

CP Series

High Power



FEATURES

- Low ESR/ESL, RF power capacitors
- Porcelain capacitors P100, RoHS compliant
- Excellent characteristics in current, voltage and power with high Q factor
- Working voltage: 200V - 7,000V
- Sizes: 2225 and 4040
- Capacitance range: 1pF - 10,000pF
- Laser Marked (optional)

APPLICATIONS

- RF Power Amplifiers
- Industrial (Plasma Chamber)
- Medical (MRI Coils)

CIRCUIT APPLICATIONS

- DC Blocking
- Matching Networks
- Tuning and Coupling

PHYSICAL CHARACTERISTICS

- Chip capacitors for surface mounting with Nickel barrier and tinning or Copper barrier and tinning (non magnetic)
- Ribbon leads for surface mounting, axial or radial leads for through-hole circuits

HOW TO ORDER

362	CP	X	100	G	C	1	-	L	E	-RoHS
Voltage code	Dielectric	Size code	Capacitance code	Tolerance code	Termination code	Lead / Ribbon code	Coating code	Marking code	Tape and reel	
201 = 200V 301 = 300V 501 = 500V 102 = 1,000V 122 = 1,200V 152 = 1,500V 162 = 1,600V 252 = 2,500V 362 = 3,600V 502 = 5,000V 702 = 7,000V Please refer to voltage given in capacitance range chart	CP = (100 ± 30) ppm/°C	X = 2225 E = 4040	Please refer to Cap. Code given in capacitance range chart	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 1 = Micro-strip ribbons, RoHS 6 = Radial leads, non RoHS 7 = Axial leads, non RoHS <u>Available on size 4040:</u> 1S = Short micro-strip ribbons, RoHS 2 = Axial ribbons, RoHS 3 = Radial ribbons, RoHS See note 3	-: no coating H = coating requested	-: no marking L = laser marking	-: no tape and reel E = horizontal orientation CPX: 500 components per reel CPE: 500 or 700 components per reel X = verticale orientation, only available on CPE, 350 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. For capacitance values equal to or higher than 10pF, 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 or leads for the description of the part, the termination has to be mentioned for MRcertified types to ensure that only non-magnetic materials.

Examples: 362 CPE 470 J1L any termination material could be used. 362 CPE 470 JC1L only non-magnetic termination materials could be used.

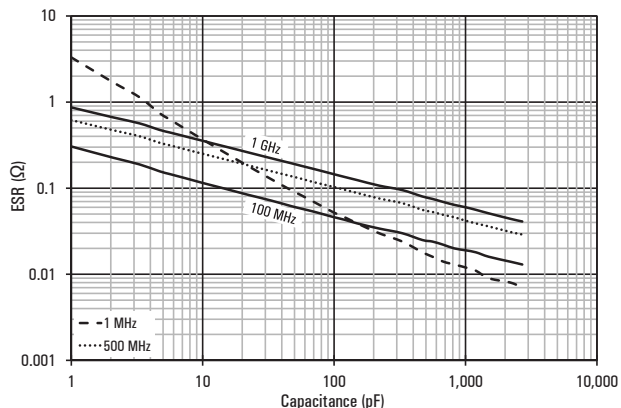
Please consult us for specific requirements.

ELECTRICAL AND ENVIRONMENTAL SPECIFICATIONS

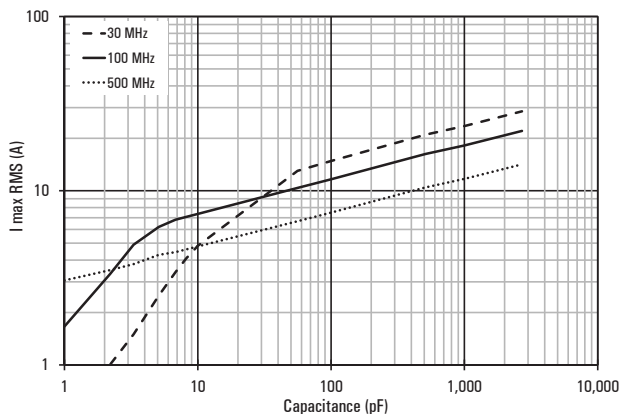
Electrical specifications	
Parameter	Value
Capacitance	1pF - 10,000pF
Tolerances	B, C, D below 10pF F, G, J, K above 10pF
Working voltage (WVDC)	See capacitance range chart
Temperature coefficient	(100 ± 30) ppm/°C, -55°C to +125°C
Insulation Resistance	10 ⁵ MΩ min @ 25°C @ rated WVDC 10 ⁴ MΩ min @ 125°C @ rated WVDC
Dielectric Withstanding (test voltage applied for 5 seconds)	2 x WVDC for WVDC ≤ 500V 1.5 x WVDC for 500V < WVDC ≤ 2,500V 1.3 x WVDC for WVDC > 2,500V
Aging	none
Piezo Effect	none

Environmental specifications	
Parameter	Value
Life Test	2,000 hours, +125°C @ 1.5 x WVDC (WVDC ≤ 500V) @ 1.3 x WVDC (500V < WVDC < 1,250V) @ 1 x WVDC (1,250V ≤ WVDC)
Moisture Resistance Test 1	240 hours, 85% relative humidity @ 85°C (ESA/SCC n°3009)
Moisture Resistance Test 2	56 days, 93% relative humidity @ 40°C 0V, 5V, WVDC or 500V whichever is less

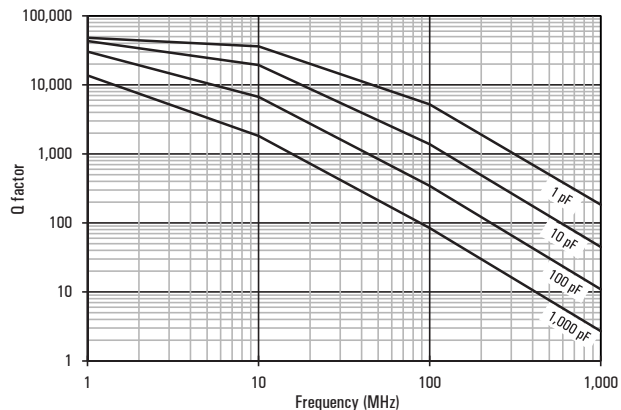
2225: TYPICAL ESR VERSUS CAPACITANCE



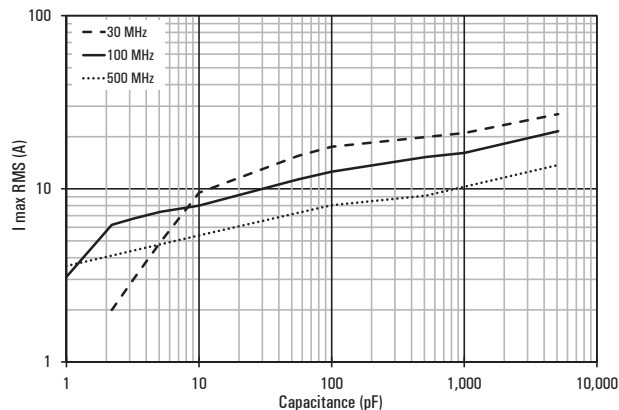
2225: TYPICAL CURRENT RATING VERSUS CAPACITANCE



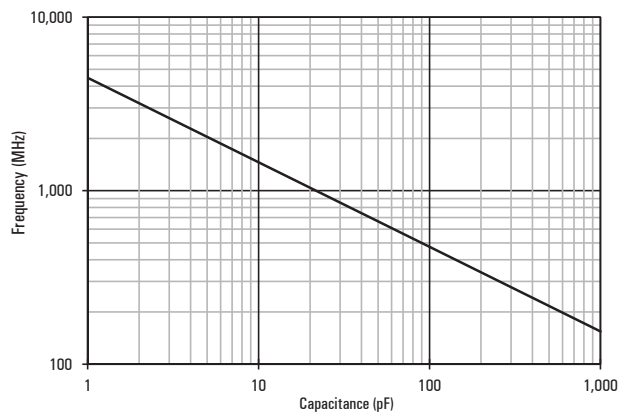
2225: TYPICAL Q FACTOR VERSUS FREQUENCY



4040: TYPICAL CURRENT RATING VERSUS CAPACITANCE

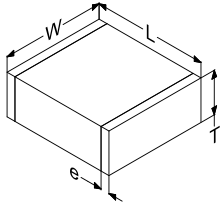


2225: TYPICAL SERIES RESONANT FREQUENCY VERSUS CAPACITANCE

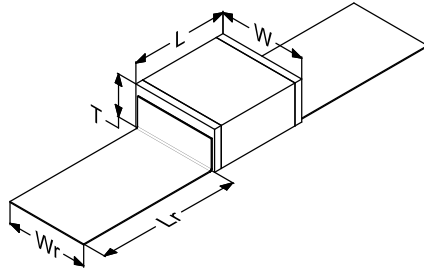


DIMENSIONS in inches (mm)

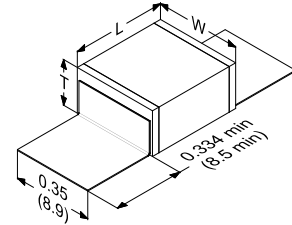
Chips



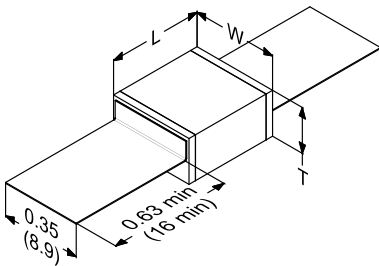
Micro-strip ribbons: available on all sizes (Type 1)



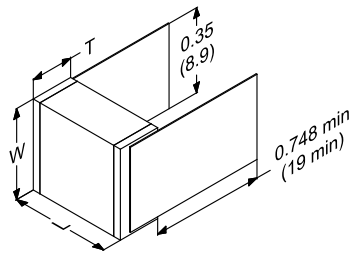
Short Micro-strip ribbons: available on size E (4040) (Type 1S)



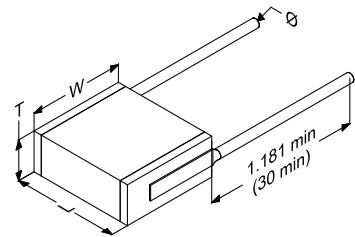
Axial ribbons: available on size E (4040) (Type 2)



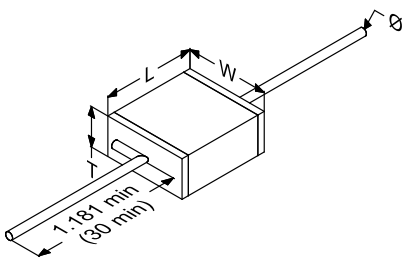
Radial ribbons: available on size E (4040) (Type 3)



Radial leads: available on all sizes (Type 6)



Axial leads: available on sizes X (2225) and E (4040) (Type 7)



STANDARD RATINGS

Size		2225		4040	
Size code		X		E	
Dimensions inches (mm)	L	0.244 +0.012 / -0.028 (6.2 +0.3 / -0.7)		0.413 +0.012 / -0.028 (10.5 +0.3 / -0.7)	
	W	0.26 ± 0.02 (6.6 ± 0.5)		0.374 ± 0.02 (9.5 ± 0.5)	
	T	0.15 max (3.8 max)		0.177 max (4.5 max)	
	e	0.032 ± 0.024 (0.8 ± 0.6)		0.032 ± 0.024 (0.8 ± 0.6)	
	Lr	0.472 min (12 min)		0.63 min (16 min)	
	Wr	0.213 (5.4)		0.35 (8.9)	
	Ø	0.024 (0.60)		0.035 (0.90)	
Value (pF)	Cap. Code	Standard	Extended	Standard	Extended
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	2,500V	3,600V	3,600V	7,000V
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				
51	510				

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

Size		2225		4040	
Size code		X		E	
Dimensions inches (mm)	L	0.244 +0.012 / -0.028 (6.2 +0.3 / -0.7)		0.413 +0.012 / -0.028 (10.5 +0.3 / -0.7)	
	W	0.26 ± 0.02 (6.6 ± 0.5)		0.374 ± 0.02 (9.5 ± 0.5)	
	T	0.15 max (3.8 max)		0.177 max (4.5 max)	
	e	0.032 ± 0.024 (0.8 ± 0.6)		0.032 ± 0.024 (0.8 ± 0.6)	
	Lr	0.472 min (12 min)		0.63 min (16 min)	
	Wr	0.213 (5.4)		0.35 (8.9)	
	Ø	0.024 (0.60)		0.035 (0.90)	
Value (pF)	Cap. Code	Standard	Extended	Standard	Extended
56	560				
62	620				
68	680				
75	750		3,600V		7,000V
82	820				
91	910				
100	101				
110	111				
120	121	2,500V			
130	131				
150	151			3,600V	
160	161				
180	181				
200	201				
220	221				
240	241				5,000V
270	271				
300	301				
330	331				
360	361	1,500V			
390	391				
430	431				
470	471				
510	511				
560	561			2,500V	
620	621				
680	681				
750	751				
820	821	1,200V			
910	911			1,600V	
1,000	102				
1,100	112				
1,200	122				
1,500	152				
1,800	182	500V		1,000V	
2,200	222				
2,700	272	300V			
3,000	302				
3,300	332				
3,900	392			500V	
4,700	472				
5,100	512				
5,600	562				
6,800	682				
8,200	822			200V	
10,000	103				

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