

# CLASSIC - HiQ SERIES, LOW ESR 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	B, C, D below 10 pF (A up to 3.3pF) F, G, J, K above 10 pF
Working Voltage (WVDC)	see Capacitance Value chart
Temperature Coefficient	100 +/-30ppm/°C, -55°C to +125°C
Insulation Resistance	10 <sup>6</sup> MΩ min
Dielectric Withstanding (test voltage applied for 5 seconds)	2.5 x WVDC for WVDC ≤ 500V 1.5 x WVDC for WVDC > 500V
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	A	0505
	B	1111

For each case size, the recommended terminations are listed below.

NB:

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

**MR** certified®

**ITAR** Free®

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

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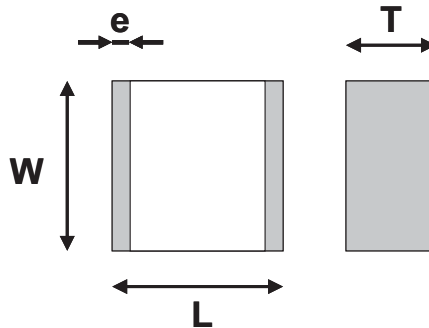
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## III. Environmental specifications

Parameter	Value
Life Test	2'000 hours, +125°C at 2.0 x WVDC (standard WVDC range) And CHB up to 100pF : 1'000 hours, +175°C at 500V
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

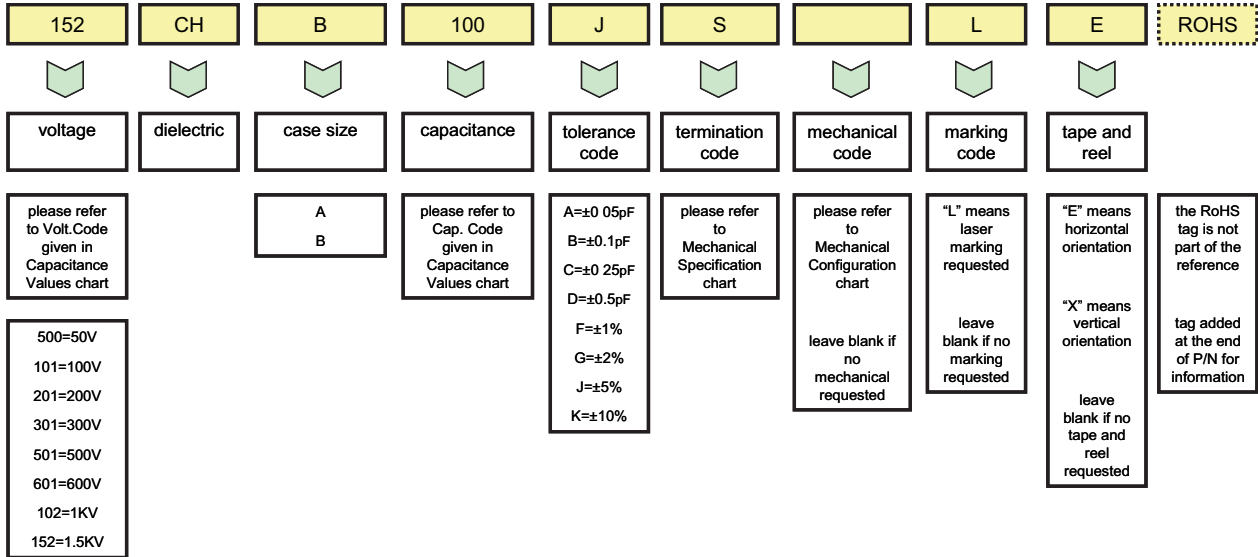
Parameter	A (0505)	B (1111)
Length (L)	1.40 ±0.25mm	2.80 ±0.40mm
Width (W)	1.40 ±0.25mm	2.80 ±0.40mm
Thickness (T)	1.40 mm (max.)	2.60 mm (max.)
End-Band (e)	0.25 ±0.15mm	0.40 ±0.25mm



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### V. How to order



NB:

- For capacitance values lower than 10pF, tolerances B, C and D apply and A Tolerance also applies for :  
A case for capacitance values lower or equal to 4,7pF.  
B case for capacitance values lower or equal to 3.3pF.
- For capacitance values equal to or higher than 10pF, tolerances F, G, J, K and M apply.

Please consult us for specific requirements.

### VI. Tape and Reel

The following chart gives the standard number of components per reel.

	CHA	CHB
Parts per Reel	3'000	1'000

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## VII. Capacitance values

Value (pF)	Cap. Code	A (0505)	B (1111)		Value (pF)	Cap. Code	A (0505)	B (1111)	
			Standard	Extended				Standard	Extended
0,1	0R1	250V	500V	1500V	18	180	250V	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	200V	300V	1000V
2,0	2R0	110	111						
2,1	2R1	120	121						
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						
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						
9,1	9R1	560	561						
10	100	620	621						
11	110	680	681						
12	120	750	751						
13	130	820	821						
15	150	910	911						
16	160	1 000	102						
							100V	300V	
							50V		

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  $\geq$  820pF.

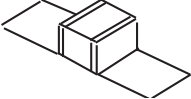
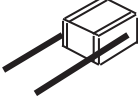
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### VIII. Mechanical Configurations

#### Lead/Ribbon and Wire Types

Configuration Type	Code	Description
	1	Micro-strip Ribbon
	6	Radial Wire

NB: when coding ribbons or wires for the description of the part, the termination has to be mentioned for MR<sub>certified</sub> 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

For other specific configuration, please ask our factory.  
 Lead/Ribbon and Wire Matrix

Termination Type	Code	CHA	CHB
Micro-strip Ribbon	1		<b>AVAILABLE<sup>(2)</sup></b>
Radial Wire	6		<b>AVAILABLE<sup>(1)</sup></b>

- (1) values 0R1, 0R2 and 0R3 non available with this termination. Non ROHS terminations.
- (2) value 0R1 non available with this termination

#### 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	CHA	CHB
Micro-strip Ribbon	1		8.00 2.40
Radial Wire	6		20.00 0.60

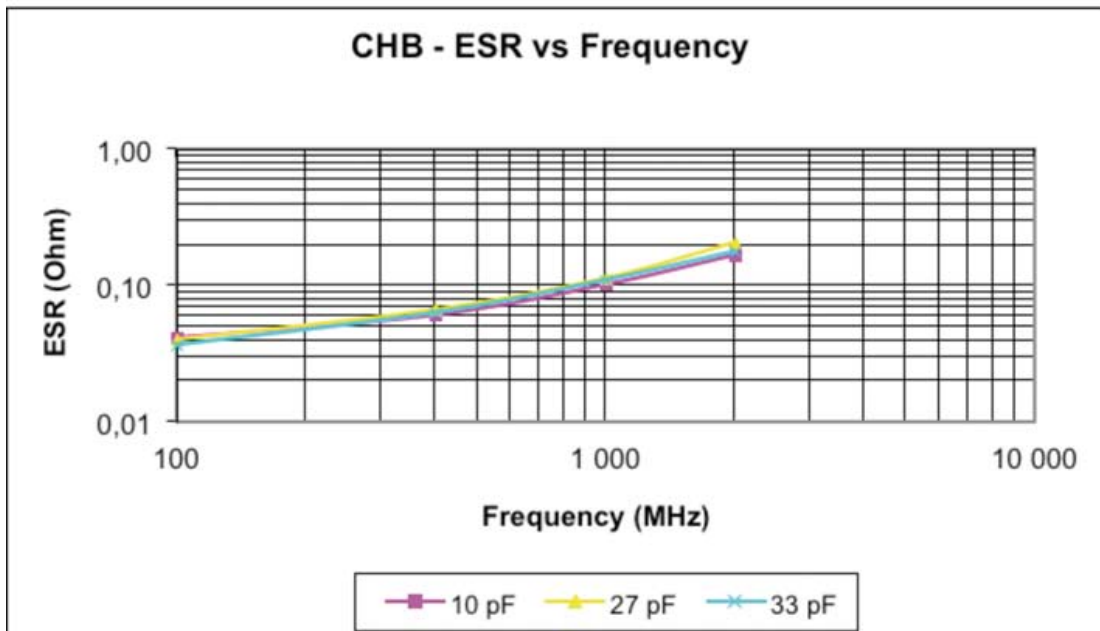
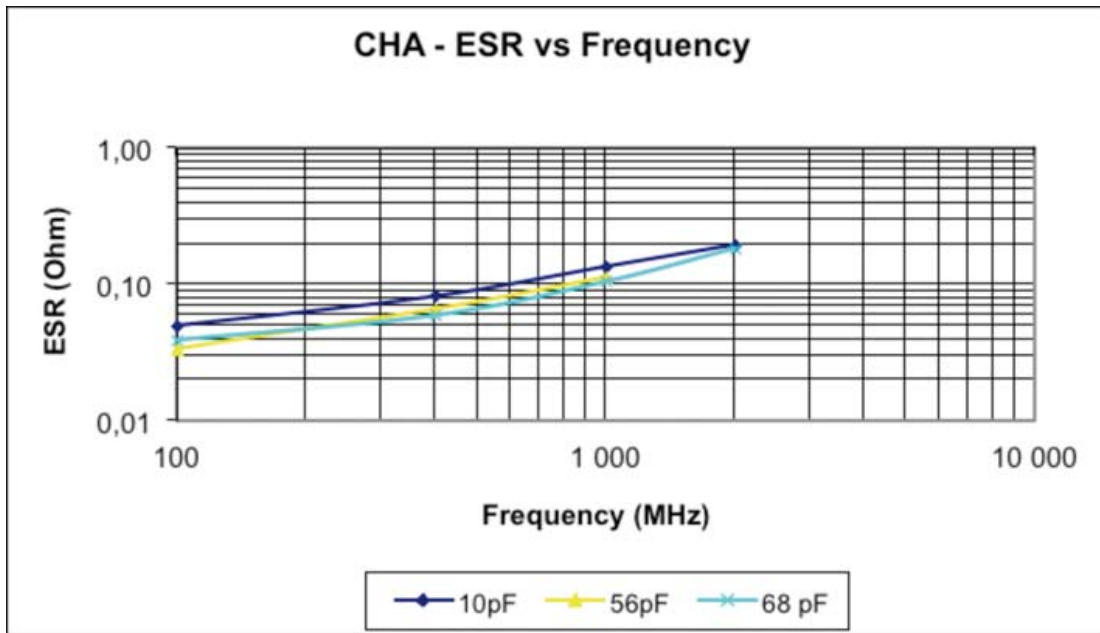
NB: dimensions are in mm, length is the minimum value.

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## IX. Performance Data

### 1. ESR

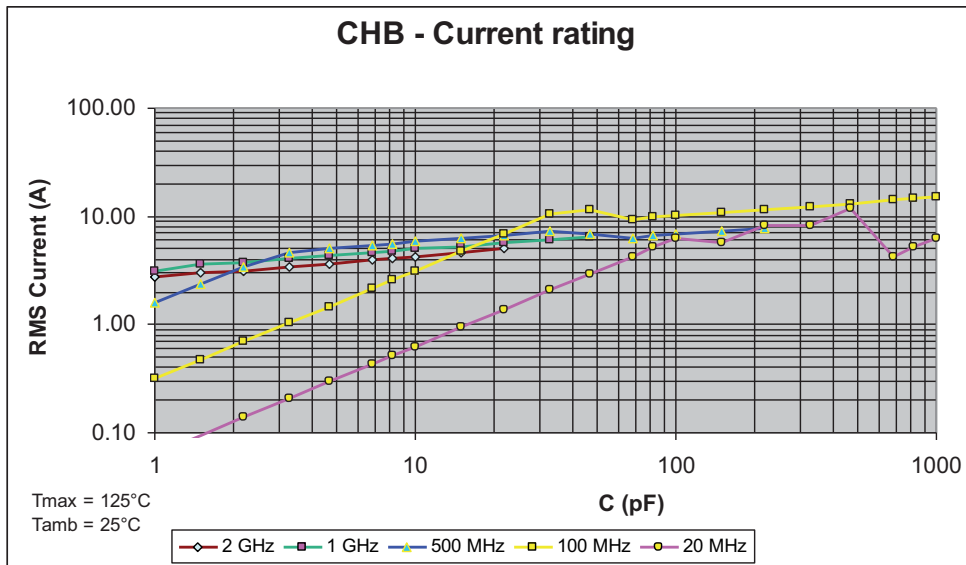
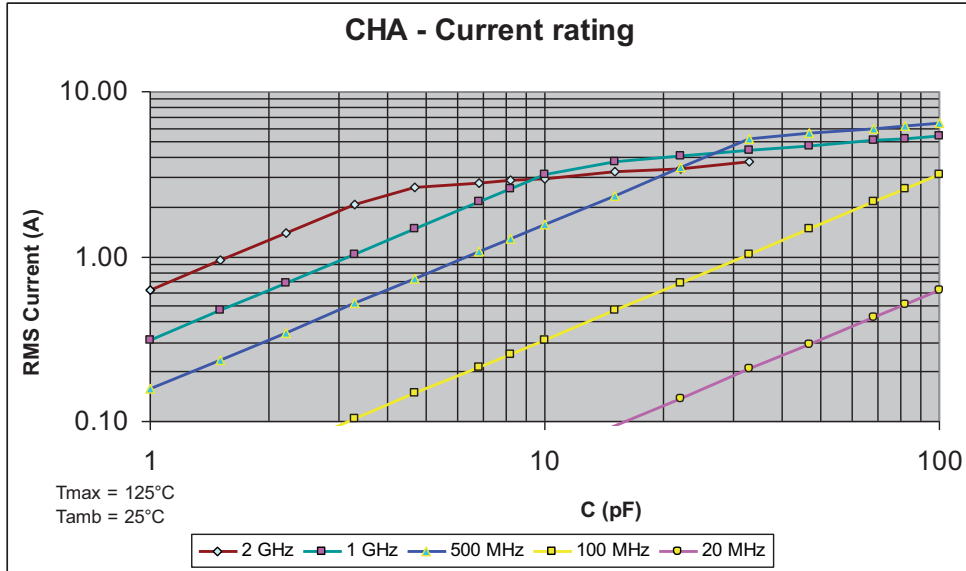


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## 2. Current Rating

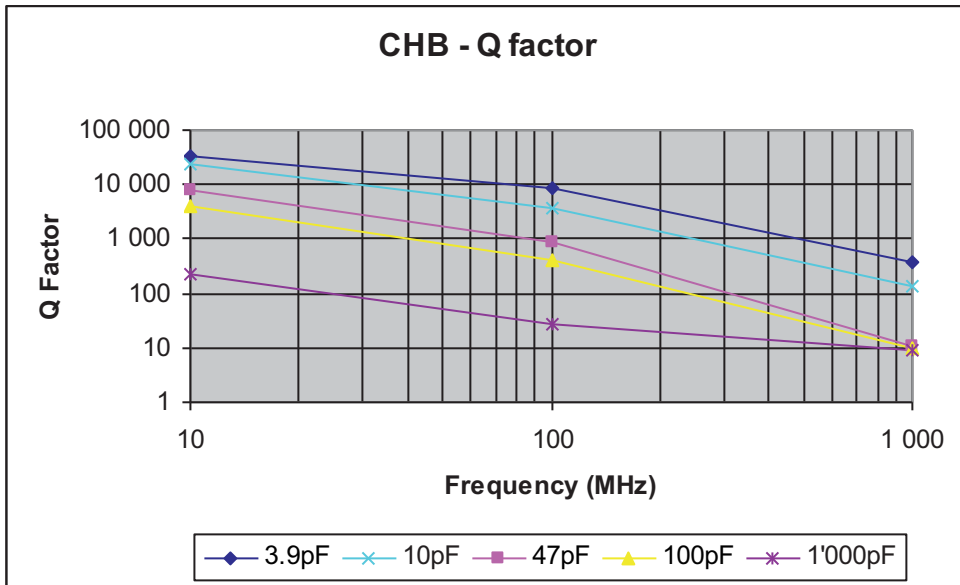
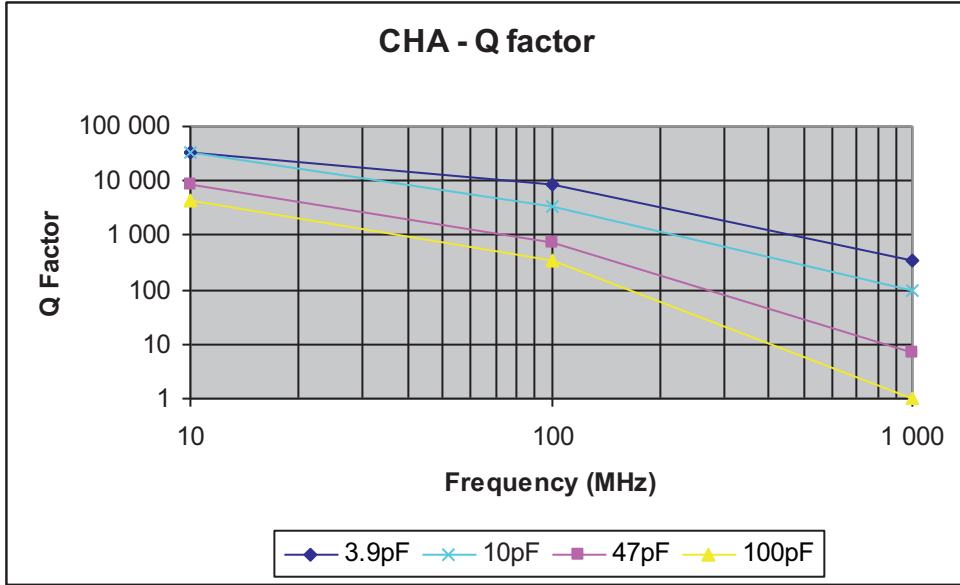


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## 3. Q- Factor



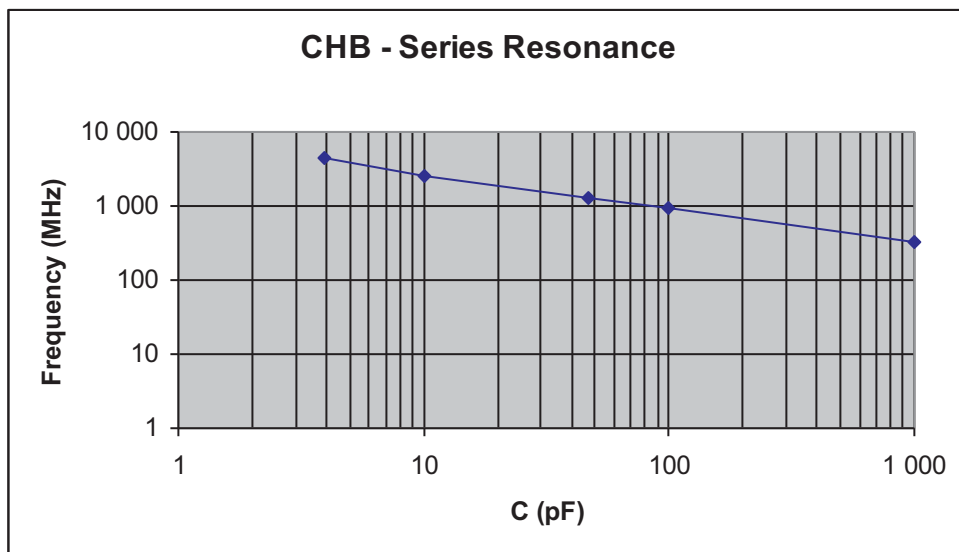
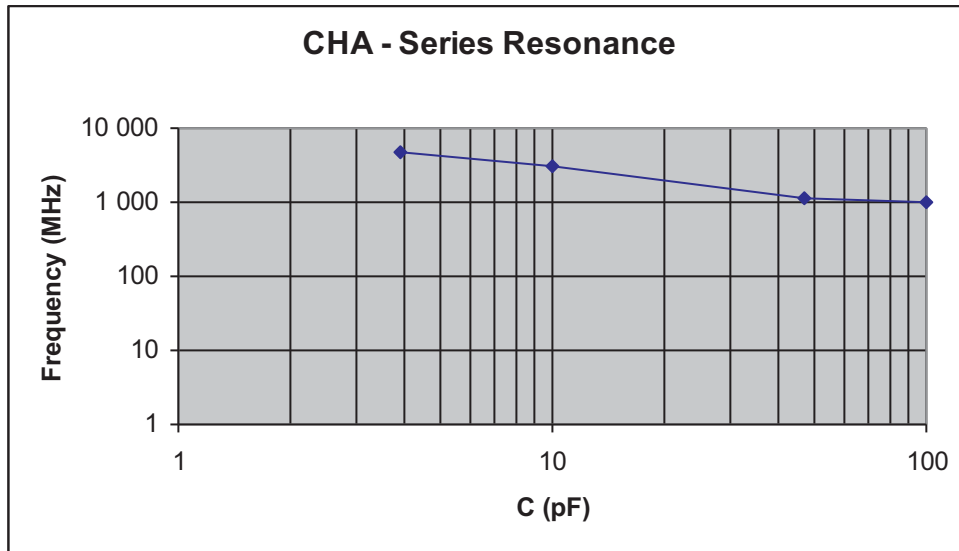
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## 4. Series Resonance Frequency



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