

Evans CAPACITOR Company www.evanscap.com	Product Specification HYBRID[®] CAPACITOR	NUMBER	THS3
		ISSUE	01
		REVISION	J
		DATE	10/11/18

1.0 Scope

This document contains specific electrical, mechanical, and environmental requirements and specifications for THS3 series Tantalum 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 with additives. The components shall be hermetically sealed in a welded tantalum case with a glass-to-metal anode terminal seal.

2.2 Package

The configuration and dimensions shall be as per Figure 1.

2.3 Mass

0-50 volt parts: 104 ± 3grams; 63-125 volt parts: 128 ± 3 grams.

2.3 Hermetic Seal

The capacitor shall be hermetically sealed such that the case does not leak electrolyte or vent any gas when exposed to a vacuum, per MIL-STD- 202, Method 112, Condition C, Procedure IIIa.

2.4 Part Markings

The capacitor shall be permanently and legibly labeled with the following information. The markings shall be resistant to solvents per MIL-STD-202, Method 215J.

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

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.

2.7 Terminal Strength

The capacitor terminals must withstand a 5-pound pull test for 30 seconds per Mil-Std-202, Method 211, Condition A. The capacitor must not be visibly damaged, and the electrical characteristics must not be affected.

2.8 Fungus Resistance

The capacitor materials shall not support fungus growth and shall not be a nutrient to fungus.

3.0 Environmental Requirements

3.1 Operating Temperature

-55°C to +85°C or 125°C with voltage derating (see Table 2).

3.2 Storage Temperature

-62°C to +130°C

3.3 Environmental Testing

The capacitor shall be designed to withstand environmental testing in accordance with Table 1. During testing the capacitor case shall be rigidly clamped to the test fixture with the leads upright. The capacitor must not be visibly damaged, and the electrical characteristics must remain within specification.

Table 1. Environmental Testing

	TEST	TEST METHOD	CONDITION	REMARKS
1	SHOCK	MIL-STD-202 METHOD 213	G	11 mS, 50g
2	VIBRATION	MIL-STD-202 METHOD 204	D	12 Sweeps/Axis, 20g peak
3	VIBRATION	MIL-STD-202 METHOD 214	I, Letter D	1.5 Hours/Axis, 12g rms
4	MOISTURE RESIS.	MIL-STD-202 METHOD 106		6 V Polarity
5	THERMAL SHOCK	MIL-STD-202 METHOD 107	A	
6	ALTITUDE	MIL-STD-202 METHOD 105	D	100 000 ft test

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 of rated surge voltage at 85°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

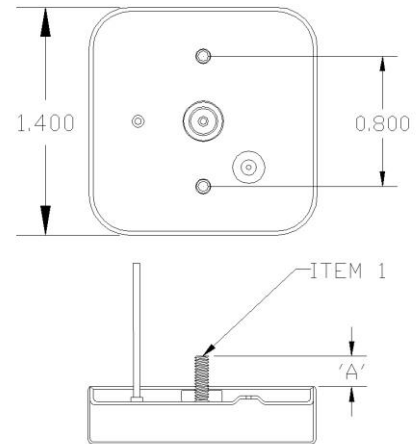
85°C (VDC)	Capacitance	Part Number	125°C (VDC)	Surge Voltage	DCL (max)	ESR (max)
10 V	200 000 µF	THS3010204	6 V	11 V	400 µA	0.025 Ω
16 V	130 000 µF	THS3016134	9.5 V	18 V	400 µA	0.025 Ω
25 V	75 000 µF	THS3025753	15 V	28 V	400 µA	0.035 Ω
35 V	50 000 µF	THS3035503	20 V	39 V	400 µA	0.035 Ω
50 V	30 000 µF	THS3050303	30 V	55 V	500 µA	0.035 Ω
63 V	14 000 µF	THS3063143	38 V	69 V	500 µA	0.035 Ω
80 V	10 000 µF	THS3080103	48 V	88 V	600 µA	0.040 Ω
85 V	9 000 µF	THS3085902	51 V	94 V	600 µA	0.050 Ω
100 V	7 000 µF	THS3100702	60 V	110 V	600 µA	0.050 Ω
110 V	6 000 µF	THS3110602	65 V	127 V	600 µA	0.065Ω
125 V	4 200 µF	THS3125422	75 V	138 V	600 µA	0.065 Ω

Part Number Description: (THS3) (XXX) (XXX) (K) (SMXX)

Part Series
Voltage Rating
Cap Rating
Optional ± 10% Tolerance
Optional Stud Mount

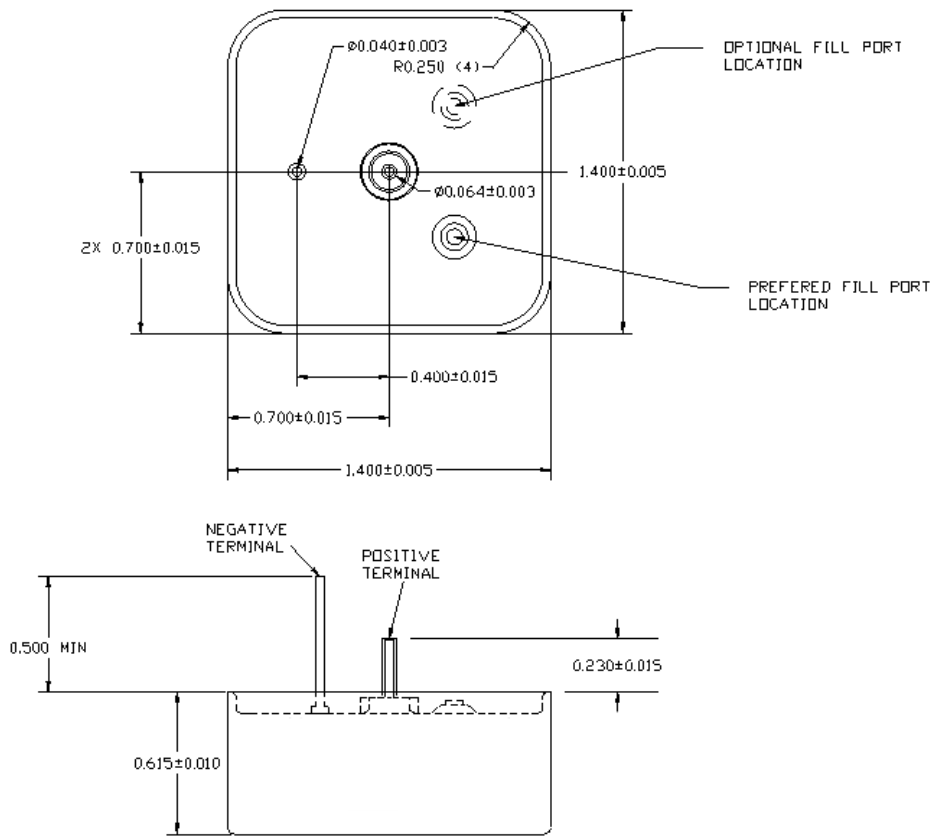
OPTIONAL STUD MOUNT (DIM B = 0.80")

PART NUMBERS	STUD LENGTH (DIM A)
THS3XXXXXXXXSM00	0.21 INCH
THS3XXXXXXXXSM01	0.27 INCH
THS3XXXXXXXXSM02	0.40 INCH
THS3XXXXXXXXSM03	0.15 INCH
THS3XXXXXXXXSM04	0.18 INCH
THS3XXXXXXXXSM05	0.35 INCH



STUDS ARE #2 – 56 CDA 752

FIGURE 1. DRAWING.



EVANS CAPACITOR COMPANY THS3 SERIES CAPACITOR SPECIFICATION