

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

PCZ

Chip Type, Higher Capacitance
High Temperature Range



For SMD



High Ripple Current



Low Impedance



For High Frequency



Long Life



Anti-Solvent Feature

Expanded

- High reliability, Low ESR, High ripple current.
- Long life of 2000 hours at 150°C.
- SMD type : Lead free reflow soldering condition at 260°C peak complete correspondence.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- ESR after Endurance at -40°C.
- AEC-Q200 compliant. Please contact us for details.

PCZ

High Temperature

PCH



Specifications

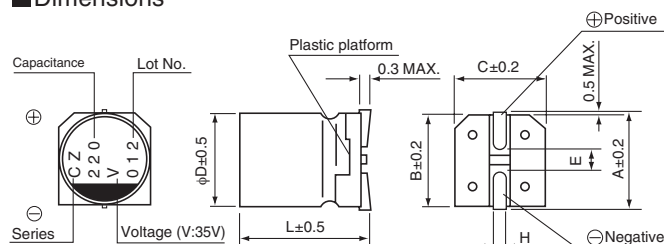
Item	Performance Characteristics								
Category Temperature Range	-55 to +150°C								
Rated Voltage Range	16 to 63V								
Rated Capacitance Range	12 to 1000μF								
Capacitance Tolerance	±20% at 120Hz, 20°C								
Tangent of loss angle (tan δ)	Less than or equal to the specified value at 120Hz, 20°C								
ESR (※ 1)	Less than or equal to the specified value at 100kHz, 20°C								
Leakage Current (※ 2)	After 2 minutes' application of rated voltage, leakage current is not more than 0.03CV or 3(μA), whichever is greater.								
Temperature Characteristics (Max.Impedance Ratio)	Z+150°C / Z+20°C ≤ 2.0 (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 150°C. <table border="1"> <tr> <td>Capacitance change</td><td>Within ± 20% of initial capacitance value (※3)</td></tr> <tr> <td>tan δ</td><td>150% or less of the initial specified value</td></tr> <tr> <td>ESR (※ 1)</td><td>200% or less of the initial specified value</td></tr> <tr> <td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table>	Capacitance change	Within ± 20% of initial capacitance value (※3)	tan δ	150% or less of the initial specified value	ESR (※ 1)	200% or less of the initial specified value	Leakage current (※ 2)	Less than or equal to the initial specified value
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ESR (※ 1)	200% or less of the initial specified value								
Leakage current (※ 2)	Less than or equal to the initial specified value								
ESR after Endurance (※ 1)	Less than or equal to the specified value at 100kHz, -40°C								
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 2000 hours at 85°C, 85% RH. <table border="1"> <tr> <td>Capacitance change</td><td>Within ± 20% of initial capacitance value (※3)</td></tr> <tr> <td>tan δ</td><td>150% or less of the initial specified value</td></tr> <tr> <td>ESR (※ 1)</td><td>200% or less of the initial specified value</td></tr> <tr> <td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table>	Capacitance change	Within ± 20% of initial capacitance value (※3)	tan δ	150% or less of the initial specified value	ESR (※ 1)	200% or less of the initial specified value	Leakage current (※ 2)	Less than or equal to the initial specified value
Capacitance change	Within ± 20% of initial capacitance value (※3)								
tan δ	150% or less of the initial specified value								
ESR (※ 1)	200% or less of 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. 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 case peak temperature is 260°C or less, reflow soldering shall be two times maximum. Measurement for solder temperature profile shall be made at the capacitor top. <table border="1"> <tr> <td>Capacitance change</td><td>Within ± 10% of the initial capacitance value (※3)</td></tr> <tr> <td>tan δ</td><td>130% or less than the initial specified value</td></tr> <tr> <td>ESR (※ 1)</td><td>130% or less than the initial specified value</td></tr> <tr> <td>Leakage current (※ 2)</td><td>Less than or equal to the initial specified value</td></tr> </table>	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
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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



Size	φ8 × 7L	φ8 × 10L	φ8 × 12L	φ10 × 8L	φ10 × 10L	φ10 × 12.7L
φD	8.0	8.0	8.0	10.0	10.0	10.0
L	6.9	9.9	11.9	7.9	9.9	12.6
A	9.0	9.0	9.0	11.0	11.0	11.0
B	8.3	8.3	8.3	10.3	10.3	10.3
C	8.3	8.3	8.3	10.3	10.3	10.3
E	3.2	3.2	3.2	4.6	4.6	4.6
H	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

Type numbering system (Example : 35V 220μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
P	C	Z	1	V	2	2	1	M	C	L	1	G	S
Taping code													
Size code													
Configuration													
Capacitance tolerance (±20%)													
Rated capacitance (220μF)													
Rated voltage (35V)													
Series name													
Type													

Voltage

V	16	20	25	35	50	63
Code	C	D	E	V	H	J

Frequency coefficient of rated ripple current

Frequency	120Hz	1kHz	10kHz	100kHz or more
Coefficient	0.05	0.30	0.70	1.00

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PCZ

■Dimensions

Rated Voltage (V) (code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Initial ESR (mΩ) (20°C / 100kHz)	Low temp. ESR after Endurance (mΩ) (-40°C / 100kHz)	Rated Ripple (mArms) (150°C/100kHz)	Part Number
16 (1C)	20	220	8×7	0.08	30	60	800	PCZ1C221MCL1GS
		470	▲ 8×10	0.08	17	34	1900	PCZ1C471MCL6GS
		470	10×8	0.08	32	64	1400	PCZ1C471MCL1GS
		560	△ 8×12	0.08	16	32	2000	PCZ1C561MCL2GS
		680	10×10	0.08	19	38	1900	PCZ1C681MCL1GS
		1000	10×12.7	0.08	13	26	2200	PCZ1C102MCL1GS
20 (1D)	25	100	8×7	0.08	39	78	600	PCZ1D101MCL1GS
		220	▲ 8×10	0.08	20	40	1800	PCZ1D221MCL6GS
		220	10×8	0.08	33	66	1400	PCZ1D221MCL1GS
		270	△ 8×12	0.08	18	36	1900	PCZ1D271MCL2GS
		330	10×10	0.08	20	40	1800	PCZ1D331MCL1GS
		470	10×12.7	0.08	15	30	2100	PCZ1D471MCL1GS
25 (1E)	31	68	8×7	0.08	41	82	600	PCZ1E680MCL1GS
		150	▲ 8×10	0.08	20	40	1800	PCZ1E151MCL6GS
		150	10×8	0.08	33	66	1400	PCZ1E151MCL1GS
		180	△ 8×12	0.08	19	38	1900	PCZ1E181MCL2GS
		270	10×10	0.08	20	40	1800	PCZ1E271MCL1GS
		330	10×12.7	0.08	15	30	2100	PCZ1E331MCL1GS
35 (1V)	43	47	8×7	0.08	44	88	600	PCZ1V470MCL1GS
		100	▲ 8×10	0.08	22	44	1700	PCZ1V101MCL6GS
		100	10×8	0.08	33	66	1400	PCZ1V101MCL1GS
		150	△ 8×12	0.08	21	42	1800	PCZ1V151MCL2GS
		180	10×10	0.08	20	40	1800	PCZ1V181MCL1GS
		220	10×12.7	0.08	16	32	2000	PCZ1V221MCL1GS
50 (1H)	63	22	8×7	0.08	48	96	600	PCZ1H220MCL1GS
		47	▲ 8×10	0.08	28	56	1500	PCZ1H470MCL6GS
		47	10×8	0.08	35	70	1300	PCZ1H470MCL1GS
		56	△ 8×12	0.08	27	54	1500	PCZ1H560MCL2GS
		68	10×10	0.08	28	56	1500	PCZ1H680MCL1GS
		100	10×12.7	0.08	24	48	1600	PCZ1H101MCL1GS
63 (1J)	79	12	8×7	0.08	52	104	400	PCZ1J120MCL1GS
		27	▲ 8×10	0.08	38	76	1300	PCZ1J270MCL6GS
		27	10×8	0.08	37	74	1300	PCZ1J270MCL1GS
		39	△ 8×12	0.08	35	70	1300	PCZ1J390MCL2GS
		47	10×10	0.08	33	66	1400	PCZ1J470MCL1GS
		68	10×12.7	0.08	28	56	1500	PCZ1J680MCL1GS

No marked, [1] will be put at 12th digit of type numbering system.
△ : In this case, [2] will be put at 12th digit of type numbering system.
▲ : In this case, [6] will be put at 12th digit of type numbering system.

Blue : New product (as of October 2020)

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NICHICON CORPORATION