

How to quickly remove tantalum capacitors

Can a tantalum capacitor be used in a high energy circuit?

Warning: NEVER use tantalum capacitors in a "high energy" circuit where voltage can EVER exceed the voltage rating of the capacitor. Even the shortest spike (sub microsecond) can puncture the oxide layer and "away it goes". Almost as much fun as a LiIon battery!. Related: [electronics.stackexchange.com/questions/9120/...](https://electronics.stackexchange.com/questions/9120/)

What is a tolerance for a tantalum capacitor?

A factor of 2 in value is unlikely to be relevant. Capacitors in some cases can have tolerances of +100% /-50% (wet aluminium electrolytic) but may be +/-5% or 10% or 20% for Tantalum. Warning: NEVER use tantalum capacitors in a "high energy" circuit where voltage can EVER exceed the voltage rating of the capacitor.

Is it safe to use ceramic capacitors instead of tantalum?

Also, if one uses ceramic instead of tantalum, it's generally safe to use a lower value (like 10uF), but one needs to check the datasheet. True, but soldering those huge-value ceramic capacitors is a problematic operation.

Why do tantalum caps fail?

As we're already talking about derating and fried tantalum caps: Besides (even very short) voltage spikes causing tantalum caps to fail catastrophically, they are also very sensitive to current spikes (as they will appear when you hot-plug the power connector into the drive).

Can a capacitor be used to recover data from a hard drive?

If you just need the drive to recover the data, any half-decent electrolytic (including tantalum) capacitor will likely do the job long enough until you finally scrap the drive. Don't worry too much about the ESR. As the cap appears to be just in parallel to the 12 V input, it's not worth counting every milliohm.

What is the minimum capacitance a capacitor can use?

I would guess that 22uF is the minimum capacitance that the application can use. Part characteristics can differ as their voltage rating increases, so be careful not to go 'too' high. (Don't put a 100V capacitor where there once was a 16V part).

Our process uses pyrolysis, sequential leaching and electrochemical purification before the precipitation of a tantalum salt that feeds into the current tantalum production feedstock. First, the capacitors are pyrolyzed to remove the epoxy coating, where time and temperature were investigated.

I've been experimenting with tantalum replacements for the terrible NEC/TOKIN capacitors. There are numerous guides, most of which recommend replacing each capacitor with 4 x 470uF tantalum SMDs. This

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seemed like overkill to ...

How to remove Electrolytic Capacitors - 3 great Methods, is a clear, informative soldering tutorial showing the 3 best removal options for your SMD Electrolytic Capacitors....

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The general recycling procedure for SMD tantalum capacitors would consist of four steps: 1) pre-sorting the WPCBs for high concentrations of SMD capacitors; 2) treating in molten salt or molten metal; 3) separating and collecting the recovered tantalum capacitors for recycling; 4) finally, recycling the tantalum and silver metals.

Join me as we explore an easy way to remove old SMD type capacitors, with minimum thermal shock to the board. It involves snipping through the soft aluminium of the capacitor can, revealing...

A capacitor is a passive electronic component that stores electrical energy in an electric field. It consists of two conductive plates separated by an insulating material known as a dielectric. Types of Capacitors. Explore the various types of capacitors, including ceramic capacitors, electrolytic capacitors, tantalum capacitors, and more. Each ...

Aluminum electrolytic capacitors and tantalum electrolytic capacitors are two common types. 3. Tantalum Capacitors: Tantalum capacitors offer high capacitance density in a small package size, making them suitable ...

Tantalum Capacitors Technical Note TN-0004 Guidelines for Replacing Tantalum Capacitors Using a Soldering Iron Revision: 04-May-15 1 Document Number: 40214 For technical questions, contact: tantalum@vishay THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT

Tantalum Capacitors: Tantalum capacitors contain tantalum, a valuable metal. While tantalum itself is not hazardous, improper disposal or extraction techniques can lead to environmental contamination and health risks. Additionally, some tantalum capacitors may also contain small amounts of other hazardous materials, such as manganese dioxide; Other ...

The previous characteristics show how tantalum capacitors can be uniquely suited to help in modern electronics, but they are not without their quirks and there are a couple of major ones to take into account when you want to design these in. Tantalum capacitors are generally polarized devices, meaning that during layout and assembly you need to pay more ...

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Second, tantalum capacitors have superior frequency characteristics than many other types of capacitors, including aluminum electrolytics. A comparable CV tantalum capacitor has an ESR ten times better than an aluminum electrolytic capacitor. Third, tantalum capacitors are highly reliable - electrical performance qualities do not degrade over ...

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Desoldering SMD tantalum capacitors
How to desolder SMD tantalum capacitors- Use a hot air rework station- Use a soldering iron- Avoid solder bridges
Why do we...

Dry tantalum capacitors (tantalum electrolytics) don't degrade over time like aluminum electrolytics do. IF the outer coating is intact you don't need to replace them. They ...

Use a soldering iron with sufficient wattage and a regulated temperature. The adequacy of the soldering iron can be judged by the amount of time needed to reflow the solder. Beginning at 650 °F (343 °C), adjust the temperature so that the solder reflows within 1.5 s to 3 s.

Web: <https://doubletime.es>

