

# EVANS

## CAPACITOR COMPANY



# THS3 Series Hybrid Capacitors

## Product Datasheet

12.20.200



### Product Overview

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.

The THS3 Series comes in a 1.4" x 1.4" square.

### Electrical Specifications

Rated Voltage Range	10VDC to 125VDC
Capacitance Range	4,200uF to 200,000uF
Life (@85°C)	>2000 hours @ Rated Voltage

### Mechanical Specifications

Test	Method	Condition	Remarks
Shock	MIL-STD-202 METHOD 213	G	11 mS, 50g
Vibration	MIL-STD-202 METHOD 204	D	12 Sweeps/Axis, 20g peak
	MIL-STD-202 METHOD 214	II, Letter D	1.5 hours/axis, 19.64g peak
Moisture Resistance	MIL-STD-202 METHOD 106		6V Polarity

Solderability	To ANSI J-STD-002
Operating Temperature Range	-55°C to +85°C or 125°C with voltage derating (see page 3)
Storage Temperature Range	-62°C to +130°C

### Thermal Dissipation

In free air, THS3 Series exhibit a case temperature rise of approximately 20°C per watt dissipated.

### Capacitor Life

THS3 Series capacitors are rated for >2,000 hours at 85°C and rated voltage or 125°C at de-rated voltage. The effective life of a capacitor in a given application is based on the specific operating voltage and average temperature.

THS3 Series Capacitors have an unlimited Shelf life.

### Environmental Compliance

All THS3 ratings are RoHS 9/10 compliant to EU RoHS Directive 2011/65/EU.

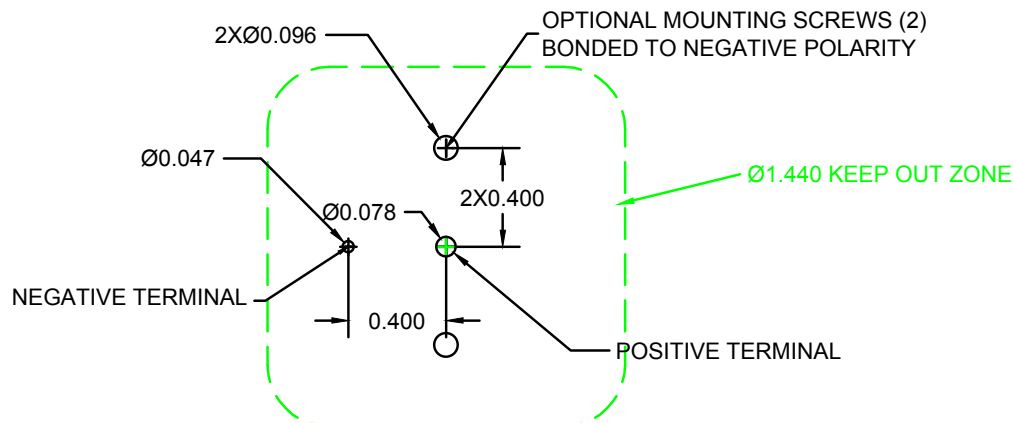
- Negative terminal is 60/40 SnPb plated copper wire
- Positive Terminal is 60/40 SnPb plated Nickel Tube

## Handling Guidelines

Attachment / Mounting by leads only is discouraged in applications exposed to mechanical shock or vibration. Always ensure capacitor is firmly secured to PWB, by either mounting studs, epoxy staking or both (preferred for vibration environments)

- Provide adequate care to protect the glass to metal seal (GTMS)
  - Avoid forces on the positive terminal, lateral, axial or torque.
  - Avoid mechanical shock to the positive terminal.
  - Secure the part to PWB before soldering
- Mounting with studs
  - #2-56 CDA-752 studs are available as a standard option.
  - Use spacers (provided) to fill the gap between PWB and leaded surface of capacitor.
  - Tighten Studs to 30-40 in-oz.
  - Secure nuts (provided) with red Loctite. Do not use lock washers.
- Potting / Epoxy Staking
  - We advise epoxy staking capacitor to PWB even when using studs, for maximum vibration tolerance.
  - In some applications it may be advisable to pot the cavity between the PWB and leaded surface.
  - Highest shock/vibration applications may require the capacitor to be fully potted.
- Soldering
  - Rim of capacitor is intended to mate directly to PWB. Advise using "no-clean" flux.
  - Utilize ANSI J-STD 001 Standard Through hole Soldering methods.
- Lead trimming
  - Provide adequate care if leads must be trimmed.
  - Trimming the positive terminal is not recommended.
  - Lead lengths available in 1/32" increments from 0.125" when measured from the rim of the capacitor.

## Recommended PWB Layout with Minimum PTH Diameters



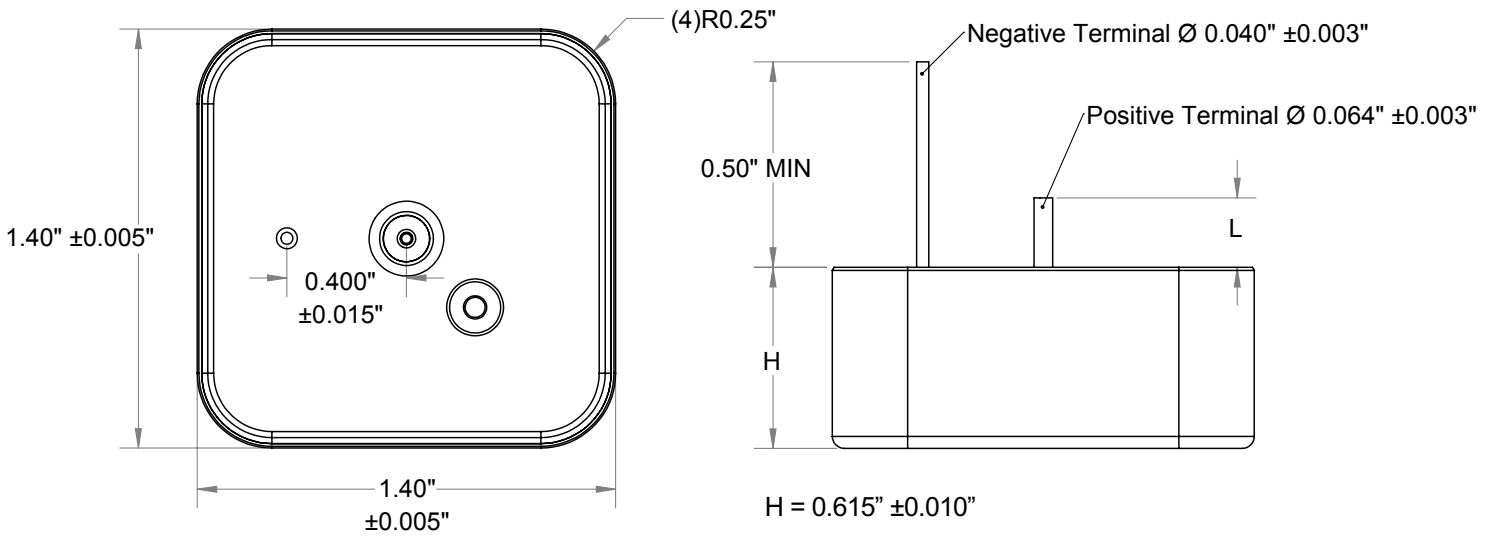
**Part Number Description**

<i>Product Series</i>	<i>Voltage Rating</i>	<i>Cap Rating</i>	<i>Option: Custom Center Lead</i>	<i>Option: ±10% Rating</i>	<i>Option: Stud Mount</i>
THS3	XXX	XXX	LX	K	SMXX

**Ratings Table**

Part Number	DLA PN	Voltage 85°C	Voltage 125°C	Cap (µF)	ESR (mΩ)	Height (in)	Mass (g)
THS3010204	09021-01	10	6	200,000	25	0.615	104
THS3016124	09021-02	16	9.5	130,000	25	0.615	104
THS3025753	09021-03	25	15	75,000	35	0.615	104
THS3063143	09021-06	63	38	14,000	35	0.615	128
THS3085902	09021-08	85	51	9,000	50	0.615	128

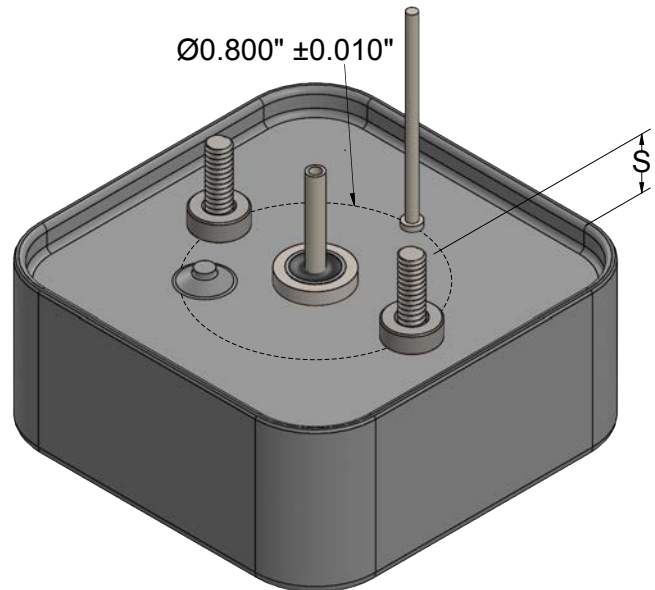
2D Drawing



	L0	L1	L2	L3	Standard	L4	L5	L6
Length L(x)	0.125"	0.156"	0.188"	0.219"	*0.230"	0.250"	0.281"	0.313"

\*If unspecified, standard center lead length is  $0.230'' \pm 0.030''$

L(x) dimensions are  $\pm 0.010''$



STUD MOUNT OPTION

CDA752 #2-56

EXAMPLE: TDDXXXXXXSM00

SUFFIX	SM00	SM01	SM02	SM03	SM04	SM05
Stud Height (S) $\pm 0.020''$	0.21"	0.27"	0.40"	0.15"	0.18"	0.35"