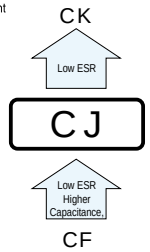
CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

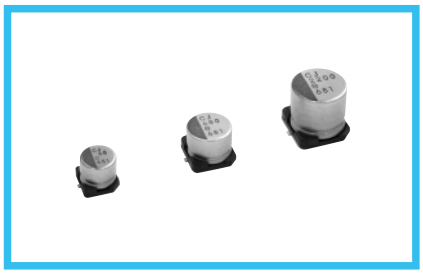
nichicon

CJ Chip Type, Low ESR, Higher Capacitance series

For SMD | High Ripple Current | Low Impedance | For High Frequency | Anti-Solvent Feature

- Low ESR, Higher Capacitance, High ripple current.
- Load life of 2000 hours at 105°C.
- SMD type : Lead free reflow soldering condition at 260°C peak correspondence.
- Compliant to the RoHS directive (2002/95/EC).



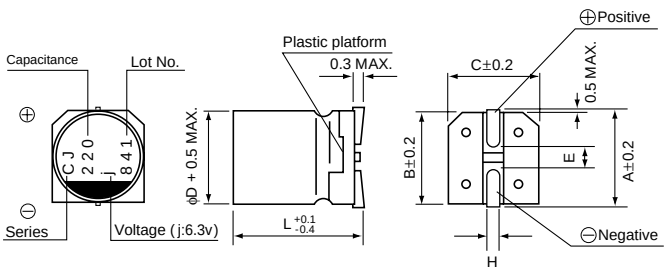


■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +105°C
Rated Voltage Range	2.5 to 16V
Rated Capacitance Range	33 to 2700µF
Capacitance Tolerance	±20% at 120Hz, 20°C
Tangent of loss angle (tan δ)	Less than or equal to the specified value at 120Hz, 20°C
ESR (※1)	Less than or equal to the specified value at 100kHz, 20°C
Leakage Current (※2)	Less than or equal to the specified value . After 2 minutes' application of rated voltage at 20°C
Temperature Characteristics (Max.Impedance Ratio)	Z+105°C / Z+20°C ≦ 1.25 (100kHz) Z−55°C / Z+20°C ≦ 1.25
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 105°C. Capacitance change: Within ± 20% of the initial capacitance value (※3) tan δ: 150% or less than the initial specified value ESR (※1): 150% or less than the initial specified value Leakage current (※2): Less than or equal to the initial specified value
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 60°C, 90% RH. Capacitance change: Within ± 20% of the initial capacitance value (※3) tan δ: 150% or less than the initial specified value ESR (※1): 150% or less than the initial specified value Leakage current (※2): Less than or equal to the initial specified value
Resistance to Soldering Heat	After soldering the capacitor under the soldering conditions prescribed here, the capacitor shall meet the specifications listed at right, provided that it's temperature profile is measured at the capacitor top and the terminal. Pre-heating shall be done at 150 to 200°C and for 60 to 180 sec. The duration for over +230°C temperature at capacitor surface shall not exceed 60 seconds. In the case of peak temp, less than 250°C, reflow soldering shall be two times maximum. In the case of peak temp, less than 260°C, reflow soldering shall be once. Measurement for solder temperature profile shall be made at the capacitor top and the terminal. Capacitance change: Within ± 10% of the initial capacitance value (※3) tan δ: 130% or less than the initial specified value ESR (※1): 130% or less than the initial specified value Leakage current (※2): Less than or equal to the initial specified value
Marking	Navy blue print on the case top

※1 ESR should be measured at both of the terminal ends closest where the terminals protrude through the plastic platform.
※2 Conditioning : If any doubt arises, measure the leakage current after the voltage treatment of applying DC rated voltage continuously to the capacitor for 120 minutes at 105°C.
※3 Initial value : The value before test of examination of resistance to soldering.

■Dimensions



Type numbering system (Example : 6.3V 220µF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
P	C	J	0	J	2	2	1	M	C	L	1	G	S

- 1–2: Taping code
- 3: Size code
- 4: Configuration
- 5: Capacitance toleranc (±20%)
- 6–8: Rated capacitance (220µF)
- 9–10: Rated voltage (6.3V)
- 11–12: Series name
- 13–14: Type

(mm)

Size	φ5×6L	φ6.3×6L	φ6.3×8L	φ8×7L	φ8×8L	φ8×10L	φ8×12L	φ10×8L	φ10×10L	φ10×12.7L
φD	5.0	6.3	6.3	8.0	8.0	8.0	8.0	10.0	10.0	10.0
L	5.9	5.9	7.9	6.9	7.9	9.9	11.9	7.9	9.9	12.6
A	6.0	7.3	7.3	9.0	9.0	9.0	9.0	11.0	11.0	11.0
B	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3	10.3
C	5.3	6.6	6.6	8.3	8.3	8.3	8.3	10.3	10.3	10.3
E	1.6	2.1	2.1	3.2	3.2	3.2	3.2	4.6	4.6	4.6
H	0.5 to 0.8	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1

Voltage

V	2.5	4	6.3	10	16
Code	e	g	j	A	C

● Dimension table in next page.

CJ series

■Standard Ratings

Rated Voltage (V)(code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size φD × L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ) (at 100kHz 20°C)	Rated Ripple (mArms)	Part Number
2.5 (0E)	2.8	180	5 × 6	0.12	90	21	2670	PCJ0E181MCL1GS
		390	6.3 × 6	0.12	195	15	3400	PCJ0E391MCL1GS
		470	6.3 × 8	0.12	235	13	3600	PCJ0E471MCL1GS
		560	■ 6.3 × 8	0.12	280	13	3600	PCJ0E561MCL4GS
		560	8 × 7	0.12	280	13	4100	PCJ0E561MCL1GS
		680	8 × 7	0.12	340	13	4100	PCJ0E681MCL1GS
		820	▲ 8 × 8	0.12	410	12	4260	PCJ0E821MCL6GS
		820	8 × 12	0.12	410	9	5400	PCJ0E821MCL1GS
		1000	8 × 8	0.12	500	12	4260	PCJ0E102MCL1GS
		1200	10 × 8	0.12	600	13	4800	PCJ0E122MCL1GS
		1500	▲ 8 × 10	0.12	750	10	5220	PCJ0E152MCL6GS
		1500	8 × 12	0.12	750	9	5400	PCJ0E152MCL1GS
		2200	10 × 10	0.12	1100	10	5500	PCJ0E222MCL1GS
		2700	10 × 12.7	0.12	1350	9	5800	PCJ0E272MCL1GS
4 (0G)	4.6	100	5 × 6	0.12	80	22	2610	PCJ0G101MCL1GS
		150	5 × 6	0.12	120	22	2610	PCJ0G151MCL1GS
		270	6.3 × 6	0.12	216	15	3200	PCJ0G271MCL1GS
		330	6.3 × 6	0.12	264	15	3300	PCJ0G331MCL1GS
		390	6.3 × 8	0.12	312	14	3470	PCJ0G391MCL1GS
		470	8 × 7	0.12	376	14	3950	PCJ0G471MCL1GS
		560	8 × 7	0.12	448	14	4000	PCJ0G561MCL1GS
		560	● 8 × 12	0.12	448	9	5200	PCJ0G561MCL9GS
		680	8 × 8	0.12	544	13	3950	PCJ0G681MCL1GS
		1000	■ 8 × 10	0.12	800	10	5220	PCJ0G102MCL4GS
		1000	10 × 8	0.12	800	13	4300	PCJ0G102MCL1GS
		1200	8 × 12	0.12	960	9	5400	PCJ0G122MCL1GS
		1200	▲ 10 × 10	0.12	960	10	5500	PCJ0G122MCL6GS
		1500	■ 8 × 12	0.12	1200	9	5200	PCJ0G152MCL4GS
		1500	10 × 10	0.12	1200	10	5500	PCJ0G152MCL1GS
		1800	10 × 10	0.12	1440	10	5500	PCJ0G182MCL1GS
		1800	● 10 × 12.7	0.12	1440	9	5600	PCJ0G182MCL9GS
		2200	10 × 12.7	0.12	1760	9	5700	PCJ0G222MCL1GS
6.3 (0J)	7.2	100	5 × 6	0.12	126	24	2500	PCJ0J101MCL1GS
		120	5 × 6	0.12	151	24	2500	PCJ0J121MCL1GS
		220	6.3 × 6	0.12	277	15	3200	PCJ0J221MCL1GS
		270	6.3 × 8	0.12	340	14	3470	PCJ0J271MCL1GS
		330	■ 6.3 × 8	0.12	416	14	3470	PCJ0J331MCL4GS
		330	8 × 7	0.12	416	14	3950	PCJ0J331MCL1GS
		390	8 × 7	0.12	491	14	3950	PCJ0J391MCL1GS
		470	8 × 8	0.12	592	13	3950	PCJ0J471MCL1GS
		820	▲ 8 × 10	0.12	1033	12	4770	PCJ0J821MCL6GS
		820	■ 8 × 12	0.12	1033	10	5150	PCJ0J821MCL4GS
		820	10 × 8	0.12	1033	13	4500	PCJ0J821MCL1GS
		1200	10 × 10	0.12	1512	12	5025	PCJ0J122MCL1GS
		1500	10 × 10	0.12	1890	12	5025	PCJ0J152MCL1GS
		1500	● 10 × 12.7	0.12	1890	10	5500	PCJ0J152MCL9GS
		1800	10 × 12.7	0.12	2268	11	5200	PCJ0J182MCL1GS
10 (1A)	11.5	47	5 × 6	0.12	94	28	2310	PCJ1A470MCL1GS
		56	5 × 6	0.12	112	28	2310	PCJ1A560MCL1GS
		68	5 × 6	0.12	136	28	2310	PCJ1A680MCL1GS
		120	6.3 × 6	0.12	240	25	2530	PCJ1A121MCL1GS
		150	6.3 × 8	0.12	300	21	2880	PCJ1A151MCL1GS
		220	8 × 7	0.12	440	21	3220	PCJ1A221MCL1GS
		270	8 × 7	0.12	540	21	3220	PCJ1A271MCL1GS
		330	8 × 8	0.12	660	19	3390	PCJ1A331MCL1GS
		390	8 × 10	0.12	780	17	4000	PCJ1A391MCL1GS
		470	10 × 8	0.12	940	19	3800	PCJ1A471MCL1GS
		680	10 × 10	0.12	1360	13	4820	PCJ1A681MCL1GS
16 (1C)	18.4	33	5 × 6	0.12	105	35	2070	PCJ1C330MCL1GS
		39	5 × 6	0.12	125	35	2070	PCJ1C390MCL1GS
		68	6.3 × 6	0.12	217	28	2390	PCJ1C680MCL1GS
		82	6.3 × 8	0.12	262	24	2700	PCJ1C820MCL1GS
		100	■ 6.3 × 8	0.12	320	24	2700	PCJ1C101MCL4GS
		100	8 × 7	0.12	320	24	3010	PCJ1C101MCL1GS
		120	8 × 7	0.12	384	24	3010	PCJ1C121MCL1GS
		150	8 × 8	0.12	480	22	3150	PCJ1C151MCL1GS
		180	8 × 10	0.12	576	18	3890	PCJ1C181MCL1GS
		220	■ 8 × 10	0.12	704	18	3890	PCJ1C221MCL4GS
		220	10 × 8	0.12	704	22	3450	PCJ1C221MCL1GS
		270	8 × 12	0.12	864	16	4070	PCJ1C271MCL1GS
		330	10 × 10	0.12	1056	16	4350	PCJ1C331MCL1GS

Rated ripple current (mArms) at 105°C 100kHz

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please refer to page 3 for the minimum order quantity.

No marked, [1] will be put at 12th digit of type numbering system.
■ : In this case, [4] will be put at 12th digit of type numbering system.
▲ : In this case, [6] will be put at 12th digit of type numbering system.
● : In this case, [9] will be put at 12th digit of type numbering system.

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