

HQ1 SERIES HYBRID CAPACITORS



With the same performance and rating of the tantalum case THQ1, The HQ1 has a polypropylene case that is lighter and less costly than a metal case. The Electrolyte seal is provided by double Viton O rings, for dependable long life. HQ1 has a life of 1,000 hrs with full rated voltage at 70C. Significantly longer life is achieved with lower temperature and voltage de-rate.

基本电性能参数同THQ1，HQ1的外壳是高分子聚合物，具有重量轻、价格便宜的特点，采用双氟橡胶密封圈，寿命长，在额定电压70℃时，寿命长达1000小时以上。

1.0 Scope范围

This document contains specific electrical, mechanical, and environmental requirements and specifications for HQ1 series polymer case Hybrid® Capacitors.

本文件包含了HQ1系列Hybrid®钽电容器的特征、主要技术性能、机械性能和环境要求等。

2.0 Construction结构

2.1 General简介

The capacitor shall utilize sintered tantalum anodes and ruthenium oxide coated cathodes operating in aqueous electrolyte. The components shall be sealed in a polymer case.

HQ1钽电容器是一种由钽电极、Ta₂O₅介质、液体电解质和RuO₂阴极组成的高能量混合钽电容器。Polymer外壳封装。

2.2 Package外形尺寸

The configuration and dimensions shall be as per Figure 1 and table1.

外形结构和尺寸见图1和表1。

2.3 Mass 质量（克）

0~50 volt parts: 25±3grams; 63~125 volt parts: 31±3grams.

0~50伏的产品质量是：25克± 3克，63~125伏的产品质量是：31克± 3克。

How to order（订购格式）：

<u>HQ1</u>	<u>100</u>	<u>212</u>
TYPE(产品型号)	RATED DC VOLTAGE(额定电压)	CAPACITANCE(容量)

HQ1
系列

This is expressed in vdts . To complete the three-digit block, zeros precede the voltage rating(050=50V)
额定电压表示，三位数填写完整，不足三位的先用零表示。

uF code: 1st two digits represent significant figures,3rd digit number of zeros to follow
容量代码，前两位数字表示有效数字，第三位数字表示零的个数。

For example（例如）：50V8000uF 订货格式为HQ1050802

Figure 1. Part Sketch. 结构图

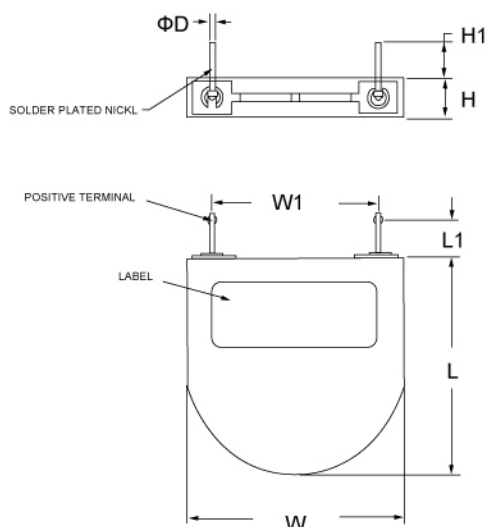


Table 1. Dimensions -Inchs(Millimeters)

表 1: 外形尺寸表-英寸 (毫米)

Type	类型	W	L	H	H1	W1	L1	ΦD
Inchs	英寸	1.645±0.015	1.630±0.015	0.290±0.015	0.265±0.030	1.260±0.030	0.280±0.015	0.040±0.001
Millimeters	毫米	41.783±0.381	41.402±0.381	7.366±0.381	6.731±0.762	6.731±0.762	7.112±0.381	1.016±0.025

Table 2. Electrical Specifications 表2: 电性能参数

V (VDC) 额定电压	Capacitance 容量	Part Number 料号	Surge Voltage 浪涌电压	DCL (max) 最大漏电流	ESR (max) Ω 等效串联电阻
6.3 V	75 000 μF	HQ1006753	7.0 V	150 μA	0.050 Ω
8 V	60 000 μF	HQ1008603	8.8 V	150 μA	0.050 Ω
10 V	53 000 μF	HQ1010533	11 V	150 μA	0.050 Ω
16 V	36 000 μF	HQ1016363	18 V	150 μA	0.050 Ω
25 V	23 000 μF	HQ1025233	28 V	150 μA	0.050 Ω
35 V	12 000 μF	HQ1035123	39 V	150 μA	0.050 Ω
50 V	8000 μF	HQ1050802	55 V	170 μA	0.060 Ω
63 V	4000 μF	HQ1063402	69 V	170 μA	0.100 Ω
80 V	2800 μF	HQ1080282	88 V	200 μA	0.100 Ω
100 V	2100 μF	HQ1100212	110 V	200 μA	0.125 Ω
110 V	1500 μF	HQ1110152	127 V	200 μA	0.200 Ω
125 V	1100 μF	HQ1125112	138 V	200 μA	0.200 Ω

2.4 Part Markings 产品标志

The capacitor shall be permanently and legibly labeled on the case with the following information.

在电容器外壳的圆周上将清晰地标注以下信息。

- i. Manufacturer's name and cage code
- ii. Manufacturer's part identification number
- iii. Capacitance
- iv. Working voltage
- v. Date/lot code
- vi. Polarity

- | | |
|------------|----------|
| 1. 制造厂商和编号 | 4. 工作电压 |
| 2. 制造厂商料号 | 5. 日期/周号 |
| 3. 电容容量 | 6. 正负极 |

2.5 Solderability 可焊性

The terminations shall be solderable per ANSI J-STD-002.

可焊性按照“ANSI J-STD-002”标准。

2.6 Resistance To Soldering Heat 耐焊接热

The capacitor must withstand solder dipping of the terminals at 260°C for 10 seconds per MIL-STD-202, Method 210, Condition B. The capacitor must not be visibly damaged and the electrical characteristics must not be affected.

按照“MIL-STD-202, 方法210, 情况B”HQ1系列电容器耐焊接热可以承受260°C、10秒, 电容器表面无损坏而且电性能不受影响。

3.0 Environmental Requirements 环境要求

3.1 Operating Temperature:

-40°C to +70°C. 工作温度: -40°C到+70°C

3.2 Storage Temperature :

-40°C to +80°C 存储温度: -40°C到+80°C

4.0 Electrical Requirements 电性能

4.1 Capacitance 容量

The capacitance is specified in Table 2 at 120Hz and 25°C, $\pm 20\%$.

在120Hz、25°C, 容量见表2, 容量偏差: $\pm 20\%$ 。

4.2 Working Voltage 工作电压

The working voltage rating is from 0 to 125V as specified in Table 2.

工作电压见表2

4.3 Surge Voltage 浪涌电压

The test shall be 1000 cycles at 110% of rated voltage at 70°C. Each cycle shall consist of 30 second surge voltage application followed by a 330 second discharge period. The part shall be charged and discharged through a 1000 ohm resistor. The capacitor must not be visibly damaged and the electrical characteristics must remain within specification.

测试是在70°C, 施加110%的额定电压进行1000次浪涌电压测试, 每次将有30秒浪涌电压充电和被跟随330秒放电周期, 充电和放电要通过一个1000欧姆的电阻器。电容器表面无损坏而且电性能不受影响。

4.4 Equivalent Series Resistance 等效串联电阻

The maximum equivalent series resistance (ESR) is specified in Table 2 at 1 kHz and 25°C.

等效串联电阻 (ESR) 见表2。条件: 在1KHz、25°C。

4.5 DC Leakage Current 漏电流

The maximum DC leakage current is specified in Table 2 following 5 minutes at working voltage and 25°C.

(见表2): 漏电流在25°C, 接工作电压5分钟之后不超过表2的规定。