2	0R2			20	200		
0.3	0R3			22	220		
0.4	0R4			24	240		
0.5	0R5			27	270		
0.6	0R6			30	300		
0.7	0R7			33	330		
0.8	0R8			36	360		
0.9	0R9			39	390		
1.0	1R0			43	430		
1.1	1R1			47	470		
1.2	1R2			51	510		
1.3	1R3			56	560		
1.4	1R4			62	620		
1.5	1R5			68	680		
1.6	1R6			75	750		
1.7	1R7			82	820		
1.8	1R8			91	910		
1.9	1R9			100	101		
2.0	2R0			110	111		
2.1	2R1			120	121	300V	1000V
2.2	2R2			130	131		
2.4	2R4			150	151		
2.7	2R7			160	161		
3.0	3R0			180	181		
3.3	3R3			200	201		
3.6	3R6			220	221		
3.9	3R9			240	241	200V	600V
4.3	4R3			270	271		
4.7	4R7			300	301		
5.1	5R1			330	331		
5.6	5R6			360	361		
6.2	6R2			390	391		
6.8	6R8			430	431		
7.5	7R5			470	471		
8.2	8R2			510	511	100V	300V
9.1	9R1			560	561		
10	100			620	621		
11	110			680	681	50V	
12	120			750	751		
13	130			820	821		
15	150			910	911		
16	160			1 000	102		

NB: special values, tolerances, higher WVDC and matching available, please consult factory. Dielectric withstanding test is done at 1.8 x WVDC for Extended Range values ≥ 820pF.

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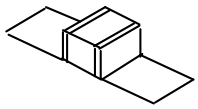
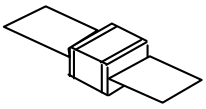
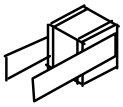
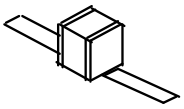
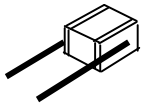
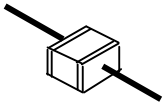
VIII. MECHANICAL CONFIGURATIONS

VIII.1. Lead/Ribbon and Wire Types

Configuration Type	Code	Description
	1	Micro-strip Ribbon
	2	Axial Ribbon
	3	Radial Ribbon
	5	Narrow Micro-strip Ribbon
	6	Radial Wire
	7	Axial Wire

NB: when coding ribbons or wires for the description of the part, the termination has to be mentioned for $MR_{certified}$ types to ensure that only non-magnetic materials are used.

Examples : 501 CHB 470 J1L any termination material could be used
501 CHB 470 JC1L only non-magnetic termination materials could be used

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VIII.2. Lead/Ribbon and Wire Matrix

Termination Type	Code	CHB
Micro-strip Ribbon	1	**AVAILABLE**
Axial Ribbon	2	**AVAILABLE**
Radial Ribbon	3	**AVAILABLE**
Narrow Micro-strip Ribbon	5	**AVAILABLE**
Radial Wire	6	**AVAILABLE**
Axial Wire	7	**AVAILABLE**

VIII.3. Lead/Ribbon and Wire Dimensions

Within each cell, first the length and then the width/diameter of any single ribbon or wire are given.

Termination Type	Code	CHB
Micro-strip Ribbon	1	8.00 2.40
Axial Ribbon	2	8.00 2.40
Radial Ribbon	3	8.00 2.40
Narrow Micro-strip Ribbon	5	8.00 1.27
Radial Wire	6	20.00 0.60
Axial Wire	7	20.00 0.60

NB: dimensions are in mm, length is the minimum value.

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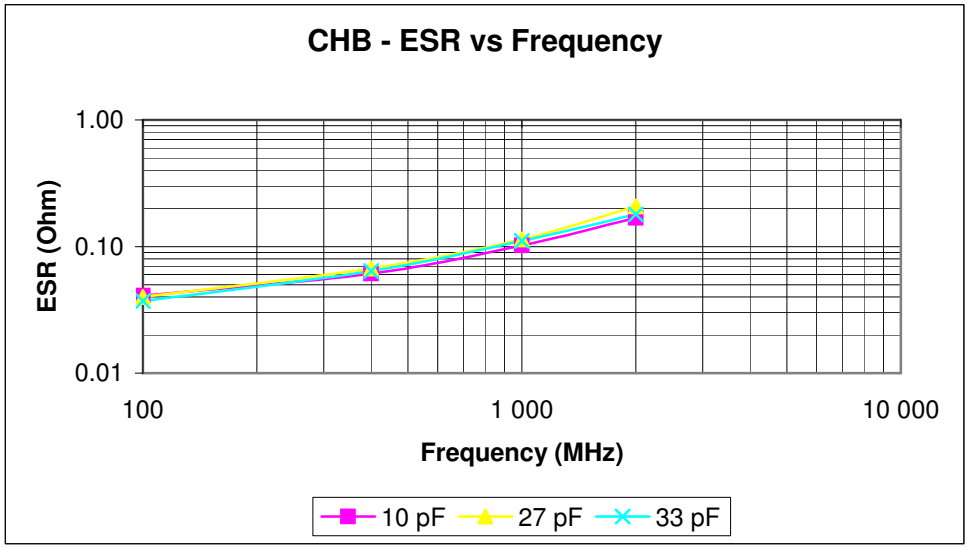
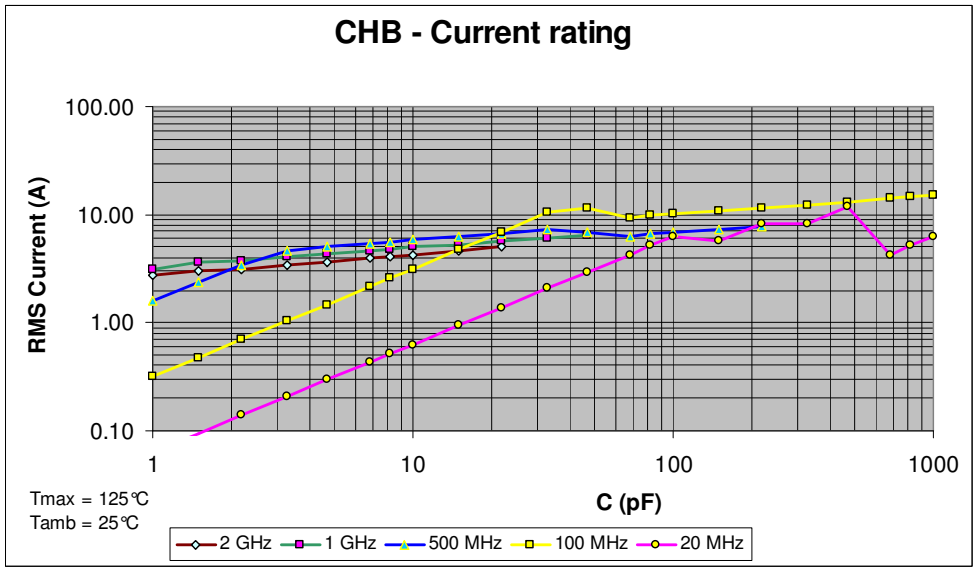
IX. Performance Data

IX.1. ESR



IX.2. Current Rating



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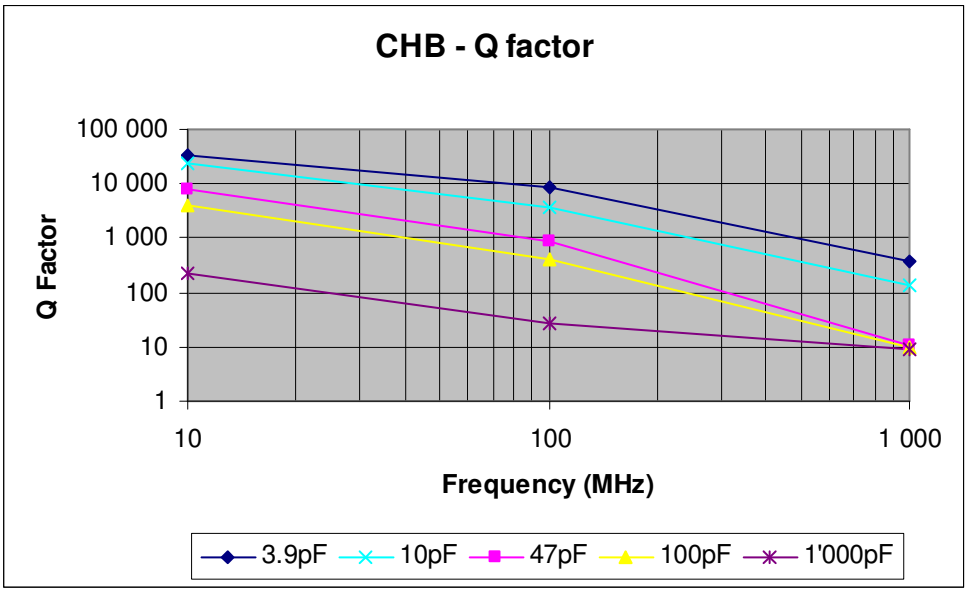
IX.3. Q Factor



IX.4. Series Resonance Frequency