



Button down the alternatives

With last time buys issued on high-temperature button tantalums, buyers will need to find alternatives for a package that has no direct drop-in replacement, warns Charcroft Electronics

If you know where to look, you can find an alternative to virtually any obsolete capacitor, whether it has an axial, radial or surface-mount package. Finding an alternative is just a matter of matching the electrical and environmental specifications of the original part to that of a different part in the same, or similar, package. Unfortunately, that's where managing last time buys issued for Vishay's high-temperature Castanet wet tantalum capacitors is different because no other capacitor uses this iconic 'button' package.

Originally manufactured by Arcotronics, before being acquired by Vishay, these unique capacitors have previously been manufactured in three temperature grades: 85, 125 and 150°C. The recent LTB notices affect only the higher temperature grades offered in the CS2, CH2 and ANP2 series.

High-temperature alternatives

For customers who can easily change to the lower temperature specification, the solution will simply be to use

the CA2C series, which is rated for 85°C. In applications where a higher temperature rating is critical, however, buyers and engineers will face more of a challenge.

One possibility could be to substitute the button with a high-temperature tubular axial wet tantalum. Although this solution would need a change of board layout, it could match the capacitance values and voltages of the button tantalums. As an additional advantage, this alternative would extend the high-temperature capability up to 200°C and, as a relatively new series, it would also offer long-term continuity of supply.

Space-constrained applications

In applications where board-space is a priority, mounting a standard axial capacitor in a capacitor clamp or a metal cradle could provide a space-saving surface-mount footprint. Soldering the cradle also ensures additional stability to withstand the elevated levels of shock and vibration that can often be a factor in high-temperature applications. Where the

clamp or cradle cannot meet the required footprint, a custom fixing, designed and assembled at Charcroft's UK-based manufacturing facility, could offer a practical solution.

As a replacement for the non-polar ANP2 series, a solid tantalum may be an easier alternative, although there is a series of non-polar axial tubular wet tantalums available. In any of these scenarios, alternative capacitance values, as well as close or higher voltages, may have to be considered to find the best alternative.

Partnering with the right supplier can also help in finding the most appropriate alternative. Button tantalums have been part of this industry since the 1970s and, over that time, Charcroft has followed their history and archived many legacy drawings and datasheets from the Arcotronics and Vishay brands. These will provide a rich resource for customers sourcing suitable long-term replacements for these iconic devices.

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Cradles can be used to surface-mount
axial capacitors