PCZ

Chip Type, Higher Capacitance
High Temperature Range

For SMD | High Ripple Current | Low Impedance | For High Frequency | Long Life

- 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 Qualified. 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. ※
Temperature Characteristics (Max.Impedance Ratio)	Z(−55°C) / Z(+20°C) ≦ 1.25 (100kHz)
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. 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
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. 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. 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.

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

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

Size	Code
Standard	L
Vibration Resistance	※Please ask for Part Number.

■Dimensions

【Standard】

【Vibration Resistance】

Aid electrode

※ φ8×10L(φ8×10.5L),φ10×10L(φ10×10.5L),φ10×12.7L(φ10×13.2L) :
The vibration structure-resistant product is also available upon request, please ask for details.
( ) : Size of the vibration structure-resistant product.

Standard (mm)

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

Vibration Resistance (mm)

Size	φ8×10.5L	φ10×10.5L	φ10×13.2L
φD	8.0	10.0	10.0
L	10.0	10.0	12.7
A	9.0	11.0	11.0
B	8.3	10.3	10.3
C	8.3	10.3	10.3
E	3.1	4.6	4.6
H	1.1 to 1.5	1.1 to 1.5	1.1 to 1.5

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

● Dimension table in next page.

PCZ

■Dimensions

Rated Voltage (V) (code)	Surge Voltage (V)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	Initial ESR (mΩ) (20℃/100kHz)	Low temp. ESR after Endurance (mΩ) (−40℃ /100kHz)	Rated Ripple (mArms) (150℃ /100kHz)	Part Number
16 (1C)	20	220	8×7	0.08	105	30	60	800	PCZ1C221MCL1GS
		470	▲8×10	0.08	225	17	34	1900	PCZ1C471MCL6GS
		470	10×8	0.08	225	32	64	1400	PCZ1C471MCL1GS
		560	△8×12	0.08	268	16	32	2000	PCZ1C561MCL2GS
		680	10×10	0.08	326	19	38	1900	PCZ1C681MCL1GS
		1000	10×12.7	0.08	480	13	26	2200	PCZ1C102MCL1GS
20 (1D)	25	100	8×7	0.08	60	39	78	600	PCZ1D101MCL1GS
		220	▲8×10	0.08	132	20	40	1800	PCZ1D221MCL6GS
		220	10×8	0.08	132	33	66	1400	PCZ1D221MCL1GS
		270	△8×12	0.08	162	18	36	1900	PCZ1D271MCL2GS
		330	10×10	0.08	198	20	40	1800	PCZ1D331MCL1GS
		470	10×12.7	0.08	282	15	30	2100	PCZ1D471MCL1GS
25 (1E)	31	68	8×7	0.08	51	41	82	600	PCZ1E680MCL1GS
		150	▲8×10	0.08	112	20	40	1800	PCZ1E151MCL6GS
		150	10×8	0.08	112	33	66	1400	PCZ1E151MCL1GS
		180	△8×12	0.08	135	19	38	1900	PCZ1E181MCL2GS
		270	10×10	0.08	202	20	40	1800	PCZ1E271MCL1GS
		330	10×12.7	0.08	247	15	30	2100	PCZ1E331MCL1GS
35 (1V)	43	47	8×7	0.08	49	44	88	600	PCZ1V470MCL1GS
		100	▲8×10	0.08	105	22	44	1700	PCZ1V101MCL6GS
		100	10×8	0.08	105	33	66	1400	PCZ1V101MCL1GS
		150	△8×12	0.08	157	21	42	1800	PCZ1V151MCL2GS
		180	10×10	0.08	189	20	40	1800	PCZ1V181MCL1GS
		220	10×12.7	0.08	231	16	32	2000	PCZ1V221MCL1GS
50 (1H)	63	22	8×7	0.08	33	48	96	600	PCZ1H220MCL1GS
		47	▲8×10	0.08	70	28	56	1500	PCZ1H470MCL6GS
		47	10×8	0.08	70	35	70	1300	PCZ1H470MCL1GS
		56	△8×12	0.08	84	27	54	1500	PCZ1H560MCL2GS
		68	10×10	0.08	102	28	56	1500	PCZ1H680MCL1GS
		100	10×12.7	0.08	150	24	48	1600	PCZ1H101MCL1GS
63 (1J)	79	12	8×7	0.08	22	52	104	400	PCZ1J120MCL1GS
		27	▲8×10	0.08	51	38	76	1300	PCZ1J270MCL6GS
		27	10×8	0.08	51	37	74	1300	PCZ1J270MCL1GS
		39	△8×12	0.08	73	35	70	1300	PCZ1J390MCL2GS
		47	10×10	0.08	88	33	66	1400	PCZ1J470MCL1GS
		68	10×12.7	0.08	128	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.

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.