HCDB

PCB DC-Link 金属化聚丙烯膜电容器 (标准型)
PCB DC-Link Metallized Polypropylene Film Capacitor (Standard)

应用 Applications

- 适用于直流滤波、直流链路、电力电子、储能、可再生能源电网接口、电机驱动和汽车等应用。For use in DC filtering, DC link, power electronics, energy storage, renewable energy grid interface, motor drives, and automotive applications.

特点 Features

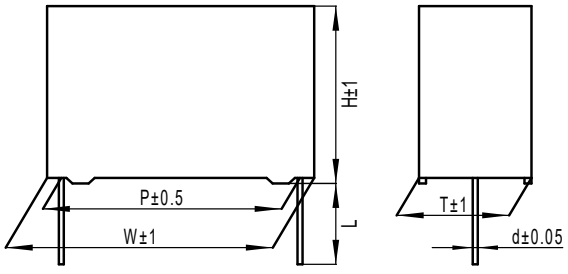
- 金属化聚丙烯薄膜 Metallized polypropylene film
- 塑壳封装，环氧树脂填充 (UL94 V-0) Plastic case, filled with resin (UL94 V-0)
- 良好的自愈能力 Good self-healing properties
- 低损耗，高电流能力 Low losses with high current capability

安全认证 Safety Approvals

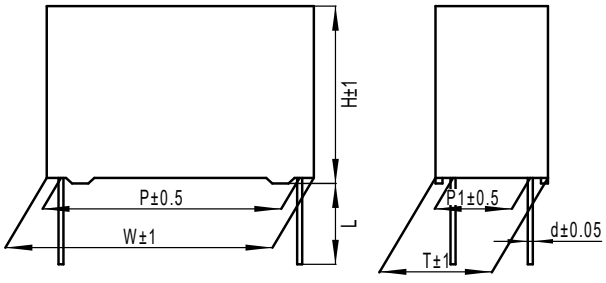
	TUV	EN 61071:2017	0.6 μF-140 μF,±5%,±10%,500 Vd.c.-1500 Vd.c. 40/85/56,40/105/56 R50516398
	UL	UL810	0.6 μF-140 μF,max 3000Vd.c. max 105℃ E222132，CCN:CZDS2

上述认证号代表该产品取得相关认证，但具体认证内容请以我公司提交的认证证书为准。The above certificate No.is just a license No. Please refer to the certificates we supplied for detail information.

外形图 Outline Drawing (mm)



2Pin



4Pin

技术要求 Specifications

参考标准 Reference standards		IEC 61071、GB17702
容量范围 Capacitance range	C_N	0.6 μF~140 μF
容量偏差 Capacitance tolerance		±5%(J), ±10%(K)
额定电压 Rated voltage	U_{NDC}	500 Vd.c.~1500 Vd.c.
最大纹波电压 Maximum applicable peak to peak ripple voltage	U_{pp}	0.2 x U_{NDC}
额定温度 Rated temperature	T_R	85℃
工作温度范围（外壳）Operating Temperature Range(case)	T_{OP}	-40℃~105℃（85℃~105℃：derating 1.35%U_{NDC}/℃）
气候类别 Climatic Category		40/85/56
耐电压 Voltage Proof between terminals	$U_{t\text{-}t}$	1.5 U_{NDC} / 10 s
自感 Self-inductance	L_S	< 1 nH per mm of lead spacing
绝缘电阻 Insulation resistance	I.R.	IR×C_N≥10000 s
失效率 Failure rate		≤ 100 FIT, at 0.5 · U_{NDC}, 40 °C
过电压 Over voltage		1.1 U_N 30 % of on load duration, once per day
		1.15 U_N for max. 30 minutes, once per day
		1.2 U_N for max. 5 minute, once per day
		1.3 U_N for max. 1 minute, once per day

产品订货标识 Ordering number

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
H	C	D	B	/	2	K	1	0	0	5	K	B	0	1	0	0	0	*	*	*	*

第 1~4 位: 产品型号
第 5 位: 分隔号
第 6~7 位: 额定电压
2H=500 Vd.c., 1U=600 Vd.c.,
1V=700 Vd.c., 2K=800 Vd.c.,
1X=900 Vd.c., 3A=1000 Vd.c.,
1M=1100 Vd.c., 3L=1200 Vd.c.,
2M=1300 Vd.c., 3M=1400 Vd.c.,
4M=1500 Vd.c.
第 8~11 位: 额定电容
举例：1005=100×10^5 pF=10 μF
第 12 位: 容量偏差

Digit 1~4: Product model
Digit 5: Separator
Digit 6~7: Rated voltage
2H=500 Vd.c., 1U=600 Vd.c.,
1V=700 Vd.c., 2K=800 Vd.c.,
1X=900 Vd.c., 3A=1000 Vd.c.,
1M=1100 Vd.c., 3L=1200 Vd.c.,
2M=1300 Vd.c., 3M=1400 Vd.c.,
4M=1500 Vd.c.
Digit 8~11: Rated capacity
1005=100×10^5 pF=10 μF
Digit 12: Capacitance tolerance

	J=±5%, K=±10%		J=±5%, K=±10%
第 13 位:	脚距代码	Digit 13:	Foot spacing code
	B=27.5 mm，F=37.5 mm，M=52.5 mm		B=27.5 mm，F=37.5 mm，M=52.5 mm
第 14 位:	引出线数	Digit 14:	Number of lead wires
	0=2 引线		0=2 wires
	A=4 引线，P1=20.3 mm		A=4 wires，P1=20.3 mm
	B=4 引线，P1=10.2 mm		B=4 wires，P1=10.2 mm
第 15 位:	引出直径	Digit 15:	Lead diameter
	1=0.8 mm, 2=1.0 mm, 3=1.2 mm		1=0.8 mm, 2=1.0 mm, 3=1.2 mm
第 16~18 位:	内部特征码	Digit 16~18:	Internal use
第 19~22 位:	引线加工及包装代码	Digit 19~22:	Lead form and packaging code

引线加工和包装代码 lead form and packaging code

第 19 位 Digit 19		第 20~21 位 Digit 20~21		第 22 位 Digit 22	
代码 Code	说明 Explanation	代码 Code	说明 Explanation	代码 Code	说明 Explanation
C	直脚 Straight Lead	00	标准引线长度(5.5 mm) Standard lead length(5.5 mm)	0	引线长度偏差±0.5 mm Lead length tolerance±0.5 mm
		35	引线长度 3.5 mm Lead length 3.5 mm		

备注 Notes:

(1) 其他引线加工和包装方式可以按客户要求提供 Other lead form and packing are available on request.

产品尺寸 Dimensions (mm)

$U_{N,85℃}$=500 Vd.c.; $U_{N,105℃}$=350 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
3	32	18	9	27.5	-	0.8	65	195	10	100	34.5	3.2	HCDB/2H3004+B01000****
4	32	20	11	27.5	-	0.8	65	260	10	100	25.9	3.8	HCDB/2H4004+B01000****
5	32	22	13	27.5	-	0.8	65	325	10	100	20.7	4.4	HCDB/2H5004+B01000****
6	32	22	13	27.5	-	0.8	65	390	10	100	17.2	4.9	HCDB/2H6004+B01000****
7	32	25	13	27.5	-	0.8	65	455	10	100	14.8	5.4	HCDB/2H7004+B01000****
8	32	25	13	27.5	-	0.8	65	520	10	100	12.9	5.7	HCDB/2H8004+B01000****
9	32	28	14	27.5	-	0.8	65	585	10	100	11.5	6.3	HCDB/2H9004+B01000****
10	32	28	14	27.5	-	0.8	65	650	10	100	10.3	6.6	HCDB/2H1005+B01000****
12	32	30	16	27.5	-	0.8	65	780	10	100	8.6	7.5	HCDB/2H1205+B01000****
16	32	33	18	27.5	-	0.8	65	1040	10	100	6.5	9.1	HCDB/2H1605+B01000****
20	32	37	22	27.5	-	0.8	65	1300	10	100	5.2	11.0	HCDB/2H2005+B01000****
24	32	37	22	27.5	-	0.8	65	1560	10	100	4.3	12.1	HCDB/2H2405+B01000****
24	42	33	18	37.5	-	1.0	30	720	10	150	7.8	8.8	HCDB/2H2405+F02000****
30	42	40	20	37.5	-	1.0	30	900	15	150	6.3	10.7	HCDB/2H3005+F02000****
30	42	40	20	37.5	10.2	1.0	30	900	15	150	6.3	10.7	HCDB/2H3005+FB2000****
35	42	44	24	37.5	-	1.0	30	1050	15	150	5.4	12.6	HCDB/2H3505+F02000****
35	42	44	24	37.5	10.2	1.0	30	1050	15	150	5.4	12.6	HCDB/2H3505+FB2000****
40	42	44	24	37.5	-	1.0	30	1200	15	150	4.7	13.5	HCDB/2H4005+F02000****
40	42	44	24	37.5	10.2	1.0	30	1200	15	150	4.7	13.5	HCDB/2H4005+FB2000****
45	42	44	24	37.5	-	1.0	30	1350	15	150	4.2	14.3	HCDB/2H4505+F02000****

45	42	44	24	37.5	10.2	1.0	30	1350	15	150	4.2	14.3	HCDB/2H4505+FB2000****
50	42	45	30	37.5	20.3	1.2	30	1500	15	150	3.8	16.3	HCDB/2H5005+FA3000****
55	42	45	30	37.5	20.3	1.2	30	1650	15	150	3.4	17.1	HCDB/2H5505+FA3000****
60	42	45	30	37.5	20.3	1.2	30	1800	15	150	3.1	17.9	HCDB/2H6005+FA3000****
65	42	46	35	37.5	20.3	1.2	30	1950	20	200	2.9	19.8	HCDB/2H6505+FA3000****
70	42	50	35	37.5	20.3	1.2	30	2100	20	200	2.7	21.1	HCDB/2H7005+FA3000****
75	42	50	35	37.5	20.3	1.2	30	2250	20	200	2.5	21.8	HCDB/2H7505+FA3000****
80	42	55	40	37.5	20.3	1.2	30	2400	20	200	2.4	24.4	HCDB/2H8005+FA3000****
85	42	55	40	37.5	20.3	1.2	30	2550	20	200	2.2	25.2	HCDB/2H8505+FA3000****
90	42	55	40	37.5	20.3	1.2	30	2700	20	200	2.1	25.9	HCDB/2H9005+FA3000****
90	57.5	45	30	52.5	20.3	1.2	15	1350	35	350	4.4	16.8	HCDB/2H9005+MA3000****
95	57.5	50	35	52.5	20.3	1.2	15	1425	35	350	4.2	19.0	HCDB/2H9505+MA3000****
100	57.5	50	35	52.5	20.3	1.2	15	1500	35	350	3.9	19.4	HCDB/2H1006+MA3000****
110	57.5	50	35	52.5	20.3	1.2	15	1650	35	350	3.6	20.4	HCDB/2H1106+MA3000****
120	57.5	55	45	52.5	20.3	1.2	15	1800	35	350	3.3	24.1	HCDB/2H1206+MA3000****
130	57.5	55	45	52.5	20.3	1.2	15	1950	35	350	3.0	25.0	HCDB/2H1306+MA3000****
140	57.5	55	45	52.5	20.3	1.2	15	2100	35	350	2.8	26.0	HCDB/2H1406+MA3000****

$U_{N,85℃}$=600 Vd.c.; $U_{N,105℃}$=420 Vd.c.

Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
2	32	18	9	27.5	-	0.8	65	130	10	100	44.1	2.8	HCDB/1U2004+B01000****
3	32	20	11	27.5	-	0.8	65	195	10	100	29.4	3.6	HCDB/1U3004+B01000****
4	32	22	13	27.5	-	0.8	65	260	10	100	22.1	4.3	HCDB/1U4004+B01000****
5	32	25	13	27.5	-	0.8	65	325	10	100	17.6	4.9	HCDB/1U5004+B01000****
6	32	28	14	27.5	-	0.8	65	390	10	100	14.7	5.5	HCDB/1U6004+B01000****
7	32	30	16	27.5	-	0.8	65	455	10	100	12.6	6.2	HCDB/1U7004+B01000****
8	32	30	16	27.5	-	0.8	65	520	10	100	11.0	6.7	HCDB/1U8004+B01000****
9	32	33	18	27.5	-	0.8	65	585	10	100	9.8	7.4	HCDB/1U9004+B01000****
10	32	33	18	27.5	-	0.8	65	650	10	100	8.8	7.8	HCDB/1U1005+B01000****
11	32	33	18	27.5	-	0.8	65	715	10	100	8.0	8.2	HCDB/1U1105+B01000****
15	32	37	22	27.5	-	0.8	65	975	10	100	5.9	10.3	HCDB/1U1505+B01000****
15	32	37	22	27.5	-	0.8	65	975	10	100	5.9	10.3	HCDB/1U1505+B01000****
20	42	40	20	37.5	-	1.0	30	600	20	175	8.1	9.5	HCDB/1U2005+F02000****
20	42	40	20	37.5	10.2	1.0	30	600	20	175	8.1	9.5	HCDB/1U2005+FB2000****
25	42	44	24	37.5	-	1.0	30	750	20	175	6.5	11.5	HCDB/1U2505+F02000****
25	42	44	24	37.5	10.2	1.0	30	750	20	175	6.5	11.5	HCDB/1U2505+FB2000****
30	42	44	24	37.5	-	1.0	30	900	20	175	5.4	12.6	HCDB/1U3005+F02000****
30	42	44	24	37.5	10.2	1.0	30	900	20	175	5.4	12.6	HCDB/1U3005+FB2000****
35	42	45	30	37.5	20.3	1.2	30	1050	20	175	4.6	14.7	HCDB/1U3505+FA3000****
40	42	45	30	37.5	20.3	1.2	30	1200	20	175	4.0	15.8	HCDB/1U4005+FA3000****
45	42	46	35	37.5	20.3	1.2	30	1350	20	175	3.6	17.7	HCDB/1U4505+FA3000****
48	42	46	35	37.5	20.3	1.2	30	1440	20	175	3.4	18.3	HCDB/1U4805+FA3000****
50	42	50	35	37.5	20.3	1.2	30	1500	20	175	3.2	19.3	HCDB/1U5005+FA3000****
55	42	50	35	37.5	20.3	1.2	30	1650	20	175	2.9	20.2	HCDB/1U5505+FA3000****
60	42	55	40	37.5	20.3	1.2	30	1800	20	175	2.7	22.9	HCDB/1U6005+FA3000****
65	42	55	40	37.5	20.3	1.2	30	1950	20	175	2.5	23.8	HCDB/1U6505+FA3000****
70	42	55	40	37.5	20.3	1.2	30	2100	20	175	2.3	24.7	HCDB/1U7005+FA3000****
75	42	60	45	37.5	20.3	1.2	30	2250	20	175	2.2	27.5	HCDB/1U7505+FA3000****

80	42	60	45	37.5	20.3	1.2	30	2400	20	175	2.0	28.4	HCDB/1U8005+FA3000****
85	42	60	45	37.5	20.3	1.2	30	2550	20	175	1.9	29.2	HCDB/1U8505+FA3000****
50	57.5	45	25	52.5	10.2	1.2	15	750	35	350	6.8	12.7	HCDB/1U5005+MB3000****
55	57.5	45	30	52.5	20.3	1.2	15	825	35	350	6.2	14.2	HCDB/1U5505+MA3000****
60	57.5	45	30	52.5	20.3	1.2	15	900	35	350	5.6	14.8	HCDB/1U6005+MA3000****
65	57.5	50	35	52.5	20.3	1.2	15	975	35	350	5.2	16.9	HCDB/1U6505+MA3000****
70	57.5	50	35	52.5	20.3	1.2	15	1050	35	350	4.8	17.6	HCDB/1U7005+MA3000****
75	57.5	50	35	52.5	20.3	1.2	15	1125	35	350	4.5	18.2	HCDB/1U7505+MA3000****
80	57.5	55	45	52.5	20.3	1.2	15	1200	35	350	4.2	21.2	HCDB/1U8005+MA3000****
90	57.5	55	45	52.5	20.3	1.2	15	1350	35	350	4.0	21.9	HCDB/1U9005+MA3000****
100	57.5	55	45	52.5	20.3	1.2	15	1500	35	350	3.8	22.5	HCDB/1U1006+MA3000****
110	57.5	55	45	52.5	20.3	1.2	15	1650	35	350	3.4	23.7	HCDB/1U1106+MA3000****
120	57.5	65	45	52.5	20.3	1.2	15	1800	35	350	3.1	24.9	HCDB/1U1206+MA3000****
130	57.5	65	45	52.5	20.3	1.2	15	1950	35	350	2.8	27.5	HCDB/1U1306+MA3000****

$U_{N,85℃}$=700 Vd.c.; $U_{N,105℃}$=500 Vd.c.

Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
2	32	18	9	27.5	-	0.8	65	130	10	100	44.1	2.8	HCDB/1V2004+B01000****
3	32	20	11	27.5	-	0.8	65	195	10	100	29.4	3.6	HCDB/1V3004+B01000****
4	32	22	13	27.5	-	0.8	65	260	10	100	22.1	4.3	HCDB/1V4004+B01000****
5	32	25	13	27.5	-	0.8	65	325	10	100	17.6	4.9	HCDB/1V5004+B01000****
6	32	28	14	27.5	-	0.8	65	390	10	100	14.7	5.5	HCDB/1V6004+B01000****
7	32	30	16	27.5	-	0.8	65	455	10	100	12.6	6.2	HCDB/1V7004+B01000****
8	32	30	16	27.5	-	0.8	65	520	10	100	11.0	6.7	HCDB/1V8004+B01000****
9	32	33	18	27.5	-	0.8	65	585	10	100	9.8	7.4	HCDB/1V9004+B01000****
10	32	33	18	27.5	-	0.8	65	650	10	100	8.8	7.8	HCDB/1V1005+B01000****
11	32	33	18	27.5	-	0.8	65	715	10	100	8.0	8.2	HCDB/1V1105+B01000****
15	32	37	22	27.5	-	0.8	65	975	10	100	5.9	10.3	HCDB/1V1505+B01000****
15	32	37	22	27.5	-	0.8	65	975	10	100	5.9	10.3	HCDB/1V1505+B01000****
20	42	40	20	37.5	-	1.0	30	600	20	175	8.1	9.5	HCDB/1V2005+F02000****
20	42	40	20	37.5	10.2	1.0	30	600	20	175	8.1	9.5	HCDB/1V2005+FB2000****
22	42	40	20	37.5	-	1.0	30	660	20	175	7.3	9.9	HCDB/1V2205+F02000****
25	42	44	24	37.5	-	1.0	30	750	20	175	6.5	11.5	HCDB/1V2505+F02000****
25	42	44	24	37.5	10.2	1.0	30	750	20	175	6.5	11.5	HCDB/1V2505+FB2000****
30	42	44	24	37.5	-	1.0	30	900	20	175	5.4	12.6	HCDB/1V3005+F02000****
30	42	44	24	37.5	10.2	1.0	30	900	20	175	5.4	12.6	HCDB/1V3005+FB2000****
35	42	45	30	37.5	20.3	1.2	30	1050	20	175	4.6	14.7	HCDB/1V3505+FA3000****
40	42	45	30	37.5	20.3	1.2	30	1200	20	175	4.0	15.8	HCDB/1V4005+FA3000****
45	42	46	35	37.5	20.3	1.2	30	1350	20	175	3.6	17.7	HCDB/1V4505+FA3000****
48	42	46	35	37.5	20.3	1.2	30	1440	20	175	3.4	18.3	HCDB/1V4805+FA3000****
50	42	50	35	37.5	20.3	1.2	30	1500	20	175	3.2	19.3	HCDB/1V5005+FA3000****
55	42	50	35	37.5	20.3	1.2	30	1650	20	175	2.9	20.2	HCDB/1V5505+FA3000****
60	42	55	40	37.5	20.3	1.2	30	1800	20	175	2.7	22.9	HCDB/1V6005+FA3000****
65	42	55	40	37.5	20.3	1.2	30	1950	20	175	2.5	23.8	HCDB/1V6505+FA3000****
70	42	55	40	37.5	20.3	1.2	30	2100	20	175	2.3	24.7	HCDB/1V7005+FA3000****
75	42	60	45	37.5	20.3	1.2	30	2250	20	175	2.2	27.5	HCDB/1V7505+FA3000****
80	42	60	45	37.5	20.3	1.2	30	2400	20	175	2.0	28.4	HCDB/1V8005+FA3000****
85	42	60	45	37.5	20.3	1.2	30	2550	20	175	1.9	29.2	HCDB/1V8505+FA3000****

50	57.5	45	25	52.5	10.2	1.2	15	750	35	350	6.8	12.7	HCDB/1V5005+MA3000****
55	57.5	45	30	52.5	20.3	1.2	15	825	35	350	6.2	14.2	HCDB/1V5505+MA3000****
60	57.5	45	30	52.5	20.3	1.2	15	900	35	350	5.6	14.8	HCDB/1V6005+MA3000****
65	57.5	50	35	52.5	20.3	1.2	15	975	35	350	5.2	16.9	HCDB/1V6505+MA3000****
70	57.5	50	35	52.5	20.3	1.2	15	1050	35	350	4.8	17.6	HCDB/1V7005+MA3000****
75	57.5	50	35	52.5	20.3	1.2	15	1125	35	350	4.5	18.2	HCDB/1V7505+MA3000****
80	57.5	55	45	52.5	20.3	1.2	15	1200	35	350	4.2	21.2	HCDB/1V8005+MA3000****
85	57.5	55	45	52.5	20.3	1.2	15	1275	35	350	4.0	21.9	HCDB/1V8505+MA3000****
90	57.5	55	45	52.5	20.3	1.2	15	1350	35	350	3.8	22.5	HCDB/1V9005+MA3000****
100	57.5	55	45	52.5	20.3	1.2	15	1500	35	350	3.4	23.7	HCDB/1V1006+MA3000****
110	57.5	55	45	52.5	20.3	1.2	15	1650	35	350	3.1	24.9	HCDB/1V1106+MA3000****
120	57.5	65	45	52.5	20.3	1.2	15	1800	35	350	2.8	27.5	HCDB/1V1206+MA3000****
130	57.5	65	45	52.5	20.3	1.2	15	1950	35	350	2.6	28.6	HCDB/1V1306+MA3000****

$U_{N,85℃}$=800 Vd.c.; $U_{N,105℃}$=560 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
1.5	32	18	9	27.5	-	0.8	65	98	10	95	52.6	2.6	HCDB/2K1504+B01000****
2	32	22	13	27.5	-	0.8	65	130	10	95	39.5	3.2	HCDB/2K2004+B01000****
3	32	22	13	27.5	-	0.8	65	195	10	95	26.3	3.9	HCDB/2K3004+B01000****
4	32	25	13	27.5	-	0.8	65	260	10	95	19.7	4.6	HCDB/2K4004+B01000****
5	32	28	14	27.5	-	0.8	65	325	10	95	15.8	5.3	HCDB/2K5004+B01000****
6	32	30	16	27.5	-	0.8	65	390	10	95	13.2	6.1	HCDB/2K6004+B01000****
7	32	33	18	27.5	-	0.8	65	455	10	95	11.3	6.9	HCDB/2K7004+B01000****
8	32	33	18	27.5	-	0.8	65	520	10	95	9.9	7.4	HCDB/2K8004+B01000****
9	32	37	22	27.5	-	0.8	65	585	10	95	8.8	8.4	HCDB/2K9004+B01000****
10	32	37	22	27.5	-	0.8	65	650	10	95	7.9	8.9	HCDB/2K1005+B01000****
12	32	37	22	27.5	-	0.8	65	780	10	95	6.6	9.8	HCDB/2K1205+B01000****
12	42	33	18	37.5	-	1.0	30	360	18	160	12.0	7.1	HCDB/2K1205+F02000****
15	42	40	20	37.5	-	1.0	30	450	18	160	9.6	8.7	HCDB/2K1505+F02000****
15	42	40	20	37.5	10.2	1.0	30	450	18	160	9.6	8.7	HCDB/2K1505+FB2000****
20	42	44	24	37.5	-	1.0	30	600	18	160	7.2	10.9	HCDB/2K2005+F02000****
20	42	44	24	37.5	10.2	1.0	30	600	18	160	7.2	10.9	HCDB/2K2005+FB2000****
25	42	44	24	37.5	-	1.0	30	750	18	160	5.8	12.2	HCDB/2K2505+F02000****
25	42	44	24	37.5	10.2	1.0	30	750	18	160	5.8	12.2	HCDB/2K2505+FB2000****
30	42	45	30	37.5	20.3	1.2	30	900	18	160	4.8	14.4	HCDB/2K3005+FA3000****
35	42	46	35	37.5	20.3	1.2	30	1050	18	160	4.1	16.5	HCDB/2K3505+FA3000****
40	42	50	35	37.5	20.3	1.2	30	1200	18	160	3.6	18.2	HCDB/2K4005+FA3000****
45	42	55	40	37.5	20.3	1.2	30	1350	18	160	3.2	20.9	HCDB/2K4505+FA3000****
50	42	55	40	37.5	20.3	1.2	30	1500	18	160	2.9	22.1	HCDB/2K5005+FA3000****
55	42	55	40	37.5	20.3	1.2	30	1650	18	160	2.6	23.1	HCDB/2K5505+FA3000****
60	42	60	45	37.5	20.3	1.2	30	1800	18	160	2.4	26.0	HCDB/2K6005+FA3000****
65	42	60	45	37.5	20.3	1.2	30	1950	18	160	2.2	27.0	HCDB/2K6505+FA3000****
50	57.5	50	35	52.5	20.3	1.2	15	750	33	320	6.1	14.3	HCDB/2K5005+MA3000****
55	57.5	50	35	52.5	20.3	1.2	15	825	33	320	5.5	16.5	HCDB/2K5505+MA3000****
60	57.5	50	35	52.5	20.3	1.2	15	900	33	320	5.0	17.2	HCDB/2K6005+MA3000****
65	57.5	50	35	52.5	20.3	1.2	15	975	33	320	4.7	17.9	HCDB/2K6505+MA3000****
70	57.5	55	45	52.5	20.3	1.2	15	1050	33	320	4.3	21.0	HCDB/2K7005+MA3000****
75	57.5	55	45	52.5	20.3	1.2	15	1125	33	320	4.0	21.7	HCDB/2K7505+MA3000****

80	57.5	55	45	52.5	20.3	1.2	15	1200	33	320	3.8	22.4	HCDB/2K8005+MA3000****
85	57.5	55	45	52.5	20.3	1.2	15	1275	33	320	3.6	23.1	HCDB/2K8505+MA3000****
90	57.5	55	45	52.5	20.3	1.2	15	1350	33	320	3.4	23.8	HCDB/2K9005+MA3000****
100	57.5	65	45	52.5	20.3	1.2	15	1500	33	320	3.0	26.5	HCDB/2K1006+MA3000****
110	57.5	65	45	52.5	20.3	1.2	15	1650	33	320	2.8	27.8	HCDB/2K1106+MA3000****

$U_{N,85℃}$=900 Vd.c.; $U_{N,105℃}$=630 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
1	32	18	9	27.5	-	0.8	70	70	9	90	69.8	2.3	HCDB/1X1004+B01000****
1.5	32	20	11	27.5	-	0.8	70	105	9	90	46.5	2.9	HCDB/1X1504+B01000****
2	32	22	13	27.5	-	0.8	70	140	9	90	34.9	3.4	HCDB/1X2004+B01000****
2.5	32	22	13	27.5	-	0.8	70	175	9	90	27.9	3.8	HCDB/1X2504+B01000****
3	32	28	14	27.5	-	0.8	70	210	9	90	23.3	4.4	HCDB/1X3004+B01000****
4	32	28	14	27.5	-	0.8	70	280	9	90	17.4	5.1	HCDB/1X4004+B01000****
5	32	30	16	27.5	-	0.8	70	350	9	90	14.0	5.9	HCDB/1X5004+B01000****
6	32	33	18	27.5	-	0.8	70	420	9	90	11.6	6.8	HCDB/1X6004+B01000****
7	32	33	18	27.5	-	0.8	70	490	9	90	10.0	7.3	HCDB/1X7004+B01000****
8	32	37	22	27.5	-	0.8	70	560	9	90	8.7	8.5	HCDB/1X8004+B01000****
9	32	37	22	27.5	-	0.8	70	630	9	90	7.8	9.0	HCDB/1X9004+B01000****
10	42	33	18	37.5	-	1.0	35	350	17	150	12.8	6.9	HCDB/1X1005+F02000****
12	42	40	20	37.5	-	1.0	35	420	17	150	10.6	8.2	HCDB/1X1205+F02000****
12	42	40	20	37.5	10.2	1.0	35	420	17	150	10.6	8.2	HCDB/1X1205+FB2000****
15	42	44	24	37.5	-	1.0	35	525	17	150	8.5	10.0	HCDB/1X1505+F02000****
15	42	44	24	37.5	10.2	1.0	35	525	17	150	8.5	10.0	HCDB/1X1505+FB2000****
18	42	44	24	37.5	-	1.0	35	630	17	150	7.1	11.0	HCDB/1X1805+F02000****
18	42	44	24	37.5	10.2	1.0	35	630	17	150	7.1	11.0	HCDB/1X1805+FB2000****
20	42	45	30	37.5	10.2	1.2	35	700	17	150	6.4	12.5	HCDB/1X2005+FB3000****
25	42	45	30	37.5	20.3	1.2	35	875	17	150	5.1	14.0	HCDB/1X2505+FA3000****
30	42	46	35	37.5	20.3	1.2	35	1050	17	150	4.3	16.3	HCDB/1X3005+FA3000****
34	42	50	35	37.5	20.3	1.2	35	1190	17	150	3.8	17.9	HCDB/1X3405+FA3000****
40	42	55	40	37.5	20.3	1.2	35	1400	17	150	3.2	21.0	HCDB/1X4005+FA3000****
45	42	55	40	37.5	20.3	1.2	35	1575	17	150	2.8	22.3	HCDB/1X4505+FA3000****
50	42	60	45	37.5	20.3	1.2	35	1750	17	150	2.6	25.2	HCDB/1X5005+FA3000****
55	42	60	45	37.5	20.3	1.2	35	1925	17	150	2.3	26.5	HCDB/1X5505+FA3000****
35	57.5	45	30	52.5	20.3	1.2	15	525	30	300	7.6	12.7	HCDB/1X3505+MA3000****
40	57.5	50	35	52.5	20.3	1.2	15	600	30	300	6.7	14.9	HCDB/1X4005+MA3000****
45	57.5	50	35	52.5	20.3	1.2	15	675	30	300	5.9	15.8	HCDB/1X4505+MA3000****
50	57.5	50	35	52.5	20.3	1.2	15	750	30	300	5.4	16.7	HCDB/1X5005+MA3000****
55	57.5	55	45	52.5	20.3	1.2	15	825	30	300	4.9	19.8	HCDB/1X5505+MA3000****
60	57.5	55	45	52.5	20.3	1.2	15	900	30	300	4.5	20.7	HCDB/1X6005+MA3000****
65	57.5	55	45	52.5	20.3	1.2	15	975	30	300	4.1	21.5	HCDB/1X6505+MA3000****
70	57.5	55	45	52.5	20.3	1.2	15	1050	30	300	3.8	22.3	HCDB/1X7005+MA3000****
75	57.5	65	45	52.5	20.3	1.2	15	1125	30	300	3.6	24.4	HCDB/1X7505+MA3000****
80	57.5	65	45	52.5	20.3	1.2	15	1200	30	300	3.3	25.2	HCDB/1X8005+MA3000****
85	57.5	65	45	52.5	20.3	1.2	15	1275	30	300	3.1	26.0	HCDB/1X8505+MA3000****

$U_{N,85℃}$=1000 Vd.c.； $U_{N,105℃}$=700 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10⁻⁴)		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
1	32	18	9	27.5	-	0.8	75	75	8	80	57.9	2.5	HCDB/3A1004+B01000****
1.5	32	20	11	27.5	-	0.8	75	113	8	80	38.6	3.1	HCDB/3A1504+B01000****
2	32	22	13	27.5	-	0.8	75	150	8	80	29.0	3.7	HCDB/3A2004+B01000****
2.5	32	25	13	27.5	-	0.8	75	188	8	80	23.2	4.3	HCDB/3A2504+B01000****
3	32	28	14	27.5	-	0.8	75	225	8	80	19.3	4.8	HCDB/3A3004+B01000****
4	32	30	16	27.5	-	0.8	75	300	8	80	14.5	5.8	HCDB/3A4004+B01000****
5	32	33	18	27.5	-	0.8	75	375	8	80	11.6	6.8	HCDB/3A5004+B01000****
5.5	32	33	18	27.5	-	0.8	75	413	8	80	10.5	7.1	HCDB/3A5504+B01000****
7	32	37	22	27.5	-	0.8	75	525	8	80	8.3	8.7	HCDB/3A7004+B01000****
8	32	37	22	27.5	-	0.8	75	600	8	80	7.2	9.3	HCDB/3A8004+B01000****
8	42	33	18	37.5	-	1.0	37	296	15	140	13.5	6.7	HCDB/3A8004+F02000****
10	42	40	20	37.5	-	1.0	37	370	15	140	10.8	8.2	HCDB/3A1005+F02000****
10	42	40	20	37.5	10.2	1.0	37	370	15	140	10.8	8.2	HCDB/3A1005+FB2000****
15	42	44	24	37.5	-	1.0	37	555	15	140	7.2	10.9	HCDB/3A1505+F02000****
15	42	44	24	37.5	10.2	1.0	37	555	15	140	7.2	10.9	HCDB/3A1505+FB2000****
20	42	45	30	37.5	20.3	1.2	37	740	15	140	5.4	13.6	HCDB/3A2005+FA3000****
24	42	46	35	37.5	20.3	1.2	37	888	15	140	4.5	15.8	HCDB/3A2405+FA3000****
25	42	50	35	37.5	20.3	1.2	37	925	15	140	4.3	16.6	HCDB/3A2505+FA3000****
30	42	55	40	37.5	20.3	1.2	37	1110	15	140	3.6	19.7	HCDB/3A3005+FA3000****
35	42	55	40	37.5	20.3	1.2	37	1295	15	140	3.1	21.3	HCDB/3A3505+FA3000****
40	42	60	45	37.5	20.3	1.2	37	1480	15	140	2.7	24.5	HCDB/3A4005+FA3000****
30	57.5	45	30	52.5	20.3	1.2	17	510	28	280	7.7	12.7	HCDB/3A3005+MA3000****
35	57.5	50	35	52.5	20.3	1.2	17	595	28	280	6.6	15.0	HCDB/3A3505+MA3000****
40	57.5	50	35	52.5	20.3	1.2	17	680	28	280	5.8	16.1	HCDB/3A4005+MA3000****
45	57.5	55	45	52.5	20.3	1.2	17	765	28	280	5.1	19.3	HCDB/3A4505+MA3000****
50	57.5	55	45	52.5	20.3	1.2	17	850	28	280	4.6	20.3	HCDB/3A5005+MA3000****
55	57.5	55	45	52.5	20.3	1.2	17	935	28	280	4.2	21.3	HCDB/3A5505+MA3000****
60	57.5	65	45	52.5	20.3	1.2	17	1020	28	280	3.8	23.5	HCDB/3A6005+MA3000****
65	57.5	65	45	52.5	20.3	1.2	17	1105	28	280	3.6	24.5	HCDB/3A6505+MA3000****

$U_{N,85℃}$=1100 Vd.c.； $U_{N,105℃}$=770 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10⁻⁴)		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
1	32	20	11	27.5	-	0.8	75	75	8	80	52.5	2.7	HCDB/1M1004+B01000****
1.5	32	22	13	27.5	-	0.8	75	113	8	80	35.0	3.4	HCDB/1M1504+B01000****
2	32	25	13	27.5	-	0.8	75	150	8	80	26.2	4.0	HCDB/1M2004+B01000****
2.5	32	28	14	27.5	-	0.8	75	188	8	80	21.0	4.6	HCDB/1M2504+B01000****
3	32	30	16	27.5	-	0.8	75	225	8	80	17.5	5.3	HCDB/1M3004+B01000****
4	32	33	18	27.5	-	0.8	75	300	8	80	13.1	6.4	HCDB/1M4004+B01000****
5	32	37	22	27.5	-	0.8	75	375	8	80	10.5	7.7	HCDB/1M5004+B01000****
6	32	37	22	27.5	-	0.8	75	450	8	80	8.7	8.5	HCDB/1M6004+B01000****
6.5	42	33	18	37.5	-	1.0	38	247	15	140	15.1	6.4	HCDB/1M6504+F02000****
7	42	40	20	37.5	-	1.0	38	266	15	140	14.0	7.2	HCDB/1M7004+F02000****
7	42	40	20	37.5	-	1.0	38	266	15	140	14.0	7.2	HCDB/1M7004+F02000****
7	42	40	20	37.5	10.2	1.0	38	266	15	140	14.0	7.2	HCDB/1M7004+FB2000****
8	42	40	20	37.5	-	1.0	38	304	15	140	12.2	7.7	HCDB/1M8004+F02000****

8	42	40	20	37.5	10.2	1.0	38	304	15	140	12.2	7.7	HCDB/1M8004+FB2000****
9	42	40	20	37.5	-	1.0	38	342	15	140	10.9	8.1	HCDB/1M9004+F02000****
9	42	40	20	37.5	10.2	1.0	38	342	15	140	10.9	8.1	HCDB/1M9004+FB2000****
10	42	44	24	37.5	-	1.0	38	380	15	140	9.8	9.3	HCDB/1M1005+F02000****
10	42	44	24	37.5	10.2	1.0	38	380	15	140	9.8	9.3	HCDB/1M1005+FB2000****
12	42	44	24	37.5	-	1.0	38	456	15	140	8.2	10.2	HCDB/1M1205+F02000****
12	42	44	24	37.5	10.2	1.0	38	456	15	140	8.2	10.2	HCDB/1M1205+FB2000****
15	42	45	30	37.5	20.3	1.2	38	570	15	140	6.5	12.4	HCDB/1M1505+FA3000****
18	42	46	35	37.5	20.3	1.2	38	684	15	140	5.4	14.4	HCDB/1M1805+FA3000****
20	42	50	35	37.5	20.3	1.2	38	760	15	140	4.9	15.6	HCDB/1M2005+FA3000****
25	42	55	40	37.5	20.3	1.2	38	950	15	140	3.9	18.9	HCDB/1M2505+FA3000****
28	42	55	40	37.5	20.3	1.2	38	1064	15	140	3.5	20.0	HCDB/1M2805+FA3000****
30	42	60	45	37.5	20.3	1.2	38	1140	15	140	3.3	22.3	HCDB/1M3005+FA3000****
35	42	60	45	37.5	20.3	1.2	38	1330	15	140	2.8	24.1	HCDB/1M3505+FA3000****
25	57.5	45	30	52.5	20.3	1.2	18	450	28	280	8.4	12.2	HCDB/1M2505+MA3000****
30	57.5	50	35	52.5	20.3	1.2	18	540	28	280	7.0	14.6	HCDB/1M3005+MA3000****
35	57.5	55	45	52.5	20.3	1.2	18	630	28	280	6.0	17.8	HCDB/1M3505+MA3000****
40	57.5	55	45	52.5	20.3	1.2	18	720	28	280	5.2	19.1	HCDB/1M4005+MA3000****
45	57.5	55	45	52.5	20.3	1.2	18	810	28	280	4.6	20.2	HCDB/1M4505+MA3000****
50	57.5	65	45	52.5	20.3	1.2	18	900	28	280	4.2	22.6	HCDB/1M5005+MA3000****
55	57.5	65	45	52.5	20.3	1.2	18	990	28	280	3.8	23.7	HCDB/1M5505+MA3000****

$U_{N,85℃}$=1200 Vd.c.; $U_{N,105℃}$=850 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
1	32	20	11	27.5	-	0.8	90	90	8	60	48.0	2.8	HCDB/3L1004+B01000****
1.5	32	25	13	27.5	-	0.8	90	135	8	60	32.0	3.6	HCDB/3L1504+B01000****
2	32	28	14	27.5	-	0.8	90	180	8	60	24.0	4.3	HCDB/3L2004+B01000****
3	32	33	18	27.5	-	0.8	90	270	8	60	16.0	5.8	HCDB/3L3004+B01000****
3.5	32	33	18	27.5	-	0.8	90	315	8	60	13.7	6.3	HCDB/3L3504+B01000****
4	32	37	22	27.5	-	0.8	90	360	8	60	12.0	7.2	HCDB/3L4004+B01000****
5	32	37	22	27.5	-	0.8	90	450	8	60	9.6	8.1	HCDB/3L5004+B01000****
5	42	33	18	37.5	-	1.0	45	225	13	100	17.9	5.8	HCDB/3L5004+F02000****
6	42	40	20	37.5	-	1.0	45	270	13	100	14.9	7.0	HCDB/3L6004+F02000****
6	42	40	20	37.5	10.2	1.0	45	270	13	100	14.9	7.0	HCDB/3L6004+FB2000****
7	42	40	20	37.5	-	1.0	45	315	13	100	12.8	7.5	HCDB/3L7004+F02000****
7	42	40	20	37.5	10.2	1.0	45	315	13	100	12.8	7.5	HCDB/3L7004+FB2000****
8	42	44	24	37.5	-	1.0	45	360	13	100	11.2	8.7	HCDB/3L8004+F02000****
8	42	44	24	37.5	10.2	1.0	45	360	13	100	11.2	8.7	HCDB/3L8004+FB2000****
9	42	44	24	37.5	-	1.0	45	405	13	100	9.9	9.3	HCDB/3L9004+F02000****
9	42	44	24	37.5	10.2	1.0	45	405	13	100	9.9	9.3	HCDB/3L9004+FB2000****
10	42	44	24	37.5	-	1.0	45	450	13	100	8.9	9.8	HCDB/3L1005+F02000****
10	42	44	24	37.5	10.2	1.0	45	450	13	100	8.9	9.8	HCDB/3L1005+FB2000****
12	42	45	30	37.5	10.2	1.2	45	540	13	100	7.5	11.6	HCDB/3L1205+FB3000****
15	42	46	35	37.5	20.3	1.2	45	675	13	100	6.0	13.8	HCDB/3L1505+FA3000****
18	42	50	35	37.5	20.3	1.2	45	810	13	100	5.0	15.5	HCDB/3L1805+FA3000****
20	42	55	40	37.5	20.3	1.2	45	900	13	100	4.5	17.7	HCDB/3L2005+FA3000****
25	42	60	45	37.5	20.3	1.2	45	1125	13	100	3.6	21.3	HCDB/3L2505+FA3000****

28	42	60	45	37.5	20.3	1.2	45	1260	13	100	3.2	22.5	HCDB/3L2805+FA3000****
20	57.5	45	30	52.5	20.3	1.2	23	460	24	200	9.6	11.4	HCDB/3L2005+MA3000****
25	57.5	50	35	52.5	20.3	1.2	23	575	24	200	7.6	14.0	HCDB/3L2505+MA3000****
30	57.5	55	45	52.5	20.3	1.2	23	690	24	200	6.4	17.3	HCDB/3L3005+MA3000****
35	57.5	55	45	52.5	20.3	1.2	23	805	24	200	5.5	18.7	HCDB/3L3505+MA3000****
40	57.5	65	45	52.5	20.3	1.2	23	920	24	200	4.8	21.1	HCDB/3L4005+MA3000****
45	57.5	65	45	52.5	20.3	1.2	23	1035	24	200	4.2	22.4	HCDB/3L4505+MA3000****

$U_{N,85℃}$=1300 Vd.c.； $U_{N,105℃}$=910 Vd.c.

Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
0.6	32	20	11	27.5	-	0.8	90	54	8	60	68.2	2.4	HCDB/2M6003+B01000****
1.5	32	28	14	27.5	-	0.8	90	135	8	60	27.3	4.1	HCDB/2M1504+B01000****
2.5	32	33	18	27.5	-	0.8	90	225	8	60	16.4	5.7	HCDB/2M2504+B01000****
3.5	32	37	22	27.5	-	0.8	90	315	8	60	11.7	7.3	HCDB/2M3504+B01000****
4	42	33	18	37.5	-	1.0	45	180	13	100	19.1	5.7	HCDB/2M4004+F02000****
4.5	42	40	20	37.5	-	1.0	45	203	13	100	17.0	6.5	HCDB/2M4504+F02000****
4.5	42	40	20	37.5	10.2	1.0	45	203	13	100	17.0	6.5	HCDB/2M4504+FB2000****
5	42	40	20	37.5	-	1.0	45	225	13	100	15.3	6.9	HCDB/2M5004+F02000****
5	42	40	20	37.5	10.2	1.0	45	225	13	100	15.3	6.9	HCDB/2M5004+FB2000****
6	42	44	24	37.5	-	1.0	45	270	13	100	12.7	8.2	HCDB/2M6004+F02000****
6	42	44	24	37.5	10.2	1.0	45	270	13	100	12.7	8.2	HCDB/2M6004+FB2000****
7	42	44	24	37.5	-	1.0	45	315	13	100	10.9	8.9	HCDB/2M7004+F02000****
7	42	44	24	37.5	10.2	1.0	45	315	13	100	10.9	8.9	HCDB/2M7004+FB2000****
8	42	45	30	37.5	10.2	1.2	45	360	13	100	9.5	10.2	HCDB/2M8004+FB3000****
9	42	45	30	37.5	20.3	1.2	45	405	13	100	8.5	10.9	HCDB/2M9004+FA3000****
10	42	50	35	37.5	20.3	1.2	45	450	13	100	7.6	12.5	HCDB/2M1005+FA3000****
11	42	50	35	37.5	20.3	1.2	45	495	13	100	6.9	13.1	HCDB/2M1105+FA3000****
12	42	50	35	37.5	20.3	1.2	45	540	13	100	6.4	13.7	HCDB/2M1205+FA3000****
13	42	50	35	37.5	20.3	1.2	45	585	13	100	5.9	14.3	HCDB/2M1305+FA3000****
14	42	55	40	37.5	20.3	1.2	45	630	13	100	5.5	16.0	HCDB/2M1405+FA3000****
15	42	55	40	37.5	20.3	1.2	45	675	13	100	5.1	16.6	HCDB/2M1505+FA3000****
16	42	55	40	37.5	20.3	1.2	45	720	13	100	4.8	17.2	HCDB/2M1605+FA3000****
17	42	55	40	37.5	20.3	1.2	45	765	13	100	4.5	17.7	HCDB/2M1705+FA3000****
18	57.5	50	35	52.5	20.3	1.2	23	414	24	200	9.1	12.8	HCDB/2M1805+MA3000****
20	57.5	50	35	52.5	20.3	1.2	23	460	24	200	8.1	13.5	HCDB/2M2005+MA3000****
25	57.5	55	45	52.5	20.3	1.2	23	575	24	200	6.5	17.1	HCDB/2M2505+MA3000****
28	57.5	55	45	52.5	20.3	1.2	23	644	24	200	5.8	18.1	HCDB/2M2805+MA3000****
30	57.5	65	45	52.5	20.3	1.2	23	690	24	200	5.4	19.8	HCDB/2M3005+MA3000****
35	57.5	65	45	52.5	20.3	1.2	23	805	24	200	4.7	21.4	HCDB/2M3505+MA3000****

$U_{N,85℃}$=1400 Vd.c.； $U_{N,105℃}$=980 Vd.c.

Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
0.8	32	22	13	27.5	-	0.8	100	80	8	60	47.6	2.9	HCDB/3M8003+B01000****
1.2	32	28	14	27.5	-	0.8	100	120	8	60	31.8	3.8	HCDB/3M1204+B01000****
1.5	32	30	16	27.5	-	0.8	100	150	8	60	25.4	4.4	HCDB/3M1504+B01000****
2	32	33	18	27.5	-	0.8	100	200	8	60	19.1	5.3	HCDB/3M2004+B01000****

2.2	32	33	18	27.5	-	0.8	100	220	8	60	17.3	5.6	HCDB/3M2204+B01000****
3	32	37	22	27.5	-	0.8	100	300	8	60	12.7	7.0	HCDB/3M3004+B01000****
3.3	32	37	22	27.5	-	0.8	100	330	8	60	11.5	7.4	HCDB/3M3304+B01000****
4	42	40	20	37.5	-	1.0	50	200	12	90	17.8	6.4	HCDB/3M4004+F02000****
4	42	40	20	37.5	10.2	1.0	50	200	12	90	17.8	6.4	HCDB/3M4004+FB2000****
4.5	42	40	20	37.5	-	1.0	50	225	12	90	15.8	6.8	HCDB/3M4504+F02000****
4.5	42	40	20	37.5	10.2	1.0	50	225	12	90	15.8	6.8	HCDB/3M4504+FB2000****
5	42	44	24	37.5	-	1.0	50	250	12	90	14.2	7.8	HCDB/3M5004+F02000****
5	42	44	24	37.5	10.2	1.0	50	250	12	90	14.2	7.8	HCDB/3M5004+FB2000****
5.5	42	44	24	37.5	-	1.0	50	275	12	90	12.9	8.1	HCDB/3M5504+F02000****
5.5	42	44	24	37.5	10.2	1.0	50	275	12	90	12.9	8.1	HCDB/3M5504+FB2000****
6	42	44	24	37.5	-	1.0	50	300	12	90	11.8	8.5	HCDB/3M6004+F02000****
6	42	44	24	37.5	10.2	1.0	50	300	12	90	11.8	8.5	HCDB/3M6004+FB2000****
7	42	45	30	37.5	10.2	1.2	50	350	12	90	10.2	9.9	HCDB/3M7004+FB3000****
7.5	42	45	30	37.5	10.2	1.2	50	375	12	90	9.5	10.3	HCDB/3M7504+FB3000****
8	42	45	30	37.5	10.2	1.2	50	400	12	90	8.9	10.6	HCDB/3M8004+FB3000****
8.5	42	45	30	37.5	20.3	1.2	50	425	12	90	8.4	10.9	HCDB/3M8504+FA3000****
9	42	46	35	37.5	20.3	1.2	50	450	12	90	7.9	12.0	HCDB/3M9004+FA3000****
10	42	46	35	37.5	20.3	1.2	50	500	12	90	7.1	12.6	HCDB/3M1005+FA3000****
11	42	50	35	37.5	20.3	1.2	50	550	12	90	6.5	13.6	HCDB/3M1105+FA3000****
12	42	55	40	37.5	20.3	1.2	50	600	12	90	5.9	15.4	HCDB/3M1205+FA3000****
15	42	60	45	37.5	20.3	1.2	50	750	12	90	4.7	18.5	HCDB/3M1505+FA3000****
16	42	60	45	37.5	20.3	1.2	50	800	12	90	4.4	19.1	HCDB/3M1605+FA3000****
18	42	60	45	37.5	20.3	1.2	50	900	12	90	3.9	20.3	HCDB/3M1805+FA3000****
12	57.5	45	30	52.5	20.3	1.2	25	300	22	180	12.6	9.9	HCDB/3M1205+MA3000****
16	57.5	50	35	52.5	20.3	1.2	25	400	22	180	9.5	12.5	HCDB/3M1605+MA3000****
20	57.5	55	45	52.5	20.3	1.2	25	500	22	180	7.6	15.8	HCDB/3M2005+MA3000****
25	57.5	55	45	52.5	20.3	1.2	25	625	22	180	6.1	17.7	HCDB/3M2505+MA3000****
30	57.5	65	45	52.5	20.3	1.2	25	750	22	180	5.1	20.5	HCDB/3M3005+MA3000****

$U_{N,85℃}$=1500 Vd.c.; $U_{N,105℃}$=1050 Vd.c.													
Cn (μF)	W	H	B	P	P1	d	dv/dt (V/μs)	Î (A)	tanδ(×10^{-4})		ESR@10 kHz(mΩ)	I_{max} (A)	Ordering code
									1kHz	10kHz			
0.8	32	22	13	27.5	-	0.8	100	80	8	60	44.6	3.0	HCDB/4M8003+B01000****
1	32	28	14	27.5	-	0.8	100	100	8	60	35.7	3.6	HCDB/4M1004+B01000****
1.5	32	33	18	27.5	-	0.8	100	150	8	60	23.8	4.7	HCDB/4M1504+B01000****
2	32	33	18	27.5	-	0.8	100	200	8	60	17.8	5.5	HCDB/4M2004+B01000****
2.5	32	37	22	27.5	-	0.8	100	250	8	60	14.3	6.6	HCDB/4M2504+B01000****
3	42	33	18	37.5	-	1.0	50	150	12	90	22.2	5.3	HCDB/4M3004+F02000****
4	42	40	20	37.5	-	1.0	50	200	12	90	16.6	6.6	HCDB/4M4004+F02000****
4	42	40	20	37.5	10.2	1.0	50	200	12	90	16.6	6.6	HCDB/4M4004+FB2000****
5	42	44	24	37.5	10.2	1.0	50	250	12	90	13.3	8.0	HCDB/4M5004+FB2000****
5	42	44	24	37.5	10.2	1.0	50	250	12	90	13.3	8.0	HCDB/4M5004+FB2000****
5.5	42	44	24	37.5	-	1.0	50	275	12	90	12.1	8.4	HCDB/4M5504+F02000****
5.5	42	44	24	37.5	10.2	1.0	50	275	12	90	12.1	8.4	HCDB/4M5504+FB2000****
6	42	45	30	37.5	10.2	1.2	50	300	12	90	11.1	9.5	HCDB/4M6004+FB3000****
6.5	42	45	30	37.5	20.3	1.2	50	325	12	90	10.2	9.9	HCDB/4M6504+FA3000****
7	42	45	30	37.5	20.3	1.2	50	350	12	90	9.5	10.3	HCDB/4M7004+FA3000****
7.5	42	45	30	37.5	20.3	1.2	50	375	12	90	8.9	10.6	HCDB/4M7504+FA3000****

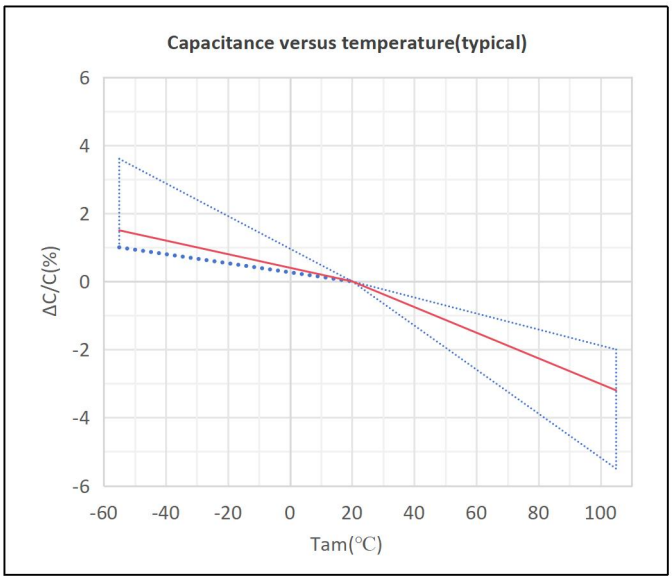
8	42	46	35	37.5	20.3	1.2	50	400	12	90	8.3	11.7	HCDB/4M8004+FA3000****
8.5	42	46	35	37.5	20.3	1.2	50	425	12	90	7.8	12.0	HCDB/4M8504+FA3000****
9	42	55	40	37.5	20.3	1.2	50	450	12	90	7.4	13.8	HCDB/4M9004+FA3000****
10	42	55	40	37.5	20.3	1.2	50	500	12	90	6.7	14.5	HCDB/4M1005+FA3000****
12	42	55	40	37.5	20.3	1.2	50	600	12	90	5.5	15.9	HCDB/4M1205+FA3000****
15	42	60	45	37.5	20.3	1.2	50	750	12	90	4.4	19.1	HCDB/4M1505+FA3000****
10	57.5	45	30	52.5	20.3	1.2	25	250	22	180	14.2	9.4	HCDB/4M1005+MA3000****
11	57.5	45	30	52.5	20.3	1.2	25	275	22	180	12.9	9.8	HCDB/4M1105+MA3000****
12	57.5	50	35	52.5	20.3	1.2	25	300	22	180	11.8	11.2	HCDB/4M1205+MA3000****
15	57.5	50	35	52.5	20.3	1.2	25	375	22	180	9.5	12.5	HCDB/4M1505+MA3000****
18	57.5	55	45	52.5	20.3	1.2	25	450	22	180	7.9	15.5	HCDB/4M1805+MA3000****
20	57.5	55	45	52.5	20.3	1.2	25	500	22	180	7.1	16.4	HCDB/4M2005+MA3000****
25	57.5	65	45	52.5	20.3	1.2	25	625	22	180	5.7	19.4	HCDB/4M2505+MA3000****

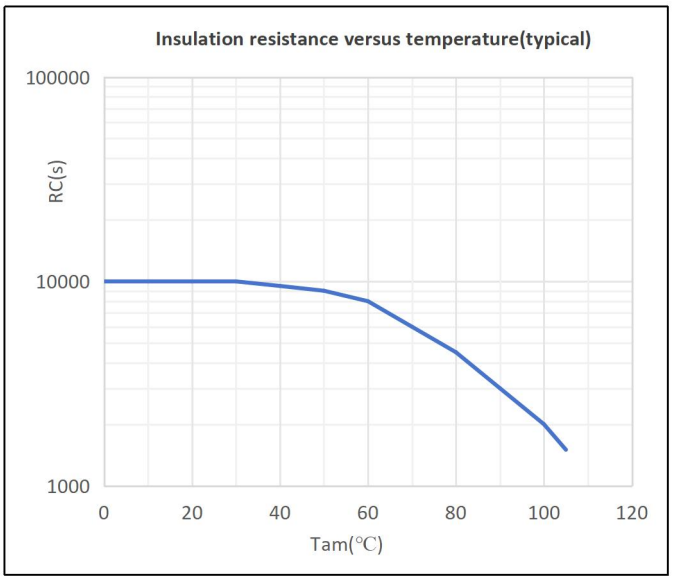
备注:

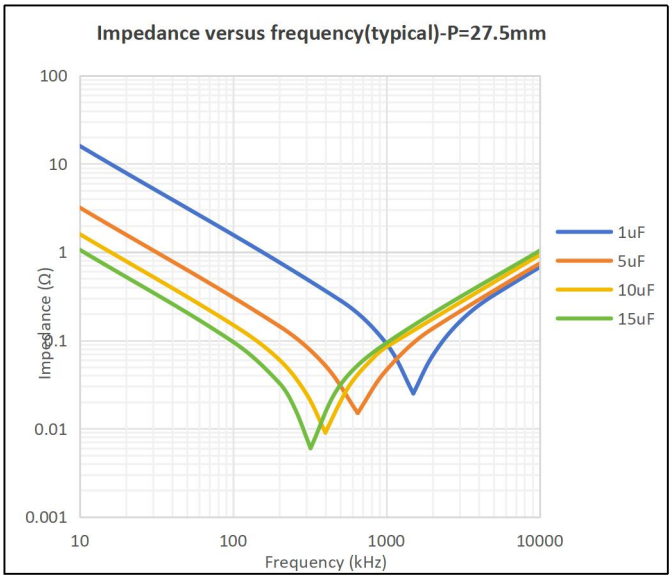
(1) “+” 表示容量偏差，J=±5%，K=±10% 。 “+” = Capacitance tolerance code，J=±5%，K=±10% .

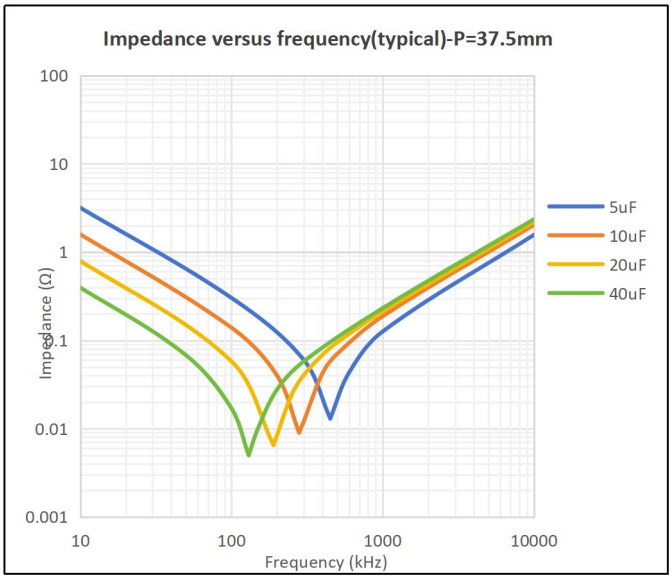
(2) “****”表示引线加工和包装代码。 “****” = Lead form and packing code.

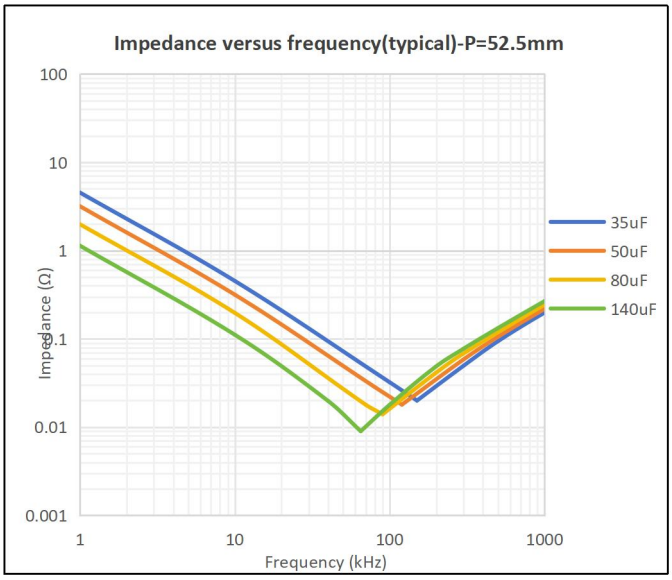
特征曲线 Characteristic curve

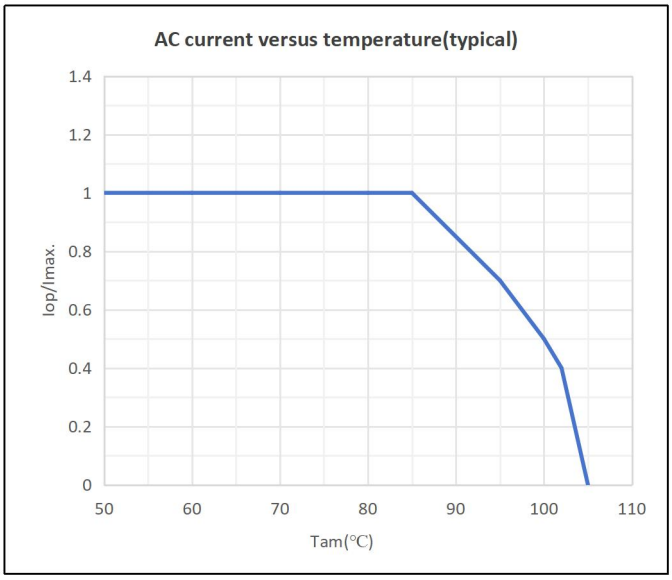












测试和性能 Tests and performance

■ 出厂检验 Routine tests

序号 No.	测试项目 Test items	测试条件 Test conditions	性能要求 Performance requirements
1	外观检查 Visual inspection	-	无可见损伤，标识清晰 No visible damage, Legible marking
2	尺寸检查 Dimensions	-	规定限值范围内 Within specified limits
3	电容量 Capacitance	1 kHz，室温Room temperature	规定限值范围内 Within specified limits
4	损耗正切值 Dissipation factor	1 kHz，室温Room temperature	规定限值范围内 Within specified limits
5	端子间电压试验 Voltage proof between	1.5 U_{NDC} /10 s	无永久性击穿及飞弧 No permanent breakdown or flash-over

	terminals		
6	绝缘电阻 Insulation resistance	室温Room temperature 测试电压Test voltage： U_{NDC} ≤ 500 Vd.c.：100 Vd.c. U_{NDC} > 500 Vd.c.：500 Vd.c.	规定限值范围内 Within specified limits

■ 型式试验 Type tests

组别 Group	测试项目 Test items	测试条件 Test conditions	性能要求 Performance requirements
1	外观及尺寸检查 Visual and dimension inspection	-	无可见损伤，标识清晰，规定限值范围内 No visible damage, Legible marking, dimension within specified limits
2	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	引出端强度 Robustness of terminations	拉力：Ua1 d≤0.8 mm 10 N 0.8mm＜d≤1.2 mm 20 N 弯曲：Ub1 d≤0.8 mm 5 N 0.8 mm＜d≤1.2 mm 10 N 4x90°(2~3s/弯折) Tensile：Ua1 d≤0.8 mm 10 N 0.8 mm＜d≤1.2 mm 20 N Bending：Ub1 d≤0.8 mm 5 N 0.8 mm＜d≤1.2 mm 10 N 4x90°(2~3s/bend)	外观无明显损伤 No visible damage
	耐焊接热 Resistance to soldering heat	测试Tb，方法1：锡槽法 锡槽温度：260℃±3℃ 持续时间：10 s±1 s Test Tb，Method 1: Solder bath Temperature：260℃±3℃ Duration：10 s±1 s	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤0.5% ΔTanδ≤0.005

3	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	振动 Vibration	频率：10 Hz~55 Hz 振幅：±0.35 mm 持续时间 Duration：10次频率周期（3个轴向互成90°），每分钟1倍频程 Frequency: 10 Hz~55 Hz Amplitude: ±0.35 mm Duration: 10 frequency cycles (3 axes at 90°to each other), 1 octave per minute	
	最终检查和测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	外观无明显损伤 No visible damage $\|\Delta C/C\| \leq 0.5\%$ $\Delta Tan\delta \leq 0.005$
4	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	端子间耐压测试 Voltage proof between terminals	测试电压：1.5 U_{NDC} 持续时间：60 s Voltage: 1.5 U_{NDC} Duration: 60 s	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	$\|\Delta C/C\| \leq 0.5\%$ $\Delta Tan\delta \leq 1.2 \times tan\delta_0 + 0.005$
5	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	冲击放电试验 Surge discharge test	1.1×U_{NDC} 放电次数：5 时间：每2分钟1次（共10min） 1.1 x U_{NDC} Number of discharges: 5 Time lapse: every 2 min (10 min total)	

	端子间耐压测试 Voltage proof between terminals	测试电压：1.5 U_{NDC} 持续时间：60 s Voltage: 1.5 U_{NDC} Duration: 60 s	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤1% ΔTanδ≤1.2×tanδ$_0$ + 0.0001
6	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	自愈性试验 Self healing test	1.5×U_{NDC} 持续时间：10 s 如自愈性击穿次数＜5次，则缓慢升高电压直到发生5次自愈为止，或电压达到2.5 U_{NDC}；如电压达到2.5 U_{NDC}后，自愈性击穿次数仍小于5次，则保持2.5 U_{NDC}的电压10 s 1.5×U_{NDC} Duration: 10 seconds If the number of self-healing breakdowns is less than 5 times, slowly increase the voltage until 5 self-healing events occur, or the voltage reaches 2.5 U_{NDC}; If the self-healing breakdowns are still less than 5 times after the voltage reaches 2.5 U_{NDC}, maintain the voltage of 2.5 U_{NDC} for 10 seconds	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤0.5% ΔTanδ≤1.1×tanδ$_0$ + 0.0001
7	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	温度变化试验 Change of temperature	试验 Na T_{max}= 85℃ 持续时间：1 h T_{min}=-40℃ 持续时间：1 h 转换时间≤3min 5次循环	

		Test Na T_{max}=85 ℃ Duration: 1 h T_{min}=-40 ℃ Duration: 1 h Transfer time ≤ 3 minutes 5 cycles	
	最终检查和测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	无永久性击穿及飞弧 No permanent breakdown or flashover |ΔC/C|≤2% ΔTanδ≤0.015
8	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	恒定湿热 Damp heat steady state	温度：40℃ 湿度：93%相对湿度 时长：56天 Temperature：40℃ Humidity：93% Duration：56 days	
	端子间耐压测试 Voltage proof between terminals	测试电压：1.5 U_{NDC} 持续时间：60 s Voltage: 1.5 U_{NDC} Duration: 60 s	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤2% ΔTanδ≤0.015
9	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	热稳定试验 Thermal stability test	自然冷却 T_{amb} ± 5℃ 试验电流：1.1 I_{max} 测试频率：10 kHz 持续时间：48 h 试验的最后6小时内每隔1.5小时测量一次温度 Natural cooling T_{amb} ± 5 ℃	温度上升小于1 °C Temperature rise ≤ 1 °C

		Test current: 1.1 I_{max} Test frequency: 10 kHz Duration: 48 hours Measure the temperature every 1.5 hours during the last 6 hours	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤1% ΔTanδ≤1.2×tanδ$_0$ + 0.0001
10	初始测量 Initial measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	
	耐久性试验 Endurance test	电压：1.3 U_{NDC} 温度：85℃ 持续时间：1000 h（500 h后在环温下冲击放电1000次） Voltage: 1.3 U_{NDC} Temperature: 85 ℃ Duration: 1000 h (1000 impulse discharges at ambient temperature after 500 h)	
	最终测量 Final measurements	电容量：1 kHz 损耗：1 kHz Capacitance：1 kHz Loss factor：1 kHz	|ΔC/C|≤3% ΔTanδ≤0.005

焊接条件 Soldering recommendations

薄膜电容器对热特别敏感。波峰焊可能具有破坏性，特别是对于尺寸较小的薄膜电容器，焊接时必须非常小心。作为参考，我们建议焊接过程注意以下事项 Film capacitors are especially sensitive to heat. Wave soldering can be destructive, especially for mechanically small film capacitors. Great care must be taken during soldering. As a reference, we suggest paying attention to the following matters during the welding process：

■ 电容器外壳温度 Temperature of the capacitor body：

MKP电容器 MKP capacitor：

预热过程 During preheating：$T_p \leq 110°C$

焊接过程 During soldering：$T_s \leq 120°C$, $t_s \leq 45$ s

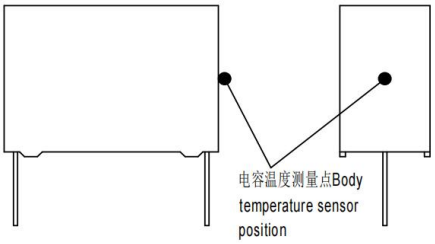
MKT电容器 MKT capacitor：

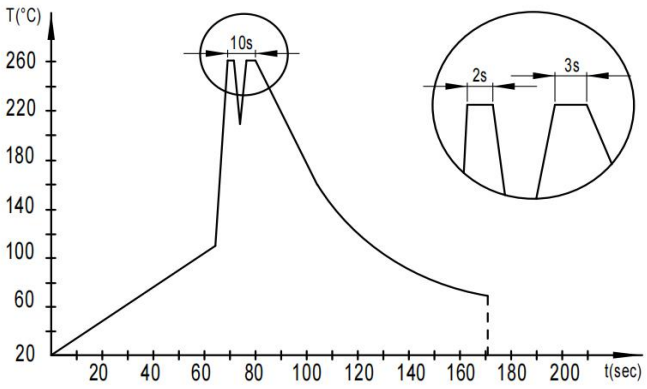
预热过程 During preheating：$T_p \leq 125°C$

焊接过程 During soldering：$T_s \leq 160°C$, $t_s \leq 45$ s

- 波峰焊 Wave soldering：

焊接温度 Soldering bath temperature：$T \leq 260°C$，停留时间 Dwell time：$\sum T \leq 5$ s





双波峰焊接的温度/时间图（典型）

Temperature/time graph for double wave soldering(Typical)

- 引线式薄膜电容器不适用于回流焊。Leads film capacitors are not suitable for reflow soldering.
- 手工焊接时推荐条件是烙铁头温度应当＜360℃，并且焊接接触时间不应超过3秒。One recommended condition for manual soldering is that the tip of the soldering iron should be <360 °C and the soldering contact time should be no longer than 3 seconds.
- 当采用焊锡槽两次焊接方法时，第二次焊接必须在电容器表面温度自然冷却到室温后进行。When dipped twice in the solder bath,the second dipping must be after the capacitor surface temperature comes down to the room temperature by natural cooling.

运输和存储条件 Transportation and storage

项目 Items	条件Conditions
运输 Transportation	温度： -40 ℃～50 ℃ 湿度： 0% RH～80% RH 运输中应避免接触腐蚀性物质。 运输中应避免碰撞、剧烈振动、雨雪淋袭、水浸等。 中途转运时不得存放在露天仓库中 。 运输后产品不能有任何损伤和性能下降 。 Temperature: -40 ℃～50 ℃ Humidity: 0% RH～80% RH Do not expose to corrosive substances during transport. Avoid collision,vibration,rain and snow attacking,water logging when transit. Not allow to store in open storage when transfer. No damage and the performance is not decline after transition.

存储 Storage	温度： -40 ℃～50 ℃ 湿度 Humidity: 0% RH～80% RH，不允许有凝露。 产品贮存场地不能有腐蚀性气体，如硫化物、酸、碱、盐、有机溶剂等腐蚀性物质 贮存中应避免阳光直照产品。 未拆开原包装的基础上，产品的存放时间不宜超过24个月（产品的包装或本体上的日期算起）。 Temperature: -40 ℃～50 ℃ Humidity: 0% RH～80% RH, no dew allowed on the capacitor Store in locations where the product is not exposed to corrosive gas，such as sulfides,acids,lye,salts,organic solvents or other corrosive substances. Keep product is not exposed to the direct ray of the sun. When unchanging primal package, it should not be stored more than 24 months (form the date marked on the capacitor's body or the label glued to the package).

重要注意事项 Important notes

1. 产品使用注意事项 Caution items in using plastic film capacitors：

   1）电容器的选用取决于施加的最高电压，并受电流、频率和使用环境的影响。The plastic film capacitor varies in the maximum applicable voltage depending on the applied voltage, current, frequency and operational environment.

   2)一般情况下，薄膜电容器外封装使用耐火性阻燃材料（如阻燃外壳、阻燃环氧树脂等），但是如果持续高温或火焰仍可以使电容器芯子收缩变形导致外壳破裂，甚至出现芯子熔化或燃烧。Generally speaking, although flame retardant shell or flame retardation epoxy is used in the coating or encapsulating of plastic film capacitor, continuous high temperature of firing will break the coating layer or plastic case of the capacitor, and may lead to melting and firing of the capacitor element.

2. 对宏发而言，不可能评定电容器在每个应用领域、应用环境的所有性能参数要求，因而，客户应根据具体的使用条件选择与之相匹配的产品，若有疑问，请与宏发联系获得更多的技术支持。但产品的选型责任仅由客户负责。We could not evaluate all the performance and all the parameters for every possible application field and environment. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

3. 电容器的耐久性可能会因使用环境条件的不同而有差异。产品的耐久性详细情况见认证证书。当使用环境条件与认证条件不同时，耐久性需要具体试验确认。规格书内的各项性能参数是基于标准测试条件下测得的初始值。Differences in capacitor endurance cycles would exist due to difference in operating ambient conditions. The endurance of the products are detailed in the safety certificates. In case that the condition in real applications is different from safety certificates, the endurance of the capacitor must be confirmed by tests. All the performance data listed in the data sheet are the initial values tested under standard testing condition.

4. 环保措施 Environmental Protection：

   宏发产品均符合 RoHS 要求。All Hongfa products are RoHS compliant.

5. 事前协议事项 Priority Consultation：无 Non