



FEATURES

- Low ESR, Ultra High-Q, High Self-Resonant Frequencies
- RF & Microwave capacitors
- Voltage range: 50V - 1,500V
- Capacitance range: 0.1pF - 1,000pF
- Operating temperature up to 125°C*
- Porcelain Capacitors P100
- Laser Marked (optional)
- RoHS compliant

APPLICATIONS

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

CIRCUIT APPLICATIONS

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

PHYSICAL CHARACTERISTICS

- Chip capacitors for surface mounting with copper (non magnetic) or nickel barrier and tinning
- Ribbon leads for surface mounting

ELECTRICAL AND ENVIRONMENTAL SPECIFICATIONS

Electrical specifications	
Parameter	Value
Capacitance	0.1pF - 1,000pF
Tolerances	A, B, C, D below 10pF F, G, J, K above 10pF
Working voltage (WVDC)	See capacitance range chart
Temperature coefficient	(100 ± 30) ppm/°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 1.8 x WVDC for extended range values ≥ 820pF 1.5 x WVDC for WVDC > 500V
Aging	none
Piezo Effect	none

Environmental specifications	
Parameter	Value
Life Test	2,000 hours, +125°C at 2 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

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

HOW TO ORDER

152	CH	B	100	J	S	1	L	E	-RoHS
Voltage code	Dielectric	Size code	Capacitance code	Tolerance code	Termination code	Ribbon code	Marking code	Tape and reel	
500 = 50V 101 = 100V 201 = 200V 251 = 250V 301 = 300V 501 = 500V 601 = 600V 102 = 1,000V 152 = 1,500V Please refer to voltage given in capacitance range chart	CH = (100 ± 30) ppm/°C	A = 0505 B = 1111	Please refer to capacitance code given in capacitance range chart	A = ±0.05pF B = ±0.1pF C = ±0.25pF D = ±0.5pF F = ±1% G = ±2% J = ±5% K = ±10% See note 1	S = Standard: tin-plated nickel C = Non-magnetic: tin-plated copper See note 2	-: no lead or ribbon <u>Available on size 1111:</u> 1 = Micro-strip ribbons 6 = Radial leads 0.1pF (0R1) non available with these terminations. See note 3	-: no marking L = laser marking	-: no tape and reel E = horizontal orientation X = verticale orientation CHA: 3,000 components per reel CHB: 1,000 components per reel	The RoHS tag is not part of the reference Tag added at the end of P/N for information

Note 1: For capacitance values less than 10pF, tolerances B, C and D available. Tolerance code A available for: A case for capacitance values of 0.1pF - 4.7pF. B case for capacitance values of 0.1pF - 3.3pF. For capacitance values of 10pF or higher, tolerances F, G, J and K available.

Note 2: All terminations are backward compatible and lead-free. The non-magnetic terminations are all Magnetism-free Rated.

Note 3: when coding ribbons 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.

Please consult us for specific requirements.

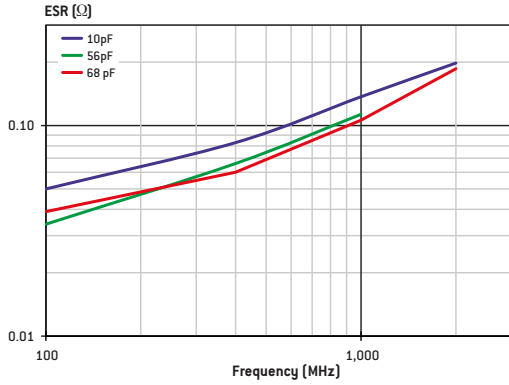
CH Series

Classic HiQ

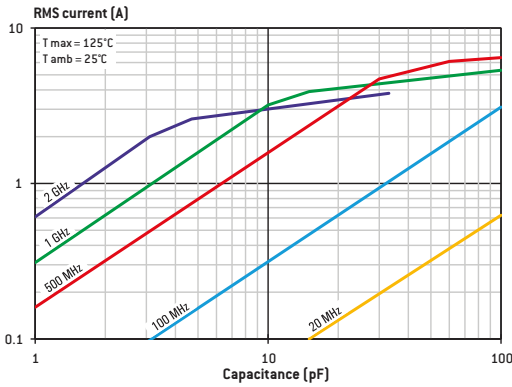
TYPICAL PERFORMANCE DATA CHA (0505 SIZE):

S-Parameters available with ABC software.

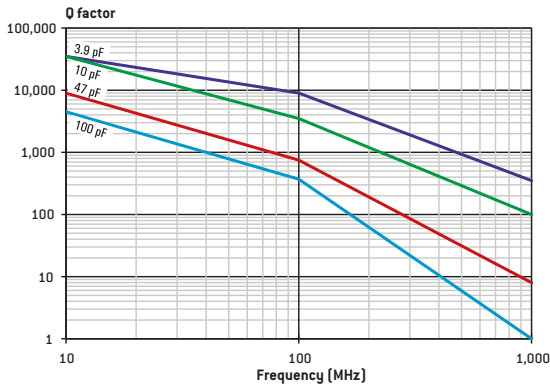
ESR VERSUS FREQUENCY



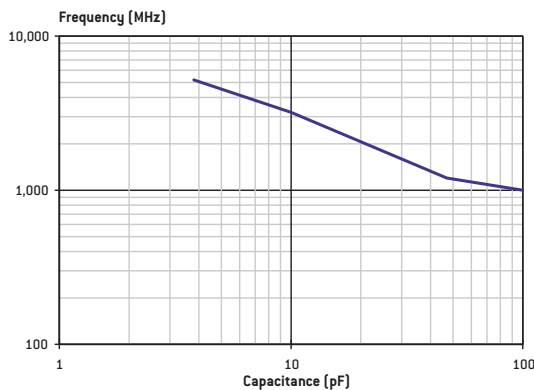
CURRENT RATING VERSUS CAPACITANCE



Q FACTOR VERSUS FREQUENCY



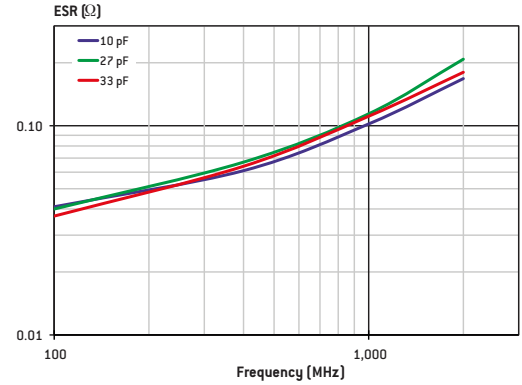
SERIES RESONANCE FREQUENCY VERSUS CAPACITANCE



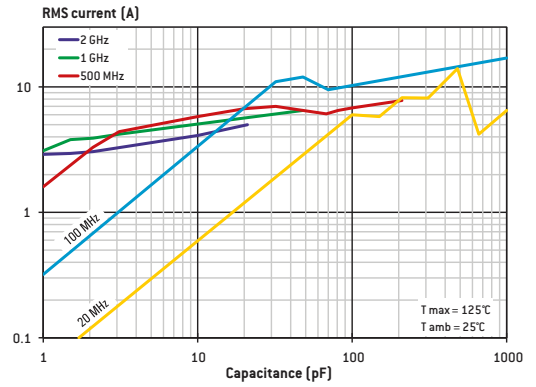
TYPICAL PERFORMANCE DATA CHB (SIZE 1111):

S-Parameters available with ABC software.

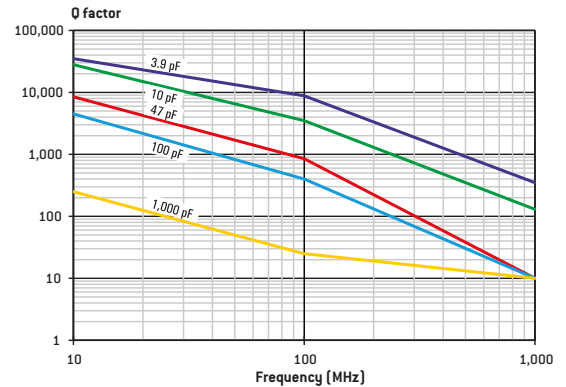
ESR VERSUS FREQUENCY



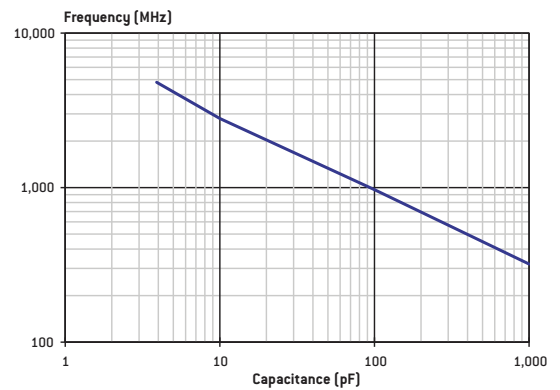
CURRENT RATING VERSUS CAPACITANCE



Q FACTOR VERSUS FREQUENCY

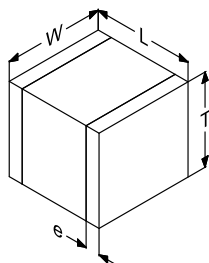


SERIES RESONANCE FREQUENCY VERSUS CAPACITANCE

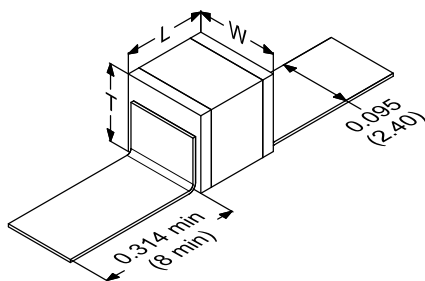


DIMENSIONS in inches (mm)

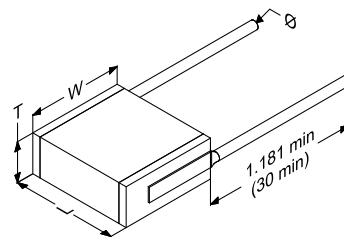
Chips



Micro-strip ribbon leads (Type 1)



Radial leads (Type 6)



STANDARD RATINGS

Size		0505	1111	
Size code		A	B	
Dimensions inches (mm)	L	0.055 ± 0.01 (1.4 ± 0.25)	0.11 ± 0.016 (2.8 ± 0.4)	
	W	0.055 ± 0.01 (1.4 ± 0.25)	0.11 ± 0.016 (2.8 ± 0.4)	
	T	0.056 max (1.4 max)	0.103 max (2.6 max)	
	e	0.01 ± 0.006 (0.25 ± 0.15)	0.016 ± 0.01 (0.4 ± 0.25)	
Value [pF]	Cap. Code	Standard	Standard	Extended
0.1	OR1	250V	500V	1,500V
0.2	OR2			
0.3	OR3			
0.4	OR4			
0.5	OR5			
0.6	OR6			
0.7	OR7			
0.8	OR8			
0.9	OR9			
1.0	1R0			
1.1	1R1			
1.2	1R2			
1.3	1R3			
1.4	1R4			
1.5	1R5			
1.6	1R6			
1.7	1R7			
1.8	1R8			
1.9	1R9			
2.0	2R0			
2.1	2R1			
2.2	2R2			
2.4	2R4			
2.7	2R7			
3.0	3R0			
3.3	3R3			
3.6	3R6			
3.9	3R9			
4.3	4R3			
4.7	4R7			
5.1	5R1			
5.6	5R6			
6.2	6R2			
6.8	6R8			
7.5	7R5			
8.2	8R2			
9.1	9R1			
10	100			
11	110			
12	120			
13	130			
15	150			
16	160			
18	180			
20	200			
22	220			
24	240			
27	270			
30	300			
33	330			
36	360			
39	390			
43	430			
47	470			

Size		0505	1111		
Size code		A	B		
Dimensions inches (mm)	L	0.055 ± 0.01 (1.4 ± 0.25)	0.11 ± 0.016 (2.8 ± 0.4)		
	W	0.055 ± 0.01 (1.4 ± 0.25)	0.11 ± 0.016 (2.8 ± 0.4)		
	T	0.056 max (1.4 max)	0.103 max (2.6 max)		
	e	0.01 ± 0.006 (0.25 ± 0.15)	0.016 ± 0.01 (0.4 ± 0.25)		
Value [pF]	Cap. Code	Standard	Standard	Extended	
51	510	200V	500V	1,500V	
56	560				
62	620				
68	680				
75	750				
82	820				
91	910				
100	101				
110	111				
120	121				
130	131	300V	1,000V		
150	151				
160	161				
180	181				
200	201				
220	221				
240	241				
270	271	200V	600V		
300	301				
330	331				
360	361				
390	391				
430	431				
470	471				
510	511			100V	300V
560	561				
620	621				
680	681				
750	751				
820	821	50V	300V		
910	911				
1,000	102				

Special values, tolerances, higher WVDC and matching available, please consult factory.



Headquarters

93, rue Oberkampf

75011 PARIS • FRANCE

Tel. : +33 (0)1 49 23 10 00

info@exxelia.com

www.exxelia.com

EXXELIA DEARBORN

1221 North US Highway 17-92

Longwood, FL 32750 • USA

Tel. : (407) 695-6562

EXXELIA MAROC

Angle boulevard Alkahrabae et rue Le Caire

Quartier Industriel Ain Sebaa

CASABLANCA Sidi Bernoussi 20600 • MAROC

Tel. : +00212 22 66 70 00

EXXELIA MAGNETICS

16, Parc d'Activités du Beau Vallon

57970 ILLANGE • FRANCE

Tel. : +33 (0)3 82 59 13 33

ZI la Levraudière,

85120 ANTIGNY • FRANCE

Tel. : +33 (0)2 51 69 64 25

EXXELIA RAF TABTRONICS

2854 Genesee St., Route 63

Piffard, New York 14533 • USA

Tel. : +1 585-243-4331 x120

EXXELIA DEYOUNG

12920 NE 125th Way

Kirkland, WA 98034 • USA

Tel. : +1 425-823-4798

EXXELIA TANTALUM

Z.I. de Brais - BP 194

44604 SAINT-NAZAIRE CEDEX • FRANCE

Tel. : +33 (0)2 40 01 26 51

EXXELIA TECHNOLOGIES

Headquarters

93, rue Oberkampf

75011 PARIS • FRANCE

Tel. : +33 (0)1 49 23 10 00

Plants

Z.A.E. du Chêne Saint-Fiacre

1, rue des Temps Modernes

77600 CHANTELOUP-EN-BRIE • FRANCE

Tel. : +33 (0)1 60 31 70 00

105, rue du Général Leclerc - BP 33

67441 MARMOUTIER Cedex • FRANCE

Tel. : +33 (0)3 88 70 62 00

EXXELIA SIC SAFCO

Z.I. de Brais - BP 194

44604 SAINT-NAZAIRE CEDEX • FRANCE

Tel. : +33 (0)2 40 01 26 51

EXXELIA TEMEX

Parc Industriel Bersol 1

Voie Romaine

33600 PESSAC • FRANCE

Tel. : +33 (0)5 56 46 66 66

EXXELIA VIETNAM

Unit 2A, Standard Factory No. 2,

Road 15, The Tan Thuan EPZ,

Dist.7, Ho Chi Minh City • VIETNAM

Tel. : 00 84 8 3770 1226



Headquarters

93, rue Oberkampf

F - 75540 PARIS CEDEX 11 • FRANCE

Tel. : +33 (0)1 49 23 10 00

info@exxelia.com

www.exxelia.com

