IN THE UNITED STATES PATENT OFFICE

Applicant:	Patrick J. Quinn		
Assignee:	Xilinx, Inc.		
Title:	SHIELDING FOR INTEGRATED CAPACITORS		
Serial No.:	12/276,289	Filed:	November 21, 2008
Examiner:	Errol V. Fernandes	Art Unit:	2894
Docket No.:	X-3004 US	Conf. No.:	3744

Mail Stop Amendment
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

AMENDMENT

Dear Sir:

In response to the Office Action mailed on October 27, 2010, please amend the application as follows.

Amendments to the claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

CLAIMS LISTING

This listing of claims will replace all prior versions and listings of claims in the application:

IN THE CLAIMS

1. (Currently Amended) A capacitor in an integrated circuit ("IC") comprising:

a core capacitor portion having a first plurality of conductive elements electrically connected to and forming a first part of a first node of the capacitor formed in a first conductive layer of the IC and a second plurality of conductive elements electrically connected to and forming a first part of a second node of the capacitor formed in the first conductive layer, the first plurality of conductive elements alternating with the second plurality of conductive elements in the first conductive layer, and a third plurality of conductive elements electrically connected to and forming a second part of the first node formed in a second conductive layer adjacent to the first conductive layer, at least portions of some of the second plurality of conductive elements overlying and vertically coupling to at least portions of some of the third plurality of conductive elements; [[and]]

a shield capacitor portion having a fourth plurality of conductive elements formed in at least the first conductive layer of the IC, the second conductive layer of the IC, a third conductive layer of the IC, and a fourth conductive layer of the IC, the first conductive layer and the second conductive layer each being between the third conductive layer and the fourth conductive layer, the shield capacitor portion being electrically connected to and forming a second part of the second node of the capacitor and surrounding the first plurality of conductive elements and the third plurality of conductive elements; and

a reference shield electrically connected to a reference node of the IC other than the second node of the capacitor, the shield capacitor portion being disposed between the reference shield and the core capacitor portion.

2. (Original) The capacitor of claim 1 wherein the third conductive layer is a metal layer of the IC and the fourth conductive layer is a poly layer of the IC, the shield

capacitor portion including a first node shield plate formed in the metal layer from a plurality of metal stripes and a second node shield plate formed in the poly layer.

3. (Original) The capacitor of claim 1 wherein the shield capacitor portion includes a first node shield plate formed in the third conductive layer and a second node shield plate formed in the fourth conductive layer and further comprising a first conductive curtain extending from the first node shield plate to the second node shield plate and a second conductive curtain extending from the first node shield plate to the second node shield plate.

4. (Original) The capacitor of claim 1 wherein the capacitor is a switching capacitor, the first node is a top node of the switching capacitor and the second node is a bottom node of the switching capacitor.

5. (Canceled)

6. (Currently Amended) ~~The~~ A capacitor ~~of claim 5~~ in an integrated circuit ("IC") comprising:

a core capacitor portion having a first plurality of conductive elements electrically connected to and forming a first part of a first node of the capacitor formed in a first conductive layer of the IC and a second plurality of conductive elements electrically connected to and forming a first part of a second node of the capacitor formed in the first conductive layer, the first plurality of conductive elements alternating with the second plurality of conductive elements in the first conductive layer, and a third plurality of conductive elements electrically connected to and forming a second part of the first node formed in a second conductive layer adjacent to the first conductive layer, at least portions of some of the second plurality of conductive elements overlying and vertically coupling to at least portions of some of the third plurality of conductive elements;

a shield capacitor portion having a fourth plurality of conductive elements formed in at least the first conductive layer of the IC, the second conductive layer of the IC, a third conductive layer of the IC, and a fourth conductive layer of the IC, the

first conductive layer and the second conductive layer each being between the third conductive layer and the fourth conductive layer, the shield capacitor portion being electrically connected to and forming a second part of the second node of the capacitor and surrounding the first plurality of conductive elements and the third plurality of conductive elements, and

a reference shield electrically connected to a reference node of the IC other than the second node of the capacitor, the shield capacitor portion being disposed between the reference shield and the core capacitor portion, wherein the reference shield includes a substrate portion of a substrate of the IC, a first conductive curtain extending from the substrate portion, and a second conductive curtain extending from the substrate portion.

7. (Original) The capacitor of claim 6 wherein the substrate portion comprises an N-well of the substrate of the IC.

8. (Previously Presented) The capacitor of claim 6 wherein the reference shield is a first cup shield having an open top.

9. (Currently Amended) The capacitor of claim [[5]] 1 wherein the reference node is a V_{DD} node.

10. (Withdrawn) The capacitor of claim 5 wherein the reference node is an analog ground node.

11. (Original) The capacitor of claim 1 wherein the first plurality of conductive elements comprises a first plurality of conductive strips extending along a first direction, the second plurality of conductive elements comprises a second plurality of conductive strips extending along the first direction, and the third plurality of conductive elements comprises a third plurality of conductive strips extending along a second direction orthogonal to the first direction.

12. (Original) The capacitor of claim 11 wherein each of the conductive elements in the third plurality of conductive elements is adjacent to a conductive element electrically connected to and forming a third part of the first node.

13. (Original) The capacitor of claim 12 further comprising a fourth plurality of conductive elements formed in a fifth conductive layer of the IC disposed between the fourth conductive layer and the second conductive layer and electrically connected to and forming a fourth part of the first node, the fourth plurality of conductive elements extending along the first direction, and
a fifth plurality of conductive elements electrically connected to and forming a third part of the second node formed in the fifth conductive layer extending along the first direction alternating with the fourth plurality of conductive elements in the fifth conductive layer.

14. (Withdrawn) The capacitor of claim 1 wherein the first plurality of conductive elements comprises a first plurality of conductive strips extending along a first direction, the second plurality of conductive elements comprises a second plurality of conductive strips extending along the first direction, and the third plurality of conductive elements comprises a third plurality of conductive strips extending along the first direction.

15. (Withdrawn) The capacitor of claim 14 further comprising a fourth plurality of conductive strips electrically connected to and forming a third part of the second node extending along the first direction and alternating with the third plurality of conductive strips in the second conductive layer.

16. (Canceled)

17. (Canceled)

18. (Canceled)

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.