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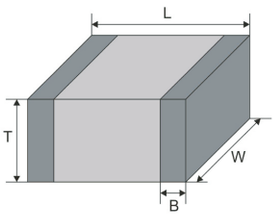
HCT47 Series Pulse Chip Ceramic Capacitor

1.Unencapsulated package structure, suitable for surface-mount technology;
2.Perform DPA on each batch;
3.Using linear dielectric materials as the ceramic matrix material results in a high pulse discharge lifespan.



Application

Suitable for energy storage units, fuses, ignition systems, oilfield exploration, lasers, and energy blocking applications.

Model Specifications	HCT473640PD1500V184KZ
Qualitygrade:	M
Detailed specifications:	Q/QYL20106-2018
L (mm) Product length L (mm)	9.10+0.50
W(mm) Product width W(mm)	10.16+0.50
Tmax(mm) Product thickness Tmax (mm)	5.00
B(mm) Width B(mm)	1.00±0.60
Rated capacitance	180nF
Capacitance tolerance	±10%
Dielectric loss tangent	⩽0.3%
(V)Ratedvoltage (V)	1500V
Insulation resistance	⩾1000MΩ·uF
Dielectric withstand voltage	1.2 U_R, 5±1s; no breakdown, no arc flash, and no visibledamage (in silicone oil).
Temperature coefficient characteristics	(-2200±250)ppm/°C
Operating temperature ra-nge	-55°C~125°C
Pulse discharge current	⩾1.3kA
Pulse discharge life (cycles)	M: 200 times
Way to install	Reflow soldering
Working temperature	-55°C~125°C

No RoHS Compliant

Order Example

Quality grade			
QJB	Military Standard Grade / CASIC No.1 Certification Level	G	Class 7 Specialized
J	Military	Industrial products	H

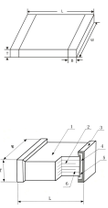
Model Number and Specification Naming Rules

HCT47	3640	PD	1500V	184	K	Z
Model	Dimensional code	Temperature characteristic	Rated voltage	Rated capacitance	Capacitance tolerance	Exit
①	②	③	④	⑤	⑥	⑦

① model

HCT47	Pulse-Chip Ceramic Capacitor

② Dimensional code (unit: mm)

Outside drawing	Dimensional code	2225	3640	4045	5055	5868	6878
	L	5.70±0.40	9.10±0.50	10.20±0.50	13.00±0.50	14.80±0.50	17.30±0.80
	w	6.35±0.40	10.16±0.50	11.40±0.50	14.30±0.50	17.30±0.50	19.80±0.80
	Tmax	5.00	5.00	5.00	6.00	6.50	6.80
	B	1.00±0.40	1.00±0.60	1.00±0.60	1.00±0.60	1.10±0.70	1.10±0.70

③ Temperature characteristic

Temperature characteristic	Allowable variation in capacity	Operating temperature range
PD	-2200ppm/°C±250 ppm/°C	-55°C~125°C

④ Rated voltage

1000V 1500V 2000V 3000V 4000V

⑤ Rated capacitance

The three-digit notation method is used, where the first two digits represent the RMS value of the capacitance, and the third digit represents the number of trailing zeros in the RMS value; the unit is PF. For example: 101 = 100 PF (0.1 nF); for values below 10 PF, "R" is used to denote the decimal point; for example: 3R9 = 3.9 PF.

⑥ Capacitance tolerance

K:±10%	M:±20%

⑦ Exit

Z: Matrix metallization – metal barrier layer – solder layer (tin/lead alloy, containing at least 4% lead)

No RoHS Compliant

Capacity Table

Order number	Product Specifications & Models	Detailed Implementation Specifications
1	HCT472225PD1000V104KZ	Q/QYL20106-2018
2	HCT472225PD1500V473KZ	Q/QYL20106-2018
3	HCT472225PD2000V103KZ	Q/QYL20106-2018
4	HCT472225PD3000V102KZ	Q/QYL20106-2018
5	HCT473640PD1000V224KZ	Q/QYL20106-2018
6	HCT473640PD1500V184KZ	Q/QYL20106-2018
7	HCT473640PD2000V473KZ	Q/QYL20106-2018
8	HCT473640PD3000V153KZ	Q/QYL20106-2018
9	HCT474045PD1000V334KZ	Q/QYL20106-2018
10	HCT474045PD1500V224KZ	Q/QYL20106-2018
11	HCT474045PD1500V334KZ	Q/QYL20106-2018
12	HCT474045PD2000V683KZ	Q/QYL20106-2018
13	HCT474045PD2000V224KZ	Q/QYL20106-2018
14	HCT474045PD3000V473KZ	Q/QYL20106-2018
15	HCT475055PD1500V404KZ	Q/QYL20106-2018
16	HCT475055PD2000V334KZ	Q/QYL20106-2018
17	HCT475868PD1000V474KZ	Q/QYL20106-2018
18	HCT475868PD1500V404KZ	Q/QYL20106-2018
19	HCT475868PD2000V104KZ	Q/QYL20106-2018
20	HCT475868PD2000V224KZ	Q/QYL20106-2018
21	HCT475868PD2000V404KZ	Q/QYL20106-2018
22	HCT475868PD3000V124KZ	Q/QYL20106-2018
23	HCT475868PD3000V224KZ	Q/QYL20106-2018
24	HCT476878PD1500V684KZ	Q/QYL20106-2018
25	HCT476878PD2000V404KZ	Q/QYL20106-2018
26	HCT476878PD3000V224KZ	Q/QYL20106-2018
27	HCT476878PD4000V104KZ	Q/QYL20106-2018
28	HCT474045PD3000V333KZ	Q/QYL20126-2021
29	HCT474045PD3000V473KZ	Q/QYL20126-2021
30	HCT475868PD3000V104KZ	Q/QYL20126-2021
31	HCT475868PD3000V124KZ	Q/QYL20126-2021
32	HCT476878PD3000V154KZ	Q/QYL20126-2021
33	HCT476878PD3000V224KZ	Q/QYL20126-2021

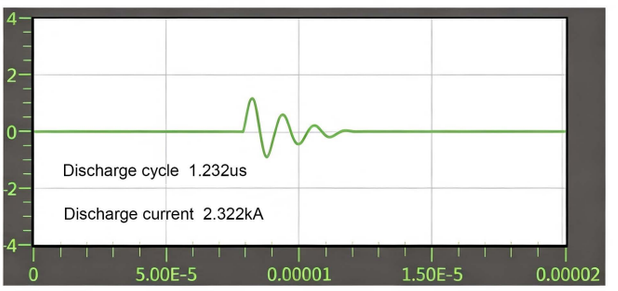
Q/QYL20126_2021 (QJB) and Q/QYL20106_2018 (G/J/Industrial Products).

No RoHS Compliant

Typical Discharge Current Curve (short-Circuit

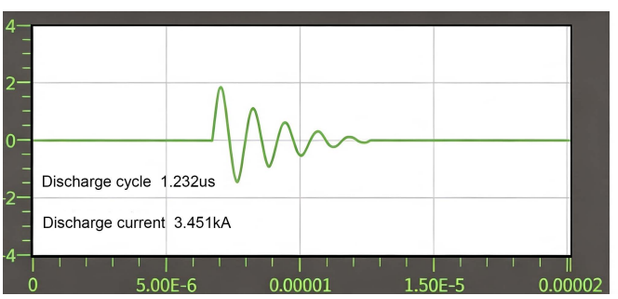
HCT475868PD1500V404KZ Specifications

(Apply U_R; load: R ≈ 70 MΩ; ESL <70 nH)



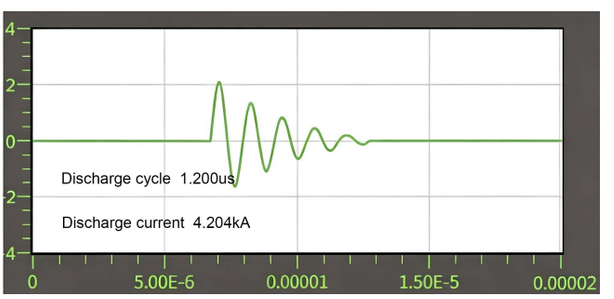
HCT475868PD1500V404KZ Specifications

(Apply 0.9U_R; Load: R ≈ 70 MΩ; ESL <70 nH)



HCT476878PD2000V404KZ Specifications

(Apply U_R; load: R ≈ 70 MΩ; ESL <70 nH)



HCT476878PD2000V404KZ Specifications

(Apply 1.25U_R; load: R ≈ 70 MΩ; ESL <70 nH)

Storage Environment

Capacitors shall be stored in a warehouse with an ambient temperature ranging from-10°C to 40°C, a relative humidity not exceeding 80%, and no acidic, alkaline, or harmful gases present in the vicinity.