CBBAD

for defense

- 125°C series, high heat resistance, leaded type.
- Low ESR, high frequency and low impedance.
- The national military standard level meets the environmental requirements of vibration and low pressure.
- It is suitable for energy storage, filtering and bypass in electronic circuits in aerospace, aviation, cold, high altitude and ocean.

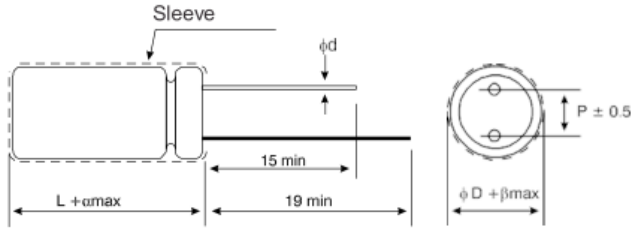
Main technical indicators

Item	characteristic
Operating temperature range	-55℃~+125℃
Rated operating voltage range	10V~100V
Nominal capacitance range	8.2μF~22000μF
Allowable deviation of nominal capacitance	M（±20%） （25℃，120Hz）
DC leakage current*1	I≤0.01$C_R U_R$（μA） （25℃，2min） C_R: Nominal capacitance (μF); U_R: Rated voltage (V)
Loss tangent tgδ (max)	For details, please refer to the "List of Product Specifications and Technical Parameters"（25℃，120Hz）
ESR (maximum)*2	For details, please refer to the "List of Product Specifications and Technical Parameters"（25℃，100KHz）
Low temperature characteristics (capacitance rate of change)	($C_{25℃}$/$C_{-55℃}$) /$C_{25℃}$≤35% （25℃，120Hz）
Durability (High Temperature Test)	The rated voltage is applied at 125°C for 2000h, and after recovery for 24h, the test is at room temperature (25°C±5°C), and its electrical performance conforms to: Rate of change in capacitance: ≤± 15% of initial measurements DC leakage current: ≤ initial prescriptive value The loss angle is tangent: ≤ initial measurements ESR: ≤ 200% of the initial measurement
Store at high temperatures	After storage at 125 °C for 1000h, recovery for 24 h, and test at room temperature (25 °C±5 °C), its electrical performance conforms to: Rate of change in capacitance: ≤± 15% of initial measurements DC leakage current: ≤ initial prescriptive value The loss angle is tangent: ≤ initial measurements ESR: ≤ 200% of the initial measurement

Execution standard number：Q/MN21002－2020 GJB10175－2021

Note: *1 1KΩ protection resistor in series during testing and charging; *2 The test location is the root of the capacitor lead terminal.

Outline drawing and size table (mm)



Ø	6.3	8	10	12.5	16	18
F	2.5	3.5	5.0		7.5	
d	0.6				0.8	
A	1.0		2.0			
B	0.5			1.0		

PART NUMBER

CBBAD 107 M 1H O 100160

- 100160: D*L 10*16
- O: package
- 1H: voltage code
- M: capacitance tolerance
- 107: capacitance code
- CBBAD: series

Code	Lead Forming Type
O	Bulk
T	5mm Chip tape
A	(Φ4~Φ6.3)2.5mm tape
F	(Φ4~Φ8)5mm tape
P	Φ≥Φ8mm original(vertical)tape
M	5mm Lead forming
C	C Lead forming
B	B Lead forming
D	(Φ4~Φ8)2.5mm Lead forming

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■ List of product specifications and technical parameters

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
10	270	6.3×8	0.12	28	880
	330	6.3×11	0.12	25	1040
	390	6.3×11	0.12	25	1040
	470	8×8	0.12	25	1040
	560	8×8	0.12	25	1040
	680	8×11.5	0.12	20	1200
	820	8×11.5	0.12	20	1200
	1000	10×10	0.12	18	1200
	1200	10×12.5	0.13	18	1360
	1500	10×12.5	0.13	18	1360
	1800	10×16	0.13	18	1520
	2200	10×20	0.13	18	1600
	2700	12.5×16	0.13	15	1760
	3300	12.5×20	0.14	15	1920
	3900	12.5×20	0.14	15	1920
	4700	12.5×25	0.15	15	2000
	5600	12.5×25	0.15	15	2000
	6800	16×25	0.16	15	2120
	8200	16×25	0.16	15	2120
	10000	16×30	0.17	15	2320
	12000	16×35	0.18	15	2400
	15000	18×30	0.18	15	2400
	18000	18×35	0.18	15	2520
	22000	18×40	0.19	15	2680
16	180	6.3×8	0.12	28	880
	220	6.3×8	0.12	28	880
	270	6.3×11	0.12	25	1040
	330	8×8	0.12	25	1040
	390	8×8	0.12	25	1040
	470	8×11.5	0.12	20	1200
	560	8×11.5	0.12	20	1200
	680	10×10	0.12	18	1200
	820	10×12.5	0.12	18	1360
	1000	10×12.5	0.12	18	1360
	1200	10×16	0.12	18	1520
	1500	12.5×16	0.13	15	1760
	1800	12.5×16	0.13	15	1760
	2200	12.5×20	0.13	15	1920
	2700	12.5×20	0.14	15	1920
	3300	12.5×25	0.14	15	2000

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
16	3900	12.5×25	0.15	15	2000
	4700	16×25	0.15	15	2120
	5600	16×30	0.16	15	2320
	6800	16×35	0.16	15	2360
	8200	16×35	0.16	15	2360
	10000	18×30	0.17	15	2400
	12000	18×35	0.18	15	2520
	15000	18×40	0.18	15	2680
20	100	6.3×8	0.12	28	960
	120	6.3×8	0.12	28	960
	150	6.3×11	0.12	25	1120
	180	6.3×11	0.12	25	1120
	220	8×8	0.12	25	1120
	270	8×11.5	0.12	20	1280
	330	8×11.5	0.12	20	1280
	390	10×10	0.12	18	1280
	470	10×12.5	0.12	18	1440
	560	10×12.5	0.12	18	1440
	680	10×16	0.12	18	1600
	820	10×16	0.12	18	1600
	1000	12.5×16	0.13	18	1880
	1200	12.5×16	0.13	18	1880
	1500	12.5×20	0.13	18	2080
	1800	12.5×20	0.14	18	2080
	2200	12.5×25	0.14	15	2120
	2700	12.5×25	0.14	15	2120
	3300	16×25	0.14	15	2240
	3900	16×30	0.15	15	2320
	4700	16×35	0.15	15	2480
	5600	16×35	0.15	15	2480
	6800	18×35	0.16	15	2560
	8200	18×40	0.16	15	2640
	10000	18×40	0.16	15	2640
25	100	6.3×8	0.12	28	800
	120	6.3×11	0.12	25	960
	150	6.3×11	0.12	25	960
	180	8×8	0.12	25	1120
	220	8×11.5	0.12	20	1280
	270	8×11.5	0.12	20	1280
	330	10×10	012	18	1280

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■ List of product specifications and technical parameters

rated voltage v	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
25	390	10×10	0.12	18	1280
	470	10×12.5	0.12	18	1440
	560	10×12.5	0.12	18	1440
	680	10×16	0.12	18	1600
	820	12.5×16	0.12	16	1880
	1000	12.5×16	0.12	16	1880
	1200	12.5×20	0.13	16	2080
	1500	12.5×20	0.13	16	2080
	1800	12.5×25	0.14	15	2120
	2200	16×25	0.14	15	2240
	2700	16×25	0.14	15	2240
	3300	16×30	0.14	15	2360
	3900	16×35	0.14	15	2480
	4700	18×30	0.14	15	2560
	5600	18×30	0.15	15	2560
	6800	18×35	0.15	15	2600
	8200	18×40	0.16	15	2640
35	68	6.3×8	0.12	28	880
	82	6.3×11	0.12	25	1040
	100	8×8	0.12	25	1040
	120	8×8	0.12	25	1040
	150	8×11.5	0.12	22	1200
	180	8×11.5	0.12	22	1200
	220	10×10	0.12	20	1200
	270	10×12.5	0.12	20	1360
	330	10×16	0.12	20	1520
	390	12.5×16	0.12	20	1760
	470	12.5×16	0.12	20	1760
	560	12.5×20	0.12	17	1920
	680	12.5×25	0.12	17	2120
	820	12.5×25	0.12	17	2120
	1000	16×25	0.12	17	2400
	1200	16×25	0.13	17	2400
	1500	16×30	0.13	17	2480
	1800	16×35	0.13	17	2480
	2200	18×30	0.13	17	2480
	2700	18×30	0.13	17	2480
	3300	18×35	0.13	17	2640
	3900	18×35	0.13	17	2640
	4700	18×40	0.13	17	2800

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
40	47	6.3×8	0.12	35	880
	56	6.3×11	0.12	32	1040
	68	6.3×11	0.12	32	1040
	82	8×8	0.12	32	1040
	100	8×11.5	0.12	30	1200
	120	8×11.5	0.12	30	1200
	150	10×10	0.12	28	1200
	180	10×10	0.12	28	1200
	220	10×12.5	0.12	25	1360
	270	10×16	0.12	22	1520
	330	10×16	0.12	22	1520
	390	12.5×16	0.12	20	1760
	470	12.5×16	0.12	20	1760
	560	12.5×20	0.12	20	1920
	680	12.5×20	0.12	20	1920
	820	12.5×25	0.12	20	2120
	1000	12.5×25	0.12	20	2120
	1200	16×25	0.12	17	2400
	1500	16×30	0.12	16	2440
	1800	16×35	0.12	16	2480
	2200	16×35	0.12	16	2480
	2700	18×35	0.12	16	2640
	3300	18×40	0.12	16	2800
50	27	6.3×8	0.12	35	640
	33	6.3×11	0.12	32	800
	39	6.3×11	0.12	32	800
	47	8×8	0.12	32	800
	56	8×8	0.12	32	800
	68	8×11.5	0.12	30	960
	82	10×10	0.12	28	960
	100	10×10	0.12	28	960
	120	10×12.5	0.12	25	1120
	150	10×16	0.12	21	1280
	180	10×16	0.12	21	1280
	220	12.5×16	0.12	18	1600
	270	12.5×16	0.12	18	1600
	330	12.5×20	0.12	18	1720
	390	12.5×20	0.12	18	1720
	470	12.5×25	0.12	17	1800
	560	12.5×25	0.12	17	1800

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rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
50	680	16×25	0.12	16	2040
	820	16×30	0.12	16	2200
	1000	16×35	0.12	16	2280
	1200	16×35	0.12	16	2280
	1500	18×30	0.12	16	2400
	1800	18×35	0.12	16	2520
	2200	18×40	0.12	16	2680
63	18	6.3×8	0.10	45	640
	22	6.3×11	0.10	40	800
	27	8×8	0.10	40	800
	33	8×8	0.10	40	800
	39	8×11.5	0.10	35	960
	47	8×11.5	0.10	35	960
	56	10×10	0.10	30	960
	68	10×12.5	0.10	25	1120
	82	10×12.5	0.10	25	1120
	100	10×16	0.10	22	1280
	120	10×16	0.10	22	1280
	150	12.5×16	0.10	18	1520
	180	12.5×16	0.10	18	1520
	220	12.5×20	0.10	17	1800
	270	12.5×25	0.10	17	2000
	330	12.5×25	0.10	17	2000
	390	16×25	0.10	16	2240
	470	16×25	0.10	16	2240
	560	16×30	0.10	16	2320
	680	16×35	0.10	16	2360
	820	18×30	0.10	16	2360
	1000	18×35	0.10	16	2400
	1200	18×40	0.10	16	2680
80	8.2	6.3×8	0.10	50	520
	10	6.3×11	0.10	45	680
	12	6.3×11	0.10	45	680
	15	8×8	0.10	45	680
	18	8×11.5	0.10	40	840
	22	8×11.5	0.10	40	840

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (120Hz)	ESR (mΩ,25℃) (100kHz)	Ripple current mA,rms (100KHz, 125℃)
80	27	8×11.5	0.10	40	840
	33	10×10	0.10	35	840
	39	10×12.5	0.10	30	1000
	47	10×12.5	0.10	30	1000
	56	10×16	0.10	25	1160
	68	10×20	0.10	24	1320
	82	12.5×16	0.10	22	1400
	100	12.5×20	0.10	20	1480
	120	12.5×20	0.10	20	1480
	150	12.5×25	0.10	18	1800
	180	12.5×25	0.10	18	1800
	220	16×25	0.10	18	2000
	270	16×30	0.10	18	2160
	330	16×35	0.10	18	2320
	390	18×30	0.10	17	2320
	470	18×35	0.10	17	2360
	560	18×40	0.10	17	2480
	680	18×40	0.10	17	2480
100	27	10×10	0.12	40	480
	33	10×12.5	0.12	35	640
	39	10×12.5	0.12	35	640
	47	10×16	0.12	30	784
	56	10×20	0.12	26	1040
	68	12.5×16	0.12	24	1160
	82	12.5×20	0.12	22	1280
	100	12.5×20	0.12	22	1280
	120	12.5×25	0.12	22	1560
	150	12.5×25	0.12	22	1560
	180	16×25	0.12	20	1760
	220	16×25	0.12	20	1760
	270	16×30	0.12	20	1880
	330	16×35	0.12	20	2040
	390	18×30	0.12	19	2040
	470	18×35	0.12	19	2160
	560	18×40	0.12	18	2280

■ Ripple current frequency coefficient

Frequency (f)	1KHz≤f<1KHz	1KHz≤f<10KHz	10KHz≤f<100KHz	100KHz≤f<300KHz
coefficient	0.05	0.3	0.7	1.0