

Evans Capacitor Company www.evanscap.com	Product Specification HYBRID[®] CAPACITOR	NUMBER	HQ1
		ISSUE	01
		REVISION	E (09-037)
		DATE	9/22/09

1.0 Scope

This document contains specific electrical, mechanical, and environmental requirements and specifications for HQ1 series polymer case Hybrid[®] Capacitors. These specifications are subject to change without notice.

2.0 Construction

2.1 General

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.

2.2 Package

The configuration and dimensions shall be as per Figure 1.

2.3 Mass

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

2.4 Part Markings

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

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

2.5 Solderability

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

2.6 Resistance To Soldering Heat

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.

3.0 Environmental Requirements

3.1 Operating Temperature

-40°C to +70°C.

3.2 Storage Temperature

-40°C to +80°C

4.0 Electrical Requirements

4.1 Capacitance

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

4.2 Working Voltage

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

4.3 Surge Voltage

The test shall be 1000 cycles at 110% of rated voltage at 70°C. Each cycle shall consist of a 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.

4.4 Equivalent Series Resistance

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

4.5 DC Leakage Current

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

Table 2. Electrical Specifications

V (VDC)	Capacitance	Part Number	DCL (max)	ESR (max)
10 V	50 000 μ F	HQ1010503	150 μ A	0.050 Ω
16 V	36 000 μ F	HQ1016363	150 μ A	0.050 Ω
25 V	23 000 μ F	HQ1025233	150 μ A	0.050 Ω
35 V	12 000 μ F	HQ1035123	150 μ A	0.050 Ω
50 V	8000 μ F	HQ1050802	170 μ A	0.060 Ω
63 V	4000 μ F	HQ1063402	170 μ A	0.100 Ω
80 V	2800 μ F	HQ1080282	200 μ A	0.100 Ω
100 V	1900 μ F	HQ1100192	200 μ A	0.125 Ω
110 V	1500 μ F	HQ1110152	200 μ A	0.200 Ω
125 V	1100 μ F	HQ1125112	200 μ A	0.200 Ω

Figure 1. Part Sketch.

