

Quantic™ Evans



EDE Series Hybrid Capacitors Product Datasheet

08.03.2022

Product Overview

The capacitor shall utilize sintered tantalum anodes and ruthenium oxide coated cathodes operating in aqueous electrolyte. The components shall be hermetically sealed in a welded tantalum case with a glass-to-metal seal.

The EDE Series comes in a 1.4" x 1.4" square case and has the highest power density of any tantalum capacitor technology.

Electrical Specifications

Rated Voltage	48VDC to 88VDC
Capacitance Range	6,500uF to 25,000uF
Life (@85°C)	>2000 hours @ Rated Voltage

Mechanical Specifications

Test	Method	Condition	Remarks
Shock	MIL-STD-202 METHOD 213	G	Tested for 11ms at 50g
Vibration	MIL-STD-202 METHOD 204	D	12 sweeps/axis, 20g peak
	MIL-STD-202 METHOD 214	II, Letter E	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 +105°C or 125°C with voltage derating (see page 3)
Storage Temperature Range	-62°C to +130°C

Thermal Dissipation

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

Capacitor Life

EDE Series capacitors are rated for >2,000 hours at 105°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.

EDE Series Capacitors have an unlimited Shelf life.

Environmental Compliance

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

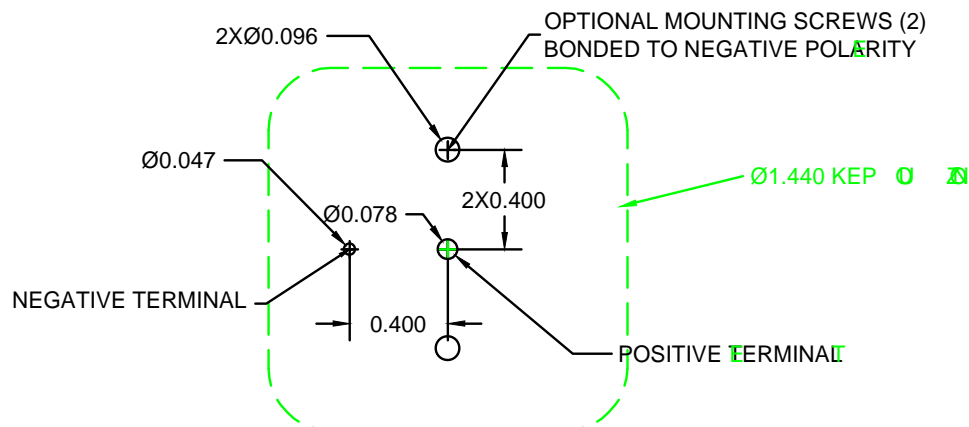
- Negative terminal is 60/40 SnPb plated copper wire
- Positive Terminal is 60/40 SnPb plated Nickel Tube

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



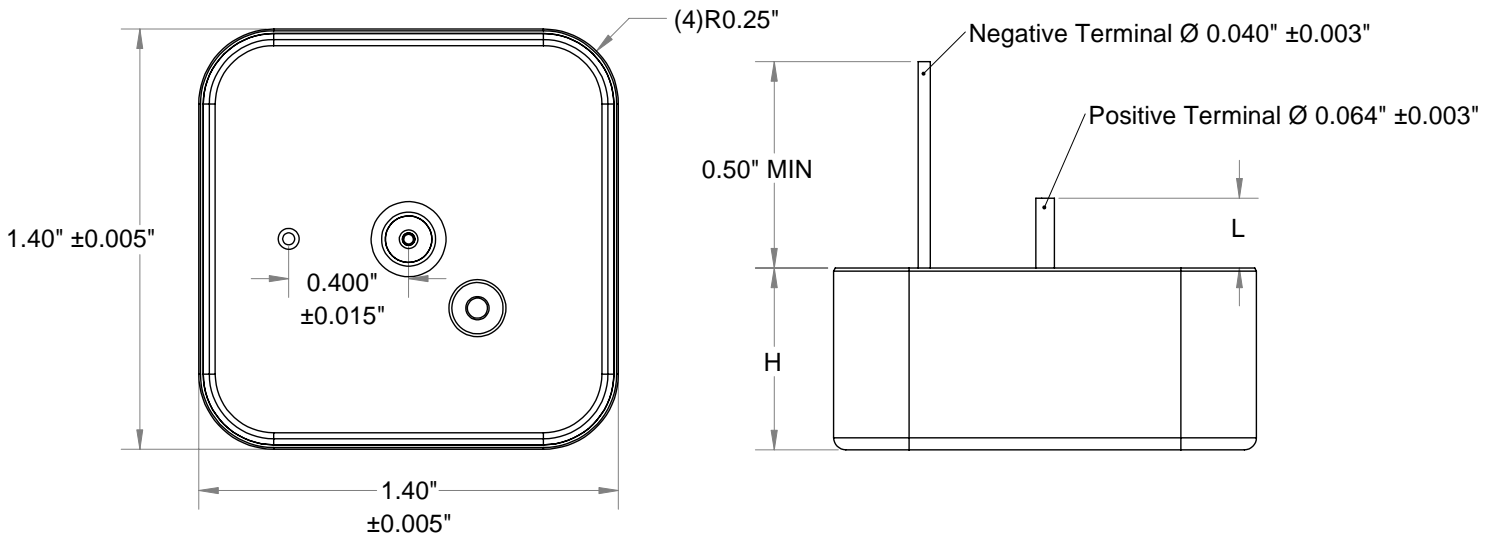
Part Number Description

<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>
EDE#	XXX	XXX	LX	K	SMXX

Ratings Table

Part Number	Voltage_105°C	Voltage_125°C	Cap (µF)	ESR (mΩ)	Height (in)	Mass (g) (max)
EDE1048652	48V	36V	6,500	50	0.312	60
EDE2048133	48V	36V	13,000	25	0.45	86
EDE3048193	48V	36V	19,000	17	0.6	115
EDE4048253	48V	36V	25,000	15	0.755	145
EDE1060442	60V	45V	4,400	55	0.312	60
EDE2060882	60V	45V	8,800	27	0.45	86
EDE3060133	60V	45V	13,000	18	0.6	115
EDE4060183	60V	45V	18,000	15	0.755	145
EDE1080262	80V	60V	2,600	65	0.312	60
EDE2080522	80V	60V	5,200	30	0.45	86
EDE3080782	80V	60V	7,800	20	0.6	115
EDE4080103	80V	60V	10,400	15	0.755	145
EDE1088222	88V	66V	2,200	85	0.312	60
EDE2088442	88V	66V	4,400	40	0.45	86
EDE3088662	88V	66V	6,600	27	0.6	115
EDE4088882	88V	66V	8,800	20	0.755	150

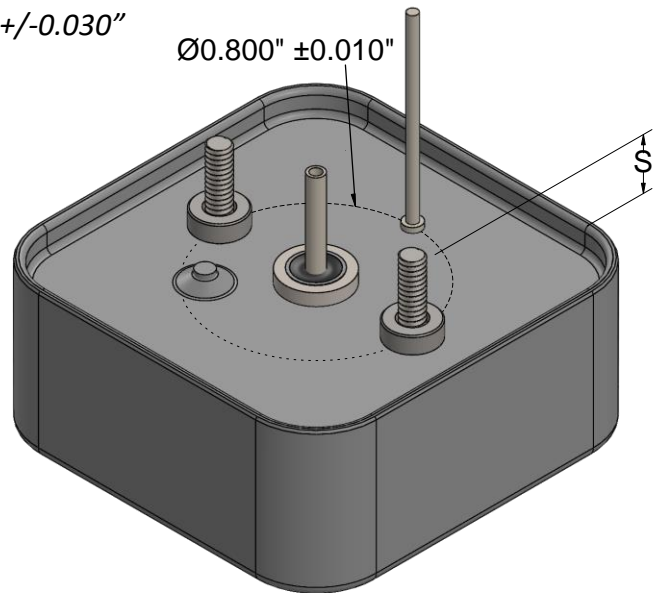
2D Drawing



	EDE1	EDE2	EDE3	EDE4
Case Height (H)	0.312"	0.450"	0.600"	0.755"

	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+/-0.030"
 L(x) dimensions are +/-0.010"



STUD MOUNT OPTION
CDA752 #2-56
EXAMPLE: TDEXXXXXXSM00

SUFFIX	SM00	SM01	SM02	SM03	SM04	SM05
Stud Height (S) +/- 0.020"	0.21"	0.27"	0.40"	0.15"	0.18"	0.35"