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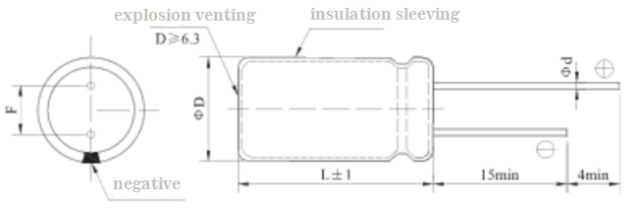
- There are reliability indicators, and the five-level failure rate ($\lambda \leq 1\times10^{-5}$).
- It meets the environmental requirements of vibration, low pressure, humidity resistance and other environmental requirements of the national military standard GJB603-88
- It is suitable for filtering, coupling and bypass in the electronic unified circuit of aerospace, aviation, alpine, high altitude and ocean.

■ Main technical indicators

Item	characteristic
Operating temperature range	-55℃~+105℃（≤100V）；-40℃~+105℃（>100V）
Rated operating voltage range	6.3V~450V
Nominal capacitance range	1.0~10000μF
Allowable deviation of nominal capacitance	M（-20%~+20%） （25℃，100Hz）
DC leakage current（25℃，5min）	I≤0.02CRUR or 4（μA） 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℃，100Hz）
Impedance Z (max)	For details, please refer to the "List of Product Specifications and Technical Parameters"（25℃，100KHz）
Temperature characteristics (100Hz, impedance ratio)	U_R(V) / 6.3~16 / 25~100 / 160~250 / 350~450 Z（-55℃）/Z（+25℃） / ≤4 / ≤3 / — / — Z（-40℃）/Z（+25℃） / — / — / ≤8 / ≤12
Durability (High Temperature Test)	The rated voltage with ripple current is applied at 105°C for 2000h, and after recovery for 24h, the test is carried out at room temperature (25°C±5°C), and its electrical performance conforms to: Rate of change in capacitance: ≤± 20% of the initial measurement DC leakage current: ≤ initial prescriptive value The loss angle is tangent: ≤ 200% of the initial measurement
Store at high temperatures	Left at 105°C for 1000h, after the test, the normal temperature (25°C±5°C) was restored to the test, and its electrical properties conformed to: Rate of change in capacitance: ≤± 20% of the initial measurement DC leakage current: ≤ initial prescriptive value The loss angle is tangent: ≤ 200% of the initial measurement

Execution standard number：Q/MN20077－2010 GJB603－88

■ Outline drawing and size table (mm)



D	+0.5				+1.0		
	5	6.3	8	10	12.5	16	18
F±0.5	2.0	2.5	3.5	5		7.5	
d±0.1	0.5		0.6			0.8	

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■ List of product specifications and technical parameters

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	With (mΩ,25℃) (100kHz)	Ripple current mA,rms (100Hz,105℃)
6.3 0J	220	8×12	0.24	0.60	67
	330	10×12.5	0.24	0.40	94
	470	10×16	0.24	0.28	127
	680	10×20	0.24	0.20	170
	1000	10×25	0.24	0.15	231
	1500	12.5×20	0.24	0.11	283
	2200	12.5×25	0.26	0.087	383
	3300	12.5×35	0.28	0.068	555
	4700	16×30	0.30	0.056	694
	6800	16×40	0.34	0.048	964
	10000	18×40	0.42	0.041	1240
10 1A	150	8×12	0.20	0.68	60
	220	8×12	0.20	0.48	73
	330	10×12.5	0.20	0.33	102
	470	10×16	0.20	0.24	137
	680	10×20	0.20	0.17	184
	1000	10×30	0.20	0.12	250
	1500	12.5×25	0.20	0.09	342
	2200	12.5×35	0.22	0.068	469
	3300	16×30	0.24	0.063	629
	4700	16×35	0.26	0.046	860
	6800	18×40	0.30	0.04	1106
16 1C	100	8×12	0.16	0.68	61
	150	8×12	0.16	0.47	75
	220	10×12.5	0.16	0.33	104
	330	10×16	0.16	0.23	144
	470	10×20	0.16	0.18	192
	680	10×30	0.16	0.13	283
	1000	12.5×25	0.16	0.095	351
	1500	12.5×30	0.16	0.072	471
	2200	12.5×40	0.18	0.057	658
	3300	16×35	0.20	0.047	853
	4700	18×35	0.22	0.041	1080
	5600	18×40	0.26	0.038	1260
25V	68	6.3×11	0.14	0.75	44

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	With (mΩ,25℃) (100kHz)	Ripple current mA,rms (100Hz,105℃)
25 1E	100	8×12	0.14	0.52	63
	150	8×12	0.14	0.45	77
	220	10×12	0.14	0.39	107
	330	10×16	0.14	0.23	148
	470	10×20	0.14	0.18	198
	680	12.5×20	0.14	0.15	266
	1000	12.5×25	0.14	0.09	361
	1500	12.5×40	0.14	0.058	559
	2200	16×35	0.16	0.048	716
	3300	16×40	0.18	0.045	938
	4700	18×40	0.20	0.040	1187
35 1V	47	8×12	0.12	0.69	49
	68	8×12	0.12	0.48	59
	100	10×12.5	0.12	0.32	82
	150	10×16	0.12	0.23	113
	220	10×20	0.12	0.17	153
	330	10×30	0.12	0.12	230
	470	12.5×25	0.12	0.093	280
	680	12.5×30	0.12	0.072	369
	1000	12.5×40	0.12	0.048	517
	1500	16×35	0.12	0.048	670
	2200	16×40	0.14	0.042	868
	3300	18×40	0.16	0.032	1127
50V 1H	33	8×12	0.10	0.65	50
	47	8×12	0.10	0.45	59
	68	10×16	0.10	0.31	92
	100	10×20	0.10	0.22	125
	150	12.5×25	0.10	0.15	192
	220	12.5×30	0.10	0.11	254
	330	12.5×35	0.10	0.084	336
	470	12.5×35	0.10	0.066	401
	680	16×30	0.10	0.054	505
	1000	16×40	0.10	0.046	708
	1500	18×35	0.10	0.040	860
	2200	18×40	0.12	0.035	1110

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■ List of product specifications and technical parameters

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	With (mΩ,25℃) (100kHz)	Ripple current mA,rms (100Hz,105℃)
63 1J	22	8×12	0.09	1.20	47
	33	8×12	0.09	0.52	58
	47	10×12.5	0.09	0.37	79
	68	10×20	0.09	0.26	120
	100	10×25	0.09	0.18	162
	150	10×30	0.09	0.13	218
	220	12.5×30	0.09	0.094	294
	330	12.5×35	0.09	0.073	390
	470	16×30	0.09	0.058	487
	680	16×40	0.09	0.048	676
	1000	18×40	0.09	0.041	870
80 1K	15	8×12	0.09	1.20	36
	22	8×12	0.09	0.77	44
	33	10×12.5	0.09	0.53	61
	47	10×20	0.09	0.39	92
	68	10×25	0.09	0.28	124
	100	10×30	0.09	0.21	165
	150	12.5×30	0.09	0.15	225
	220	12.5×35	0.09	0.12	295
	330	16×30	0.09	0.088	378
	470	16×40	0.09	0.069	521
	680	18×40	0.09	0.055	663
100 2A	10	8×12	0.08	3.1	51
	15	10×12.5	0.08	2.5	71
	22	10×16	0.08	1.25	98
	33	10×20	0.08	0.9	134
	47	12.5×20	0.08	0.65	179
	68	12.5×25	0.08	0.38	241
	100	12.5×35	0.08	0.26	345
	150	16×30	0.08	0.22	443
	220	16×35	0.08	0.16	579
	330	16×40	0.08	0.13	758
	470	18×40	0.08	0.11	960

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	Ripple current mA,rms (100Hz,105℃)
160 2C	4.7	6.3×11	0.15	50
	6.8	8×12	0.15	72
	10	8×12	0.15	98
	15	10×12.5	0.15	135
	22	10×16	0.15	180
	33	10×20	0.15	240
	47	12.5×20	0.15	275
	68	12.5×25	0.15	380
	82	12.5×25	0.15	490
	100	16×25	0.15	700
	150	16×30	0.15	851
	220	18×30	0.15	1080
	330	18×35	0.15	1300
	470	18×40	0.15	1650
200 2D	3.3	6.3×11	0.15	50
	4.7	8×12	0.15	60
	6.8	8×12	0.15	85
	10	10×12.5	0.15	108
	15	10×16	0.15	140
	22	10×20	0.15	195
	33	12.5×20	0.15	250
	47	12.5×25	0.15	300
	68	12.5×25	0.15	420
	82	16×25	0.15	500
	100	16×25	0.15	725
	150	16×30	0.15	990
	220	18×30	0.15	1120
	330	18×40	0.15	1400
250 2E	4.7	8×12	0.15	50
	6.8	10×12.5	0.15	62
	10	10×16	0.15	92
	15	10×20	0.15	115
	22	12.5×20	0.15	150

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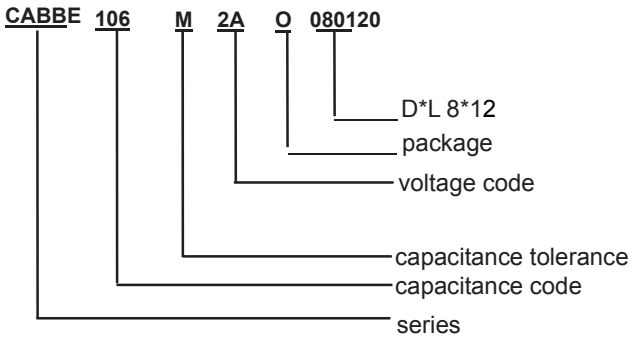
■ List of product specifications and technical parameters

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	Ripple current mA,rms (100Hz,105℃)
250 2E	33	12.5×20	0.15	200
	47	12.5×25	0.15	269
	68	16×25	0.15	340
	82	16×25	0.15	373
	100	16×30	0.15	460
	150	18×30	0.15	530
	220	18×40	0.15	760
350 2V	1.5	6.3×11	0.20	24
	2.2	8×12	0.20	39
	3.3	8×12	0.20	49
	4.7	10×12.5	0.20	59
	6.8	10×12.5	0.20	85
	10	10×16	0.20	104
	15	10×20	0.20	137
	22	12.5×20	0.20	167
	33	12.5×25	0.20	248
	47	16×25	0.20	301
	68	16×30	0.20	356
	82	18×30	0.20	459
	100	18×35	0.20	612
	150	18×40	0.20	743
400 2G	1.0	6.3×11	0.20	21
	1.5	8×12	0.20	29
	2.2	8×12	0.20	36
	3.3	8×12	0.20	50

rated voltage V	capacity μF	Dimensions D×L (mm)	tgδ (100Hz)	Ripple current mA,rms (100Hz,105℃)
400 2G	4.7	10×12.5	0.20	60
	6.8	10×16	0.20	87
	10	10×20	0.20	106
	15	12.5×20	0.20	131
	22	12.5×25	0.20	180
	33	16×25	0.20	252
	47	16×25	0.20	326
	68	16×30	0.20	450
	82	18×30	0.20	612
	100	18×35	0.20	828
	120	18×40	0.20	950
450 2W	2.2	8×12	0.20	32
	3.3	10×12.5	0.20	40
	4.7	10×16	0.20	50
	6.8	10×20	0.20	70
	10	12.5×20	0.20	86
	15	12.5×25	0.20	126
	22	12.5×25	0.20	153
	33	16×25	0.20	212
	47	16×30	0.20	272
	47	18×25	0.20	272
	68	18×30	0.20	369
	82	18×30	0.20	504
	82	18×35	0.20	504
	100	18×40	0.20	640

HOW TO MAKE A PART NUMBER



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