

■超高压陶瓷电容器 DC 8KV-30KV

Ultra-high voltage ceramic capacitor: DC 8KV - 30KV



◆特征 Characteristics

- * 采用银电极芯片。
- * Use silver electrode chips.
- * 采用无铅电子引线及焊锡，符合 ROHS 指令要求。
- * Use lead-free electronic leads and solder, in compliance with the ROHS directive requirements.
- * 包封层采用无卤素-阻燃环氧树脂（涂料符合 UL94V-0 规范/规格要求）。
- * The encapsulation layer uses halogen-free - flame-retardant epoxy resin (the coating meets the UL94V-0 specification/requirement).
- * 产品工作温度：-25℃~+85℃，电容器最高使用温度为 85℃（含自身发热）。
- * Product operating temperature: -25℃ to +85℃. The maximum operating temperature of the capacitor is 85℃ (including its own heat generation).

◆应用领域 Application Fields

- * 主要用于电力系统分压滤波、脉冲功率设备储能，以及 X 光机等医疗仪器的高压回路。
- * It is mainly used for voltage division filtering in power systems, energy storage for pulse power equipment, and high-voltage circuits of medical instruments such as X-ray machines.

◆型号表示法 Model designation Method

CT81	Z	9	Y5P	1	F	471	K	S	E	A	T0
产品类型 Product Type	额定电压 Rated Voltage	直径代码 Diameter Code	温度特性 Temperature Characteristics	引线样式 Lead wire Style	引线间距 Lead wire Spacing	额定容量 Rated Capacity	容量偏差 Capacity Deviation	包装方式 Packaging Method	产品颜色 Product Color	电极代码 Electrode Code	引线长度 Lead Length

* 产品类型 Product Type

代码 Code	产品类型 Product Type
CC81	CC81 系列高压温度补偿型电容器 CC81 series high-voltage temperature-compensated capacitors
CT81	CT81 系列高压高介电质常数型电容器 CT81 series high-voltage high dielectric constant type capacitors

* 额定电压 Rated Voltage

代码 Code	U	W	T	Z	A	D	I	O
电压 Voltage	8KV	10KV	12KV	15KV	20KV	25KV	28KV	30KV

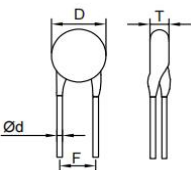
* 直径代码

代码 Code	4	5	6	7	8	9	10
芯片直径 Chip diameter (mm)	3.5~4.4	4.5~5.4	5.5~6.4	6.5~7.4	7.5~8.4	8.5~9.4	9.5~10.4
代码 Code	11	12	13	14	15	16
芯片直径 Chip diameter (mm)	10.5~11.4	11.5~12.4	12.5~13.4	13.5~14.4	14.5~15.4	15.5~16.4

* 温度特性 Temperature Characteristics

材质代码 Material code		温度区间 Temperature range	容量允许偏差 Capacity tolerance deviation
我司代码	TC 代码 TC Code		
U2J	U2J	-25℃~+85℃	-750 ± 120 PPM/℃
S2L	SL		+140 to -1000 PPM/℃
S3L	S3L		-3300 ± 500 PPM/℃
T3M	T3M		-4700 ± 1000 PPM/℃
X7R	X7R		±15%
Y5P	Y5P		±10%
Y5U	Y5U		-56% to +22%
Y5V	Y5V		-82% to +22%

* 引线样式 Lead wire Style

代码 Code	脚型 Foot shape	图示 Example diagram
1	直脚 Straight	

* 引线间距 Lead wire Spacing

代码 Code	E	F
脚距 Foot distance (mm)	10.0±0.5	12.5±1.0

* 标称容量 (额定容量) Nominal Capacity (Rated Capacity)

代码 Code	容量 Capacity	注：标称容量以 pF 为单位，用 3 位数字表示。前两位数字表示有效数字，第三位为 0 的个数；R 表示小数点。 Note: The nominal capacity is expressed in picofarads (pF) and is represented by three digits. The first two digits indicate the significant figures, and the third digit represents the number of zeros; R indicates the decimal point.
4R7	4.7pF	
330	33pF	
103	10000pF	

* 容量偏差 Capacity Deviation

代码 Code	K	M
容差 Capacity deviation	±10%	±20%

* 包装方式 Packaging Method

代码 Code	S
包装方式 Packaging method	散装 Bulking

* 产品颜色 Product Color

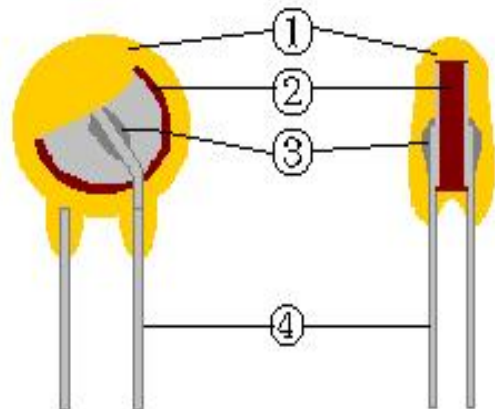
代码 Code	E
环氧树脂 Epoxy resin	黄色 Yellow

* 电极代码 Code Electrode Code

代码 Code	A
电极 Electrode	银 Ag

***引线长度 Lead Length**

散装代码 Bulk code	尺寸 Size (mm)
T0	引脚长度 Lead length: 17.0 min

◆产品结构 Product Structure
*** 瓷介电容剖面图 Sectional View of Ceramic Capacitor**


序号 NO.	名称 Name	材料 Materials
①	外包封层 Outsourced seal layer	环氧树脂 Epoxy resin
②	芯片 Chip	电极-陶瓷介质 Electrode - Ceramic Medium
③	焊锡 Solder	无铅锡条 Lead-free tin rod
④	引线 Wiring lead	镀锡铜包钢 Tinned copper-clad steel

◆规格尺寸 Specification Dimensions
*** 规格清单表-额定电压 Specification List - Rated Voltage: 10KV DC**

风华型号 FH Model	温度特性 TC	额定容量 Rated Capacity	容量偏差 Capacity Deviation	成品直径 Product Diameter (mm Max)	成品厚度 Product Thickness (mm Max)	引线线径 Wire Diameter (mm)	脚距 Lead wire Spacing (mm)
CC81W5U2J1F100KSEAT0	U2J	10pF	±10%	9.0	7.5	0.80±0.08	12.5±1.0
CC81W6U2J1F150KSEAT0	U2J	15pF	±10%	10.0	7.5	0.80±0.08	12.5±1.0
CC81W8U2J1F220KSEAT0	U2J	22pF	±10%	12.0	7.5	0.80±0.08	12.5±1.0
CC81W9U2J1F330KSEAT0	U2J	33pF	±10%	13.0	7.5	0.80±0.08	12.5±1.0
CC81W11U2J1F470KSEAT0	U2J	47pF	±10%	15.0	7.5	0.80±0.08	12.5±1.0
CC81W14U2J1F680KSEAT0	U2J	68pF	±10%	18.0	7.5	0.80±0.08	12.5±1.0
CC81W5S2L1F220KSEAT0	SL	22pF	±10%	9.0	7.5	0.80±0.08	12.5±1.0
CC81W6S2L1F330KSEAT0	SL	33pF	±10%	10.0	7.5	0.80±0.08	12.5±1.0
CC81W7S2L1F470KSEAT0	SL	47pF	±10%	11.0	7.5	0.80±0.08	12.5±1.0
CC81W9S2L1F680KSEAT0	SL	68pF	±10%	13.0	7.5	0.80±0.08	12.5±1.0
CC81W11S2L1F101KSEAT0	SL	100pF	±10%	15.0	7.5	0.80±0.08	12.5±1.0
CC81W5S3L1F680KSEAT0	S3L	68pF	±10%	9.0	7.5	0.80±0.08	12.5±1.0
CC81W6S3L1F101KSEAT0	S3L	100pF	±10%	10.0	7.5	0.80±0.08	12.5±1.0
CC81W7S3L1F151KSEAT0	S3L	150pF	±10%	11.0	7.5	0.80±0.08	12.5±1.0
CC81W9S3L1F221KSEAT0	S3L	220pF	±10%	13.0	7.5	0.80±0.08	12.5±1.0
CC81W11S3L1F331KSEAT0	S3L	330pF	±10%	15.0	7.5	0.80±0.08	12.5±1.0
CC81W13S3L1F471KSEAT0	S3L	470pF	±10%	17.0	7.5	0.80±0.08	12.5±1.0
CC81W5T3M1F151KSEAT0	T3M	150pF	±10%	9.0	8.0	0.80±0.08	12.5±1.0
CC81W7T3M1F221KSEAT0	T3M	220pF	±10%	11.0	8.0	0.80±0.08	12.5±1.0
CC81W8T3M1F331KSEAT0	T3M	330pF	±10%	12.0	8.0	0.80±0.08	12.5±1.0

CC81W9T3M1F471KSEAT0	T3M	470pF	±10%	13.0	8.0	0.80±0.08	12.5±1.0
CC81W11T3M1F681KSEAT0	T3M	680pF	±10%	15.0	8.0	0.80±0.08	12.5±1.0
CC81W14T3M1F102KSEAT0	T3M	1000pF	±10%	18.0	8.0	0.80±0.08	12.5±1.0
CT81W5Y5P1F151KSEAT0	Y5P	150pF	±10%	9.0	9.0	0.80±0.08	12.5±1.0
CT81W7Y5P1F221KSEAT0	Y5P	220pF	±10%	11.0	9.0	0.80±0.08	12.5±1.0
CT81W8Y5P1F331KSEAT0	Y5P	330pF	±10%	12.0	9.0	0.80±0.08	12.5±1.0
CT81W8Y5P1F471KSEAT0	Y5P	470pF	±10%	12.0	9.0	0.80±0.08	12.5±1.0
CT81W9Y5P1F681KSEAT0	Y5P	680pF	±10%	13.0	8.5	0.80±0.08	12.5±1.0
CT81W12Y5P1F102KSEAT0	Y5P	1000pF	±10%	16.0	9.0	0.80±0.08	12.5±1.0
CT81W15Y5P1F152KSEAT0	Y5P	1500pF	±10%	19.0	9.0	0.80±0.08	12.5±1.0
CT81W5Y5U1F331MSEAT0	Y5U	330pF	±20%	9.0	8.5	0.80±0.08	12.5±1.0
CT81W6Y5U1F471MSEAT0	Y5U	470pF	±20%	10.0	9.0	0.80±0.08	12.5±1.0
CT81W7Y5U1F681MSEAT0	Y5U	680pF	±20%	11.0	9.0	0.80±0.08	12.5±1.0
CT81W8Y5U1F102MSEAT0	Y5U	1000pF	±20%	12.0	9.0	0.80±0.08	12.5±1.0
CT81W9Y5U1F152MSEAT0	Y5U	1500pF	±20%	13.0	9.0	0.80±0.08	12.5±1.0
CT81W12Y5U1F222MSEAT0	Y5U	2200pF	±20%	16.0	9.0	0.80±0.08	12.5±1.0
CT81W12Y5U1F332MSEAT0	Y5U	3300pF	±20%	16.0	9.0	0.80±0.08	12.5±1.0

* 规格清单表-额定电压 Specification List - Rated Voltage: 12KV DC

风华型号 FH Model	温度特性 TC	额定容量 Rated Capacity	容量偏差 Capacity Deviation	成品直径 Product Diameter (mm Max)	成品厚度 Product Thickness (mm Max)	引线线径 Wire Diameter (mm)	脚距 Lead wire Spacing (mm)
CC81T6U2J1F100KSEAT0	U2J	10pF	±10%	10.0	8.0	0.80±0.08	12.5±1.0
CC81T7U2J1F150KSEAT0	U2J	15pF	±10%	11.0	8.0	0.80±0.08	12.5±1.0
CC81T8U2J1F220KSEAT0	U2J	22pF	±10%	12.0	8.0	0.80±0.08	12.5±1.0
CC81T10U2J1F330KSEAT0	U2J	33pF	±10%	14.0	8.0	0.80±0.08	12.5±1.0
CC81T12U2J1F470KSEAT0	U2J	47pF	±10%	16.0	8.0	0.80±0.08	12.5±1.0
CC81T5S2L1F150KSEAT0	SL	15pF	±10%	9.0	8.0	0.80±0.08	12.5±1.0
CC81T6S2L1F220KSEAT0	SL	22pF	±10%	10.0	8.0	0.80±0.08	12.5±1.0
CC81T7S2L1F330KSEAT0	SL	33pF	±10%	11.0	8.0	0.80±0.08	12.5±1.0
CC81T8S2L1F470KSEAT0	SL	47pF	±10%	12.0	8.0	0.80±0.08	12.5±1.0
CC81T9S2L1F680KSEAT0	SL	68pF	±10%	13.0	8.0	0.80±0.08	12.5±1.0
CC81T12S2L1F101KSEAT0	SL	100pF	±10%	16.0	8.0	0.80±0.08	12.5±1.0
CC81T5S3L1F680KSEAT0	S3L	68pF	±10%	9.0	8.0	0.80±0.08	12.5±1.0
CC81T6S3L1F101KSEAT0	S3L	100pF	±10%	10.0	8.0	0.80±0.08	12.5±1.0
CC81T8S3L1F151KSEAT0	S3L	150pF	±10%	12.0	8.0	0.80±0.08	12.5±1.0
CC81T9S3L1F221KSEAT0	S3L	220pF	±10%	13.0	8.0	0.80±0.08	12.5±1.0
CC81T12S3L1F331KSEAT0	S3L	330pF	±10%	16.0	8.0	0.80±0.08	12.5±1.0
CC81T14S3L1F471KSEAT0	S3L	470pF	±10%	18.0	8.0	0.80±0.08	12.5±1.0
CC81T5T3M1F101KSEAT0	T3M	100pF	±10%	9.0	8.5	0.80±0.08	12.5±1.0
CC81T6T3M1F151KSEAT0	T3M	150pF	±10%	10.0	8.5	0.80±0.08	12.5±1.0
CC81T7T3M1F221KSEAT0	T3M	220pF	±10%	11.0	8.5	0.80±0.08	12.5±1.0
CC81T9T3M1F331KSEAT0	T3M	330pF	±10%	13.0	8.5	0.80±0.08	12.5±1.0
CC81T10T3M1F471KSEAT0	T3M	470pF	±10%	14.0	8.5	0.80±0.08	12.5±1.0

CC81T12T3M1F681KSEAT0	T3M	680pF	±10%	16.0	8.5	0.80±0.08	12.5±1.0
CT81T6Y5P1F151KSEAT0	Y5P	150pF	±10%	10.0	9.5	0.80±0.08	12.5±1.0
CT81T7Y5P1F221KSEAT0	Y5P	220pF	±10%	11.0	9.5	0.80±0.08	12.5±1.0
CT81T8Y5P1F331KSEAT0	Y5P	330pF	±10%	12.0	9.5	0.80±0.08	12.5±1.0
CT81T9Y5P1F471KSEAT0	Y5P	470pF	±10%	13.0	9.5	0.80±0.08	12.5±1.0
CT81T10Y5P1F681KSEAT0	Y5P	680pF	±10%	14.0	9.5	0.80±0.08	12.5±1.0
CT81T13Y5P1F102KSEAT0	Y5P	1000pF	±10%	17.0	9.5	0.80±0.08	12.5±1.0
CT81T16Y5P1F152KSEAT0	Y5P	1500pF	±10%	20.0	9.5	0.80±0.08	12.5±1.0
CT81T5Y5U1F221MSEAT0	Y5U	220pF	±20%	9.0	9.5	0.80±0.08	12.5±1.0
CT81T6Y5U1F331MSEAT0	Y5U	330pF	±20%	10.0	9.5	0.80±0.08	12.5±1.0
CT81T7Y5U1F471MSEAT0	Y5U	470pF	±20%	11.0	9.5	0.80±0.08	12.5±1.0
CT81T7Y5U1F681MSEAT0	Y5U	680pF	±20%	11.0	9.5	0.80±0.08	12.5±1.0
CT81T8Y5U1F102MSEAT0	Y5U	1000pF	±20%	12.0	9.5	0.80±0.08	12.5±1.0
CT81T10Y5U1F152MSEAT0	Y5U	1500pF	±20%	14.0	9.5	0.80±0.08	12.5±1.0
CT81T13Y5U1F222MSEAT0	Y5U	2200pF	±20%	17.0	9.5	0.80±0.08	12.5±1.0
CT81T13Y5U1F332MSEAT0	Y5U	3300pF	±20%	17.0	9.5	0.80±0.08	12.5±1.0

* 规格清单表-额定电压 Specification List - Rated Voltage: 15KV DC

风华型号 FH Model	温度特性 TC	额定容量 Rated Capacity	容量偏差 Capacity Deviation	成品直径 Product Diameter (mm Max)	成品厚度 Product Thickness (mm Max)	引线线径 Wire Diameter (mm)	脚距 Lead wire Spacing (mm)
CC81Z6U2J1F100KSEAT0	U2J	10pF	±10%	10.0	8.5	0.80±0.08	12.5±1.0
CC81Z7U2J1F150KSEAT0	U2J	15pF	±10%	11.0	8.5	0.80±0.08	12.5±1.0
CC81Z9U2J1F220KSEAT0	U2J	22pF	±10%	13.0	8.0	0.80±0.08	12.5±1.0
CC81Z11U2J1F330KSEAT0	U2J	33pF	±10%	15.0	8.0	0.80±0.08	12.5±1.0
CC81Z13U2J1F470KSEAT0	U2J	47pF	±10%	17.0	8.5	0.80±0.08	12.5±1.0
CC81Z5S2L1F150KSEAT0	SL	15pF	±10%	9.0	8.5	0.80±0.08	12.5±1.0
CC81Z6S2L1F220KSEAT0	SL	22pF	±10%	10.0	8.5	0.80±0.08	12.5±1.0
CC81Z7S2L1F330KSEAT0	SL	33pF	±10%	11.0	8.5	0.80±0.08	12.5±1.0
CC81Z9S2L1F470KSEAT0	SL	47pF	±10%	13.0	8.5	0.80±0.08	12.5±1.0
CC81Z10S2L1F680KSEAT0	SL	68pF	±10%	14.0	8.5	0.80±0.08	12.5±1.0
CC81Z13S2L1F101KSEAT0	SL	100pF	±10%	17.0	8.5	0.80±0.08	12.5±1.0
CC81Z5S3L1F470KSEAT0	S3L	47pF	±10%	9.0	8.5	0.80±0.08	12.5±1.0
CC81Z6S3L1F680KSEAT0	S3L	68pF	±10%	10.0	8.5	0.80±0.08	12.5±1.0
CC81Z7S3L1F101KSEAT0	S3L	100pF	±10%	11.0	8.5	0.80±0.08	12.5±1.0
CC81Z8S3L1F151KSEAT0	S3L	150pF	±10%	12.0	8.5	0.80±0.08	12.5±1.0
CC81Z10S3L1F221KSEAT0	S3L	220pF	±10%	14.0	8.5	0.80±0.08	12.5±1.0
CC81Z12S3L1F331KSEAT0	S3L	330pF	±10%	16.0	8.5	0.80±0.08	12.5±1.0
CC81Z5T3M1F101KSEAT0	T3M	100pF	±10%	9.0	9.0	0.80±0.08	12.5±1.0
CC81Z6T3M1F151KSEAT0	T3M	150pF	±10%	10.0	9.0	0.80±0.08	12.5±1.0
CC81Z7T3M1F221KSEAT0	T3M	220pF	±10%	11.0	9.0	0.80±0.08	12.5±1.0
CC81Z9T3M1F331KSEAT0	T3M	330pF	±10%	13.0	9.0	0.80±0.08	12.5±1.0
CC81Z11T3M1F471KSEAT0	T3M	470pF	±10%	15.0	9.0	0.80±0.08	12.5±1.0
CC81Z13T3M1F681KSEAT0	T3M	680pF	±10%	17.0	9.0	0.80±0.08	12.5±1.0

CT81Z7Y5P1F221KSEAT0	Y5P	220pF	±10%	11.0	10.0	0.80±0.08	12.5±1.0
CT81Z8Y5P1F331KSEAT0	Y5P	330pF	±10%	12.0	10.0	0.80±0.08	12.5±1.0
CT81Z9Y5P1F471KSEAT0	Y5P	470pF	±10%	13.0	10.0	0.80±0.08	12.5±1.0
CT81Z13Y5P1F681KSEAT0	Y5P	680pF	±10%	17.0	10.5	0.80±0.08	12.5±1.0
CT81Z14Y5P1F102KSEAT0	Y5P	1000pF	±10%	18.0	10.0	0.80±0.08	12.5±1.0
CT81Z7Y5U1F471MSEAT0	Y5U	470pF	±20%	11.0	10.0	0.80±0.08	12.5±1.0
CT81Z9Y5U1F681MSEAT0	Y5U	680pF	±20%	13.0	10.0	0.80±0.08	12.5±1.0
CT81Z9Y5U1F102MSEAT0	Y5U	1000pF	±20%	13.0	10.5	0.80±0.08	12.5±1.0
CT81Z11Y5U1F152MSEAT0	Y5U	1500pF	±20%	15.0	10.0	0.80±0.08	12.5±1.0
CT81Z14Y5U1F222MSEAT0	Y5U	2200pF	±20%	18.0	10.5	0.80±0.08	12.5±1.0
CT81Z14Y5U1F332MSEAT0	Y5U	3300pF	±20%	18.0	10.0	0.80±0.08	12.5±1.0

* 规格清单表-额定电压 Specification List - Rated Voltage: 20KV DC

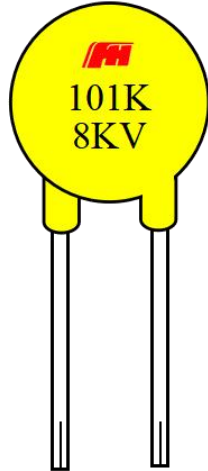
风华型号 FH Model	温度特性 TC	额定容量 Rated Capacity	容量偏差 Capacity Deviation	成品直径 Product Diameter (mm Max)	成品厚度 Product Thickness (mm Max)	引线线径 Wire Diameter (mm)	脚距 Lead wire Spacing (mm)
CC81A7U2J1F100KSEAT0	U2J	10pF	±10%	11.0	9.5	0.80±0.08	12.5±1.0
CC81A9U2J1F150KSEAT0	U2J	15pF	±10%	13.0	9.5	0.80±0.08	12.5±1.0
CC81A11U2J1F220KSEAT0	U2J	22pF	±10%	15.0	10.0	0.80±0.08	12.5±1.0
CC81A13U2J1F330KSEAT0	U2J	33pF	±10%	17.0	9.5	0.80±0.08	12.5±1.0
CC81A6S2L1F150KSEAT0	SL	15pF	±10%	10.0	9.5	0.80±0.08	12.5±1.0
CC81A7S2L1F220KSEAT0	SL	22pF	±10%	11.0	9.5	0.80±0.08	12.5±1.0
CC81A8S2L1F330KSEAT0	SL	33pF	±10%	12.0	9.5	0.80±0.08	12.5±1.0
CC81A10S2L1F470KSEAT0	SL	47pF	±10%	14.0	9.5	0.80±0.08	12.5±1.0
CC81A6S3L1F470KSEAT0	S3L	47pF	±10%	10.0	9.5	0.80±0.08	12.5±1.0
CC81A7S3L1F680KSEAT0	S3L	68pF	±10%	11.0	9.5	0.80±0.08	12.5±1.0
CC81A8S3L1F101KSEAT0	S3L	100pF	±10%	12.0	9.5	0.80±0.08	12.5±1.0
CC81A9S3L1F151KSEAT0	S3L	150pF	±10%	13.0	9.5	0.80±0.08	12.5±1.0
CC81A12S3L1F221KSEAT0	S3L	220pF	±10%	16.0	9.5	0.80±0.08	12.5±1.0
CC81A6T3M1F101KSEAT0	T3M	100pF	±10%	10.0	10.0	0.80±0.08	12.5±1.0
CC81A7T3M1F151KSEAT0	T3M	150pF	±10%	11.0	10.0	0.80±0.08	12.5±1.0
CC81A9T3M1F221KSEAT0	T3M	220pF	±10%	13.0	10.0	0.80±0.08	12.5±1.0
CC81A10T3M1F331KSEAT0	T3M	330pF	±10%	14.0	10.0	0.80±0.08	12.5±1.0
CC81A13T3M1F471KSEAT0	T3M	470pF	±10%	17.0	10.0	0.80±0.08	12.5±1.0
CC81A15T3M1F681KSEAT0	T3M	680pF	±10%	19.0	10.0	0.80±0.08	12.5±1.0
CT81A7X7R1F221KSEAT0	X7R	220pF	±10%	11.0	12.0	0.80±0.08	12.5±1.0
CT81A9X7R1F331KSEAT0	X7R	330pF	±10%	13.0	11.5	0.80±0.08	12.5±1.0
CT81A11X7R1F471KSEAT0	X7R	470pF	±10%	15.0	12.0	0.80±0.08	12.5±1.0
CT81A13X7R1F681KSEAT0	X7R	680pF	±10%	17.0	12.0	0.80±0.08	12.5±1.0
CT81A16X7R1F102KSEAT0	X7R	1000pF	±10%	20.0	12.0	0.80±0.08	12.5±1.0
CT81A8Y5U1F471MSEAT0	Y5U	470pF	±20%	12.0	12.0	0.80±0.08	12.5±1.0
CT81A9Y5U1F681MSEAT0	Y5U	680pF	±20%	13.0	12.0	0.80±0.08	12.5±1.0
CT81A11Y5U1F102MSEAT0	Y5U	1000pF	±20%	15.0	11.5	0.80±0.08	12.5±1.0
CT81A14Y5U1F152MSEAT0	Y5U	1500pF	±20%	18.0	12.0	0.80±0.08	12.5±1.0

注：以上规格均为常用规格，如需其他容量/电压规格请与我司客服沟通定制。

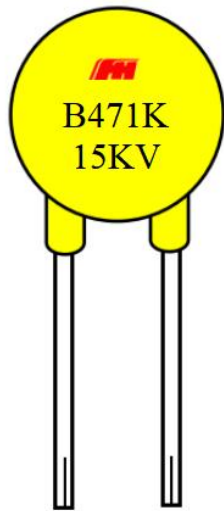
Note: The above specifications are the commonly used ones. If you need other capacity/voltage specifications, please contact our customer service for customization.

◆产品丝印 Product printing labels

*CC81 系列 CC81 series

序号 No.	标示名称 Label name	代码 Code	图例 Example diagram
1	风华商标 FH logo	FH	
3	标称容量 Nominal Capacity	101(100pF)	
4	容量偏差 Capacity Deviation	K(±10%)	
5	额定电压 Rated Voltage	8 KV	

*CT81 系列 CT81 series

序号 No.	标示名称 Label name	代码 Code	图例 Example diagram
1	风华商标 FH logo	FH	
2	温度特性(TC)	B(Y5P)	
3	标称容量 Nominal Capacity	471(470pF)	
4	容量偏差 Capacity Deviation	K(±10%)	
5	额定电压 Rated Voltage	15 KV	

◆可靠性测试方法 Reliability Testing Method

序号 No.	项目 Items		性能 Performance		试验条件 Test conditions			
1	外观构造及尺寸 Appearance, Structure and Dimensions		外观无异常，构造及尺寸依图示规定 The appearance shows no abnormalities. The structure and dimensions are in accordance with the illustrated specifications.		目视检验尺寸以游标卡尺测量 Visual inspection of dimensions is carried out using a vernier caliper for measurement.			
2	静电容量 Electrostatic capacitance		规定之容许误差以内 Within the allowable error range specified		测试频率和测试电压： 1±0.2 kHz，AC 5V(r.m.s) max 测试温度：25±2℃ Test frequency and test voltage: 1 ± 0.2 kHz, AC 5V(r.m.s) max Test temperature: 25 ± 2℃			
3	损耗角正切值 Dissipation factor		U2J	$\leq 2 \times (150/C_R + 7) \times 10^{-4}$	1±0.2 kHz，AC 5V(r.m.s) max 测试温度：25±2℃ Test frequency and test voltage: 1 ± 0.2 kHz, AC 5V(r.m.s) max Test temperature: 25 ± 2℃			
			SL	$\leq 1.5 \times (150/C_R + 7) \times 10^{-4}$				
			S3L	$\leq 0.4\%$				
			T3M	$\leq 1.0\%$				
			X7R	$\leq 2.5\%$				
			Y5P	$\leq 2.5\%$				
			Y5U	$\leq 3.0\%$				
4	绝缘电阻（端子间） Insulation resistance (Between terminals)		≥10000MΩ		测试电压 Test Voltage	1000V DC	施加时间 Time	60s±5s
5	耐电压 Withstand voltage	端子间 Between terminals	无永久性击穿或飞弧 No permanent breakdown or arcing		在绝缘液体或气体中，对产品施加 150%U _R 直流电压 In an insulating liquid or gas, apply a 150% U _R direct current voltage to the product.			
		端子与 外装间 Between terminal and Exterior cladding	无永久性击穿或飞弧 No permanent breakdown or arcing		施加时间 Time	逐批检验 Batch-by-batch inspection：3s 鉴定和周期检验 Periodic Test：60s±5s		
					充放电电流 Charge/discharge current：≤50mA			
					<div></div> <p>首先，应将电容器的端子连接在一起。然后，如右图所示，在距各端子约3-4mm处，将金属箔牢固地包裹在电容器上。然后，将电容器置于盛有直径为 1mm 金属球的容器内。最后在电容器引线与金属球之间施加 3KV 直流电压 10 秒钟。（充放电电流≤50mA）</p> <p>First, the terminals of the capacitor should be connected together. Then, as shown in the figure on the right, at a distance of about 3-4mm from each terminal, firmly wrap the metal foil around the capacitor. Next, place the capacitor in a container filled with 1mm-diameter metal</p>			

序号 No.	项目 Items		性能 Performance	试验条件 Test conditions													
				balls. Finally, apply a 3KV direct current voltage between the capacitor leads and the metal balls for 10 seconds. (Charge and discharge current ≤ 50mA)													
6	温度特性 Temperature characteristics		在允许规格范围内 Within the permitted specifications range	依次按以下温度循环阶段测定： Measure successively in the following temperature cycling stages: <table><tr><th>阶段 Step</th><th>温度 Temperature(℃)</th></tr><tr><td>1</td><td>20℃±2℃</td></tr><tr><td>2</td><td>-25℃±2℃</td></tr><tr><td>3</td><td>20℃±2℃</td></tr><tr><td>4</td><td>85℃±2℃</td></tr><tr><td>5</td><td>20℃±2℃</td></tr></table>		阶段 Step	温度 Temperature(℃)	1	20℃±2℃	2	-25℃±2℃	3	20℃±2℃	4	85℃±2℃	5	20℃±2℃
阶段 Step	温度 Temperature(℃)																
1	20℃±2℃																
2	-25℃±2℃																
3	20℃±2℃																
4	85℃±2℃																
5	20℃±2℃																
7	端子强度 Strength of terminal	抗拉强度 Tensile strength	引线不断裂，电容器不破损 The leads do not break and the capacitors do not get damaged.	如右图所示，固定住电容器，在引线上逐步施加径向拉力直至 10N，并保持 10±1 秒钟。 As shown in the figure on the right, fix the capacitor, and gradually apply radial tension on the lead wire until it reaches 10N, and maintain this tension for 10s ± 1s . 													
		弯曲强度 Bending strength	引线不断裂，电容器不破损 The leads do not break and the capacitors do not get damaged.	在引线出口处沿一个方向施加 5N、90°的弯曲压力，然后恢复至原始状态。之后在 2 至 3 秒内再以相反方向施加一次 90°的弯曲压力。 Apply a 5N bending force at a 90° angle in one direction at the end of the lead wire, then return to the original state. Afterwards, apply a 90° bending force in the opposite direction again within 2 to 3 seconds.													
8	可焊性 Weldability		引线表面均匀沾锡，上锡面积不小于总面积的 95% The surface of the lead wire is evenly coated with tin, and the area of tin coating should be no less than 95% of the total area.	焊锡温度 Temperature	235℃±5 ℃												
				浸入时间 Time	2.0s±0.5s												
				上锡面积 The area of tin plating	≥95%												
				浸入深度:距离电容本体 2.0±0.5mm Immersion depth: 2.0 ± 0.5 mm from the capacitor body													
9	耐焊接热 Resistance to welding heat	外观 Appearance	无可见损伤 No visible damage	焊锡温度 Temperature	260℃±5 ℃												
		静电容量变化 Capacity change	ΔC/C ≤10%	浸入时间 Time	10s±1s												
				 8-1													

序号 No.	项目 Items		性能 Performance	试验条件 Test conditions
		耐电压 (端子间) Withstand Voltage	参照项目 5 内容 Refer to the content of Project 5	
10	温度循环 Temperature cycle	外观 Appearance	无可见损伤、标志清晰 No visible damage, clear markings	TL=下限类别温度, TU=上限类别温度; 在 TL 或 TU 的放置时间: 30 分钟; TL 与 TU 间转换时间: 1 分钟之内; 循环次数: 5 次 后处理: 室内条件下放置 4 小时 TL = Lower limit category temperature, TU = Upper limit category temperature; The holding time at TL or TU: 30 minutes; The transition time between TL and TU: within 1 minute; The number of cycles: 5 times Post-treatment: Place at room temperature for 4 hours
		静电容量 变化 Capacity change	$ \Delta C/C \leq 10\%$	
		损耗角 正切值 Dissipation factor	损耗因数: $\leq 2 \times$ 初始规格上限 DF: $\leq 2 \times$ initial specification upper limit	
		耐电压 (端子间) Withstand Voltage	$\geq 5000M\Omega$	
		耐电压 (端子间) Withstand Voltage	参照项目 5 内容 Refer to the content of Project 5	
11	稳态湿热 Damp heat, steady state	外观 Appearance	无可见损伤、标志清晰 No visible damage, clear markings	将电容器在 $40^\circ\text{C} \pm 2^\circ\text{C}$ 及 90% 至 95% 相对湿度条件下放置 240 ± 8 小时。 后处理: 将电容器在室内条件下存放至 1 至 2 小时。 Place the capacitor at a temperature of $40^\circ\text{C} \pm 2^\circ\text{C}$ and a relative humidity of 90% to 95% for 240 ± 8 hours. Post-treatment: Store the capacitor indoors for 1 to 2 hours.
		静电容量 变化 Capacity change	$ \Delta C/C \leq 10\%$	
		损耗角 正切值 Dissipation factor	损耗因数: $\leq 2 \times$ 初始规格上限 DF: $\leq 2 \times$ initial specification upper limit	
		耐电压 (端子间) Withstand Voltage	$\geq 5000M\Omega$	
		耐电压 (端子间) Withstand Voltage	参照项目 5 内容 Refer to the content of Project 5	

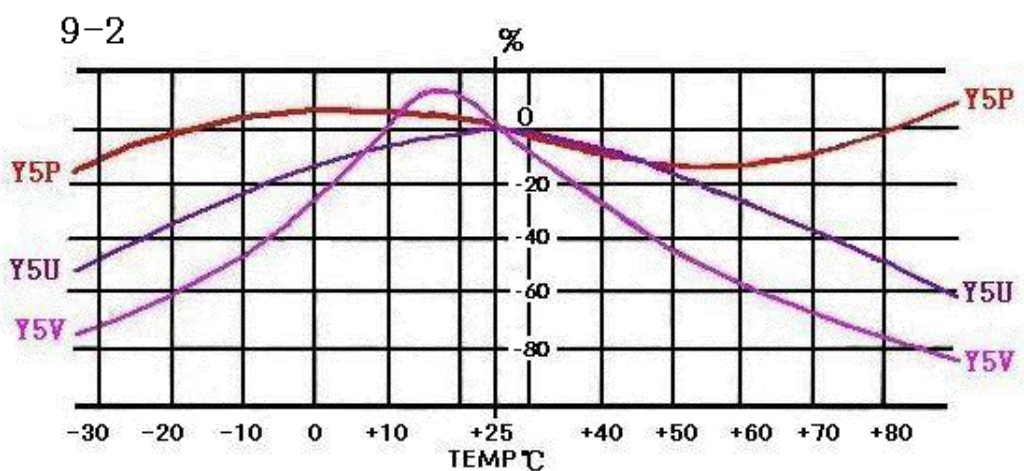
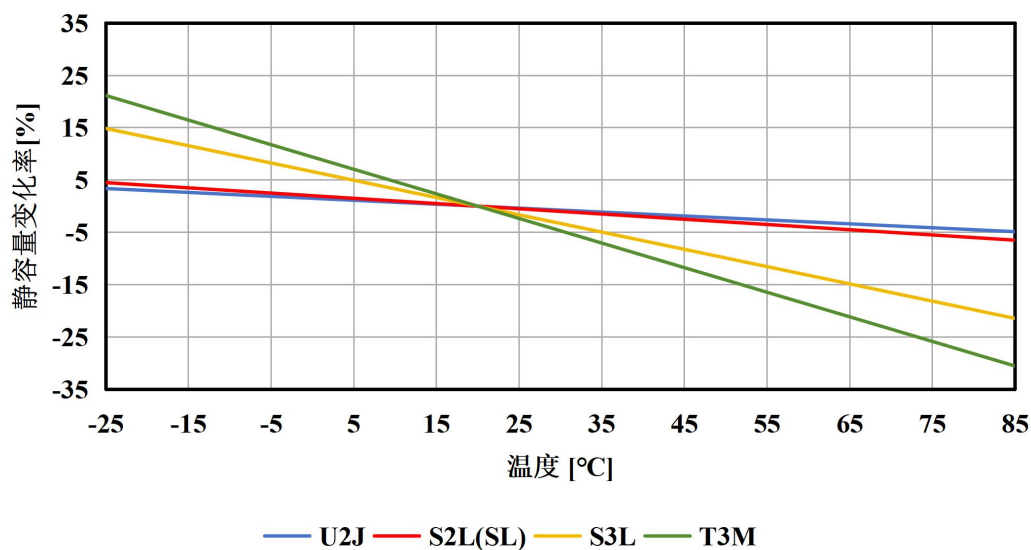
序号 No.	项目 Items		性能 Performance	试验条件 Test conditions
12	耐久性 Endurance test	外观 Appearance	无可见损伤、标志清晰 No visible damage, clear markings	在 85℃±2℃硅油环境中施加 125%U _R 的电压 1000 小时。 后处理：将电容器在室内条件下存放至 24±2 小时。 （充放电电流≤50mA） Apply a voltage of 125% U _R in a 85℃ ± 2℃ silicone oil environment for 1000 hours. Post-treatment: Store the capacitor in an indoor environment for 24 ± 2 hours. (Charging and discharging current ≤ 50mA)
		静电容量 变化 Capacity change	ΔC/C ≤10%	
		损耗角 正切值 Dissipation factor	损耗因数：≤2 X 初始规格上限 DF:≤2 X initial specification upper limit	
		耐电压 （端子间） Withstand Voltage	≥5000MΩ	
		耐电压 （端子间） Withstand Voltage	参照项目 5 内容 Refer to the content of Project 5	

注：当进行耐电压（端子间）、温度循环、稳态湿热及耐久性试验时，所使用的样品表面应覆盖一层厚度不低于 3mm 的绝缘介质。（如有需要可联系我司客服推荐相关合适绝缘介质）

Note: When conducting voltage endurance tests (between terminals), temperature cycling tests, steady-state humidity and heat tests, and durability tests, the surface of the samples used should be covered with an insulating medium with a thickness of no less than 3mm.
(If necessary, you can contact our customer service to recommend suitable insulating materials.)

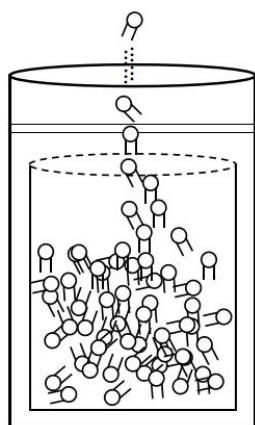
◆产品特性曲线图 Temperature characteristic curve graph

I类瓷-温度特性参考曲线



◆包装 Packaging

* 散装包装 Bulk packaging



包装数量 (Kpcs/袋) Packaging quantity (Kpcs/Bag)

0.2

◆储存方法 Storage method

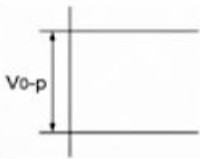
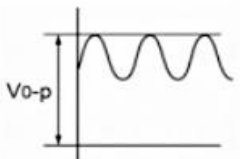
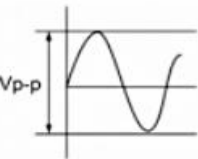
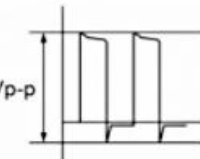
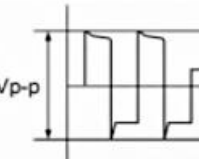
- ① 产品储存场地要整洁、干燥、通风、无漏水、无污染。
- ② 产品长时间储存时不应直接放在地面，应放在托架上进行防潮。
- ③ 注意按包装箱上的堆放高度对产品进行堆放。
- ④ 储存环境温度：-25℃~+40℃；储存期限：2年（附注：由于瓷介电容器具有老化特性，因此建议在收到货后尽快检测确认容量参数。经过检验合格的产品储存一段时间后再次检测可能会发现容量偏低，属于正常现象，无需进行专门处理，只需将产品于产线上正常经过波峰焊/回流焊后，容量将恢复到正常规格内。）
- ① The storage area for the products should be clean, dry, well-ventilated, free from water leakage and pollution.
- ② When the products are stored for a long time, they should not be placed directly on the ground. Instead, they should be placed on racks to prevent moisture.
- ③ Pay attention to stacking the products according to the stacking height indicated on the packaging boxes.
- ④ Storage environment temperature: -25℃ to +40℃; Storage period: 2 years (Note: Due to the aging characteristic of ceramic capacitors, it is recommended to test and confirm the capacity parameters as soon as possible after receiving the goods. After the products pass the inspection, if their capacity is found to be lower after being stored for a period of time, this is a normal phenomenon and no special treatment is required. Just let the products go through the normal wave soldering/reflow soldering process on the production line, and their capacity will return to the normal specification.)

◆使用前的注意事项 Pre-use precautions

* 工作电压 Working voltage

在交流电路或纹波电流电路中使用直流额定电压电容器时，请务必确保外加电压的 V_{p-p} 值或包含直流偏置电压的 V_{o-p} 值保持在额定电压范围内。若向电路施加电压，开始或停止时可能会因谐振或切换产生暂时的不规则电压，请务必使用额定电压范围大于此不规则电压的电容器。

When using DC rated voltage capacitors in AC circuits or ripple current circuits, it is essential to ensure that the V_{p-p} value of the applied voltage or the V_{o-p} value including the DC bias voltage remains within the rated voltage range. If a voltage is applied to the circuit, temporary irregular voltages may occur due to resonance or switching when starting or stopping. Therefore, it is necessary to use capacitors with a rated voltage range greater than this irregular voltage.

直流电压 DC voltage	直流+交流电压 DC+AC voltage	交流电压 AC voltage	冲击电压 (1) Pulse voltage(1)	冲击电压 (2) Pulse voltage(2)
				

* 工作温度和自身发热（适用于 B/E/F 特性）

Working temperature and self-heating (applicable to B/E/F characteristics)

电容器的表面温度应保持在额定工作温度范围内，务必考虑到电容器自身发出的热量。电容器在高频电流、冲击电流等使用时可能会因介电损耗自身发热，所施加的正弦波电压的频率应低于 300 kHz。外加电压应使自身发热等负荷在 25℃ 周围温度条件下不超过 20℃ 范围，测量时应使用 $\phi 0.1\text{mm}$ 小热容量的 (K) 的热电偶，而且电容器不应受到其它组件的散热或周围温度波动影响。过热可能会导致电容器特性及可靠性下降（切勿在冷却风扇运转时进行测量，否则无法确保测量数据的精确性）。

The surface temperature of the capacitor should be maintained within its rated operating temperature range, taking into account the heat generated by the capacitor itself. When the capacitor is used in high-frequency currents, impulse currents, etc., it may generate heat due to dielectric loss. The applied sinusoidal voltage frequency should be lower than 300 kHz. The applied voltage should ensure that the

load causing self-heating does not exceed 20°C within the temperature range of 25°C. During measurement, a (K) type thermocouple with $\varnothing 0.1\text{mm}$ small heat capacity should be used. The capacitor should not be affected by the heat dissipation of other components or temperature fluctuations in the surrounding environment. Overheating may lead to a decline in the characteristics and reliability of the capacitor (Do not measure when the cooling fan is running, otherwise the accuracy of the measurement data cannot be ensured).

* 耐电压的测试条件 Test conditions for withstanding voltage

测试设备 Testing equipment

交流耐电压的测试设备应具有能够产生类似于 50/60Hz 正弦波的功能，如果施加变形的正弦波或超过规定电压值的超载电压，则可能会导致故障。

The testing equipment for alternating voltage withstand capability should be capable of generating a function similar to a 50/60Hz sine wave. If distorted sine waves or overload voltages exceeding the specified value are applied, it may cause faults.

电压外加方法 Voltage application method

施加耐电压时，电容器的引线或端子应与耐电压测试设备的输出端连接牢固，然后再将电压从近零增加到测试电压。如果测试电压不从近零逐渐提高而是直接施加在电容器上，则施加时应包含过零点，测试结束时，测试电压应降到近零，然后再将电容器引线或端子从耐电压测试设备的输出端取下。如果测试电压不从近零逐渐提高而是直接施加在电容器上，则可能会出现浪涌电压，从而导致故障。

When applying the withstand voltage, the leads or terminals of the capacitor should be firmly connected to the output terminal of the withstand voltage testing equipment, and then the voltage should be increased from nearly zero to the test voltage. If the test voltage is not gradually raised from nearly zero but is directly applied to the capacitor, then during the application process, the zero point should be included. At the end of the test, the test voltage should be reduced to nearly zero, and then the leads or terminals of the capacitor should be disconnected from the output terminal of the withstand voltage testing equipment. If the test voltage is not gradually raised from nearly zero but is directly applied to the capacitor, then a surge voltage may occur, which could lead to a fault.

过零点是指电压正弦通过 0V 的位置。

The zero-crossing point refers to the position where the voltage sine wave passes through 0V.

* 失效安全性 Failure safety

如果电容器破损，会导致短路电路故障。务必在本产品上适当提供例如保险丝等自动防故障功能，以免导致电击、火灾、或冒烟等。

If the capacitor is damaged, it will cause a short circuit fault in the circuit. It is essential to provide appropriate automatic fault prevention functions such as fuses on this product to avoid electric shock, fire, or smoke emission.

* 焊接、安装与使用 Welding, installation and usage

振荡与冲击 Vibration and Impact

使用时请勿使电容器或引线受到过度冲击或振荡。

When using, please avoid subjecting the capacitors or leads to excessive shock or vibration.

焊接 Welding

将该产品焊接在 PCB/PWB 上时，不应超出电容器的耐焊接热规格，本产品过热会使内部接点锡焊料熔化，导致温度骤变，从而造成陶瓷组件产生裂纹。当使用烙铁焊接电容器时，应遵循以下条件：烙铁头温度：最高 400°C；烙铁功率：最大 50W；焊接时间：最多 3.5 秒。

When welding this product onto a PCB/PWB, it should not exceed the soldering temperature limit of the capacitor. If this product overheats, the internal soldering material of the contact points will melt, causing a sudden temperature change and thereby causing cracks in the ceramic component. When using a soldering iron to solder capacitors, the following conditions should be followed: Soldering iron tip temperature: maximum 400°C; Soldering iron power: maximum 50W; Soldering time: up to 3.5 seconds.

* 清洗（超声波清洗） Cleaning (Ultrasonic cleaning)

进行超声波清洗时，应遵守下列条件：“洗涤槽容量：20 瓦特输出功率 / 每升或以下；洗涤时间：最多 5 分钟；不得直接振荡 PCB/PWB”。过度的超声波洗涤会导致引线的超载损坏。

When conducting ultrasonic cleaning, the following conditions should be followed: "Washing tank capacity: 20 watt output power / per liter or less; washing time: no more than 5 minutes; Do not directly oscillate PCB/PWB". Excessive ultrasonic cleaning can cause overload

damage to the leads.

●警告（使用与保管环境） Kindly note (Usage and Storage Environment)

电容器的绝缘涂层不形成完美的密封；因此，请勿在腐蚀性环境中使用或存放电容器，尤其是存在氯气、硫气、酸、碱、盐等地方。同时应防潮。在对本产品进行清洗、覆膜或包装前，请先在指定设备上测试经清洗、覆膜或封膜的产品的性能，以确认这些过程不会影响电容器的质量。电容器应存放在温度及相对湿度分别不超过-10℃到 40℃及 15%RH 至 85%RH 范围的地方。

使用本产品时如未能遵循上述警告事项，则在严重情况下，可能导致短路，并引起冒烟或局部离散。

The insulating coating of the capacitor does not form a perfect seal; therefore, do not use or store the capacitor in corrosive environments, especially in places with chlorine, sulfur, acids, alkalis, salts, etc. At the same time, it should be protected from moisture. Before cleaning, coating or packaging this product, please first test the performance of the cleaned, coated or sealed product on the designated equipment to confirm that these processes will not affect the quality of the capacitor. The capacitor should be stored in a place where the temperature and relative humidity do not exceed -10°C to 40°C and 15%RH to 85%RH respectively.

If the above warning matters are not followed when using this product, in severe cases, it may cause short circuits and result in smoke or local disintegration.

●警告（焊接与安装） Kindly note (Welding and Installation)

振荡与冲击 Vibration and Impact

使用时请勿使电容器或引线受到过度冲击或振动。过度冲击或振荡会对安装在电路板上的引线造成疲劳性破坏。请采取措施，使用粘合剂、封膜树脂或其它涂层将电容器安装在电路板上。使用指定设备进行固定时，请确认固定措施对产品不会造成影响。

When using, please avoid subjecting the capacitors or leads to excessive shock or vibration. Excessive shock or vibration can cause fatigue damage to the leads installed on the circuit board. Please take measures by using adhesives, encapsulation resins or other coatings to install the capacitors on the circuit board. When using the specified equipment for fixation, please confirm that the fixation measures will not affect the product.

焊接 Welding

当将本产品焊接到 PCB/PWB 上时，不得超过电容器的焊接耐热性。如果本产品过热，可能导致内部连接点焊料熔化，并且可能导致热冲击，从而导致陶瓷元件破裂。当使用烙铁焊接电容器时，应遵循以下条件：

烙铁头温度：最高 400℃

烙铁功率：最大 50W

焊接时间：最长 3.5s

When soldering this product onto a PCB/PWB, the temperature must not exceed the soldering tolerance of the capacitor. If this product overheats, it may cause the solder at the internal connection points to melt, and it may also lead to thermal shock, thereby causing the ceramic components to crack. When using a soldering iron to solder capacitors, the following conditions should be followed:

Soldering iron tip temperature: Maximum 400°C

Soldering iron power: Maximum 50W

Soldering time: Up to 3.5 s

* 粘合、树脂封膜和树脂涂敷 Bonding, resin sealing film and resin coating

在对本产品进行覆膜、封膜或施加涂层时，请先在指定设备上测试经覆膜、封膜或涂敷的产品的性能，以确认这些工艺不会影响电容器的质量。当含有有机溶剂（乙酸乙酯、甲基乙基酮、甲苯等等）的粘合剂和封膜树脂的使用量、干燥/硬化条件不适当时，有机溶剂可能损坏电容器的外涂层树脂，最坏情况下可能导致短路。粘合剂、封膜树脂或涂层的厚度变化可能导致处于温度周期变化中的电容器的外涂层树脂破裂或陶瓷元件破裂。

When applying film coating, sealing film or applying coating to this product, please first test the performance of the coated, sealed or coated product on the designated equipment to ensure that these processes do not affect the quality of the capacitor. When the usage amount of adhesives and sealing resins containing organic solvents (ethyl acetate, methyl ethyl ketone, toluene, etc.) and the drying/hardening conditions are inappropriate, the organic solvents may damage the outer coating resin of the capacitor, and in the worst

case, may cause a short circuit. Changes in the thickness of adhesives, sealing resins or coatings may cause the outer coating resin of the capacitor or ceramic components to crack under temperature cycle variations.

* 粘合、树脂封膜和树脂涂敷后的处理 Bonding, resin sealing film and resin coating treatment

焊接后，当外涂层很热（超过 100℃）时，外涂层会变得很软、易碎。因此，请注意不要对涂层施加机械冲击力。

使用本产品时如未能遵循上述警告事项，则在严重情况下，可能导致短路，并引起冒烟或局部离散。

After welding, when the outer coating is very hot (above 100℃), it becomes very soft and brittle. Therefore, please be careful not to apply mechanical impact force to the coating.

If the above warnings are not followed when using this product, in severe cases, it may cause a short circuit and result in smoke or local detachment.

●警告（使用方面） Kindly note (Usage)

振荡与冲击 Vibration and Impact

使用时请勿使电容器或引线受到过度冲击或振动。过度冲击或振会对安装在电路板上的引线造成疲劳性破坏。请采取措施，使用粘合剂、封膜树脂或其它涂层将电容器安装在电路板上。使用指定设备进行固定时，请确认固定措施对产品不会造成影响。

使用本产品时如未能遵循上述警告事项，则在严重情况下，可能导致短路，并引起冒烟或局部离散。

When using, please avoid subjecting the capacitors or leads to excessive shock or vibration. Excessive shock or vibration can cause fatigue damage to the leads installed on the circuit board. Please take measures by using adhesives, encapsulation resins or other coatings to install the capacitors on the circuit board. When using the specified equipment for fixation, please confirm that the fixation measures will not affect the product.

If the above warning matters are not followed when using this product, in severe cases, it may lead to short circuit, and cause smoking or local disintegration.

◆推荐安装/焊接方法 Recommended installation/welding method

* 焊接建议 Welding Suggestions

1.波峰焊外形 Wave soldering shape

建议流量的温度条件如图所示。The recommended temperature conditions for the flow rate are shown in the figure below.

必须进行预热。Preheating must be carried out.

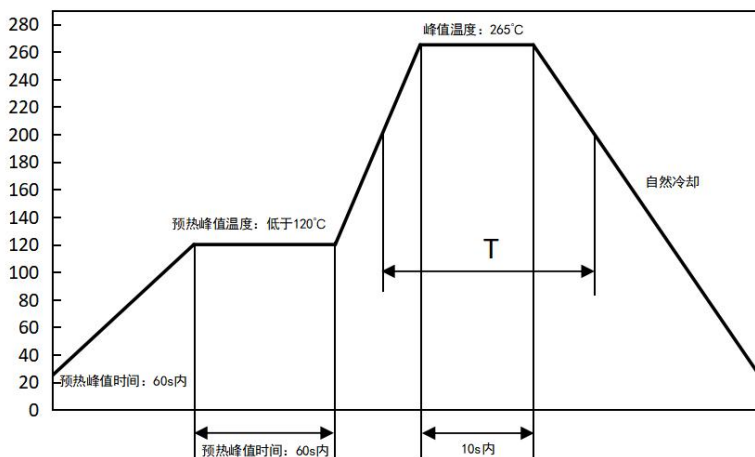
建议最高峰值流量温度为 265℃。The recommended peak flow temperature is 265℃.

当温度超过 200℃时，在 20 秒内执行图表中建议的时间“T”。

When the temperature exceeds 200℃, the time indicated in the chart "T" should be executed within 20 seconds.

注意流动焊料，不要在安装时直接接触电容器本体。

Be careful with the flow of solder, do not directly touch the capacitor body during installation.



2.使用烙铁的推荐返工条件 Recommended rework conditions for using the soldering iron

烙铁头温度：最高 400℃。Soldering iron tip temperature: Maximum 400℃.

烙铁功率：最大 50W。Soldering iron power: Maximum 50W.

焊接时间：最长 3.5s。Welding time: Maximum 3.5 seconds.

与涂层主体的距离：2 mm（最小值）。Distance from the coating body: 2 mm (minimum value).

◆修订履历

版本 Version	日期 Date	修订内容 Revision Content	修订人 Reviser
A0	2025-12-05	新修订	陆雨