

Hybrid Wet Tantalum

THS3

Series

DLA 09021



- 1.4 x 1.4 square base
- Height 0.615"
- Voltages range from 10V-125V
- Cap values range from 4,200 μ F – 200,000 μ F
- Temperature range of -55°C to 125°C
- Standard tolerance \pm 20% (\pm 10% available)
- Stud mount options available

Product Overview

The THS3 series capacitors utilize sintered tantalum anodes and ruthenium oxide coated cathodes operating in aqueous electrolyte with additives. The components are hermetically sealed in a welded tantalum case with a glass-to-metal anode terminal seal.

The THS3 series capacitors come in a 1.4" x 1.4" square.

Electrical	Physical
<p>Rated Voltage Range 10VDC to 125VDC</p> <p>Capacitance Range 4,200μF to 200,000μF</p> <p>Life (@ 85°C) >2000 hours @ Rated Voltage</p>	<p>Solderability To ANSI J-STD-002</p> <p>Operating Temperature Range -55°C to +85°C or 125°C with voltage derating (see page 3)</p> <p>Storage Temperature Range - 62°C to +130°C Some increase in capacitor height (typically <0.030") can be expected at elevated temperatures above 100°C. This is normal and has no effect on capacitor performance and reliability.</p>

Mechanical			
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	I, Letter D	1.5 hours/axis, 12G rms
Moisture Resistance	MIL-STD-202 METHOD 106		6V bias

Thermal Dissipation

In free air, THS3 series capacitors 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 derated 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 series capacitor ratings are not RoHS compliant. All THS3 series capacitor ratings are REACH compliant.

- Negative terminal is 60/40 SnPb plated copper wire
- Positive Terminal is 60/40 SnPb plated Nickel Tube
- Lead free RoHS compliant options available upon request

Export Classification

THS series capacitors are ECCN EAR99

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). In severe shock and vibration environments full potting is preferred.

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.
- Use through-hole soldering methods in accordance with ANSI/IPC J-STD-001.

Lead trimming

- Provide adequate care if leads must be trimmed.
- Trimming of the positive terminal is risky and highly discouraged.
- Positive lead lengths available in 1/32" increments from 0.125" when measured from the rim of the capacitor.

Part Number Description

Product Series	Voltage Rating	Cap Rating	Option: Custom Center Lead	Option: ±10% Rating	Option: Stud Mount
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
THS3035503	09021-04	35	20	50,000	35	0.615	104
THS3050303	09021-05	50	30	30,000	35	0.615	104
THS3063143	09021-06	63	38	14,000	35	0.615	128
THS3080103	09021-07	80	48	10,000	40	0.615	128
THS3085902	09021-08	85	51	9,000	50	0.615	128
THS3100702	09021-09	100	60	7,000	50	0.615	128
THS3110602	09021-10	110	65	6,000	65	0.615	128
THS3125422	09021-11	125	75	4,200	65	0.615	128

2D Drawings

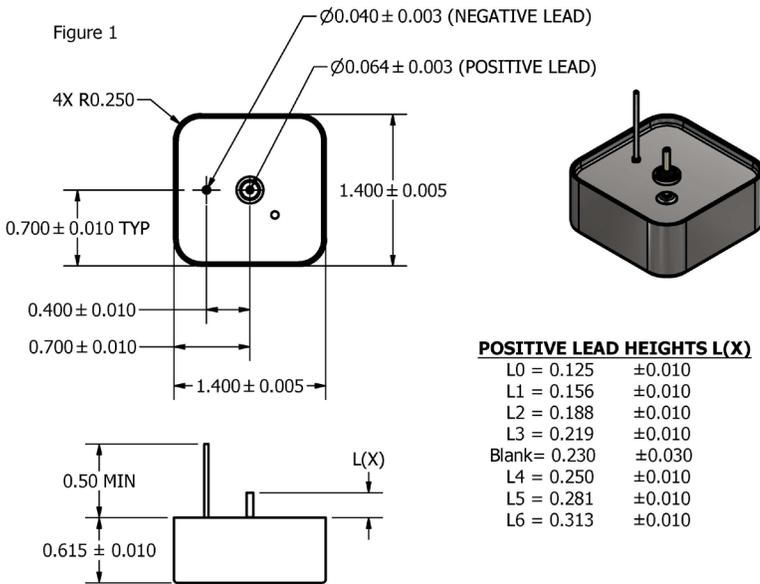
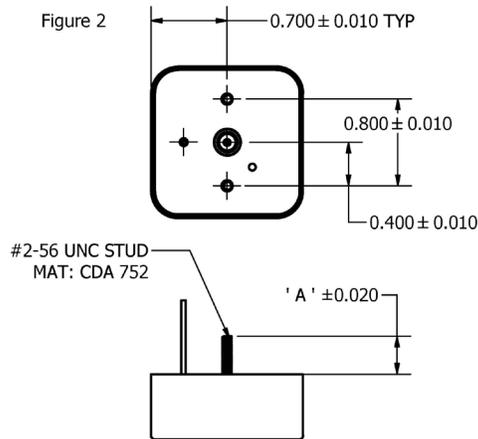


Table 3

OPTIONAL STUD MOUNT	
PART NUMBERS	STUD LENGTH ('A')
THS3XXXXXXSM00	0.21 INCH
THS3XXXXXXSM01	0.27 INCH
THS3XXXXXXSM02	0.40 INCH
THS3XXXXXXSM03	0.15 INCH
THS3XXXXXXSM04	0.18 INCH
THS3XXXXXXSM05	0.35 INCH



Mounting Recommendation

