Silicon Capacitor Technology and Cost Review

Discover the differences between silicon capacitor technologies from TSMC, Skyworks, Murata/IPDiA and Vishay and their related costs

This report presents an in-depth analysis of silicon capacitors that adopt different structures including metal-insulator-semiconductor (MIS), metal-nitride-oxide-silicon (MNOS), and Deep Trench. It shows the differences between eight selected devices from TSMC, Murata/IPDiA, Vishay and Skyworks: all the major producers on the market and their new technologies.

For each device, the report details the manufacturing process and materials used, component design, and die size. It then compares the components’ sizes, materials and characteristics including technical and electrical parameters in detail.

Silicon capacitors are passive devices used in specific applications, such as radio frequency, medical, aerospace, automotive, circuit decoupling and electrostatic discharge protection.

This report provides a unique opportunity to understand the technology choices, technology roadmap, evolution and manufacturing cost of the major silicon capacitor manufacturers, to give the bases for an optimal choice of components during design and integration.

The miniaturization of electronic devices and systems always requires better integration of all the components, including the passive ones. It is with this aim that we have compared the major characteristics of each capacitor.

The report includes comparison of cost, selling prices and front-end processes.

**Title:** Silicon Capacitor Technology and Cost Review

**Pages:** 140

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**Price:** Full report: EUR 3,490

**COMPLETE TEARDOWN WITH:**

- Detailed photos and identification
- SEM and EDX analysis of capacitor structure
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- Technology comparison
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