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## New Low-Profile Tantalum-F98U Series



### The F98 responds to market trend of further miniaturization.

The F98U is a frameless style tantalum. Its unique TAB electrodes provide an advantageous structure for a low-profile design. In this type of construction, there is larger capacitance in the same size, or the same capacitance in a smaller size relative to its counterparts in the standard resin-molded type tantalum construction. When comparing the two types, the frameless structure has twice the volume of the capacitor element. Therefore, low ESR can be realized as well as low ESL because of no lead frame. The F98U boasts the thinnest package in the industry at 0.55mm with a maximum capacitance of 10uF. Next spring, a 15uF version will be available.

There are key advantages to using frameless tantalums and the F98U:

### **Advantage #1: Large Capacitance in a Small Package**

Due to tantalums excellent volumetric efficiency, a larger capacitance can be placed in a smaller package compared to other kinds of capacitors. In some cases, a downsizing of half can be achieved; about two times the capacitance is available in the smaller package.

### **Advantage #2: Wide Temperature Range**

The F98U has an operating temperature range of -55 to 125 Degrees Celsius with rated temperature at 85 Degrees Celsius. Electrical characteristics are very stable in a wide temperature range and during the application of voltage.

### **Advantage #3: Low ESR**

Tantalums have excellent low ESR characteristics.

### **Advantage #4: Extremely Long Life**

Robust construction of a tantalum capacitor, specifically the properties of the tantalum dielectric, low leakage current and tolerances to high temperature, contribute to making it a long life component.

### **Advantage # 5: Excellent High Frequency Response**

Tantalums have excellent high frequency response.

## F98U

### Quick Facts

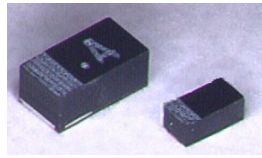
- Thinnest package in the industry at 0.55 mm Height
- Length = 1.10mm
- Width = 0.35mm
- Voltage range: 4-10 V
- Capacitance range: 2.2-10uF
- 4V 15uF Coming in 2011
- Ideally suited to replace high density MLCCs
- Wide Temperature Range
- Low ESR
- Temperature Stability
- Excellent High Frequency Response
- Extremely Long Life
- Decreasing Failure Rate with Time
- High Reliability

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## Thinnest Package in the Industry: 0.55mm



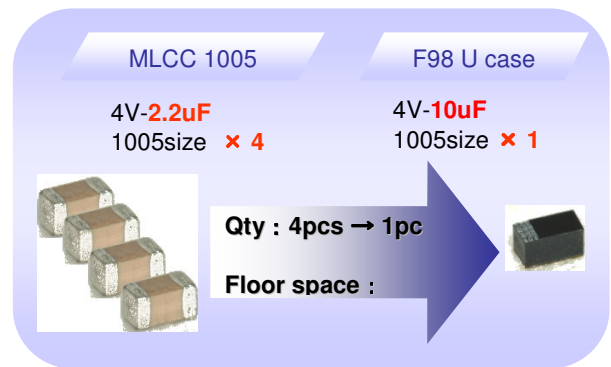
The F98U is the thinnest package in the industry for a tantalum capacitor. Samples are readily available in 1-2 weeks with production lead-time of 12-16 weeks.

## Markets

\* Smart Phone \* Digital Audio \* Wireless Equipment \* Digital Still and Digital Video Camera \* Portable Gaming \* Notebook and Net PC \* Digital Book \* Hearing Aids \* Camera Module \*

## Consolidation of Components

The F98U achieves miniaturization solutions where other components cannot. It is ideally suited to replace high density MLCC placements.



**\*Contact your Nichicon representative for additional examples where tantalums can be used to replace ceramic capacitors.**

## General Applications

- **Filtering for DC-DC Converter**
- **Coupling for Audio Circuit**
- **Bulk Energy Storage for Memory**

***Complete data sheets for the entire family of Nichicon tantalum capacitors can be found at [www.nichicon.com](http://www.nichicon.com).***

