Request for Continued Examination (RCE) Transmittal

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Alexandria, VA 22313-1450

Application Number	12/170,191				
Filing Date	July 9, 2008 Masafumi TSUTSUI, et al. 2814 Howard Weiss				
First Named Inventor					
Art Unit					
Examiner Name					
Attorney Docket Number	079195-0566				

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Education (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

		-			271					
1.	Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).									
	a. Previously submitted If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.									
	i.	Consider the arguments in the Appeal Brief or Reply Brief previously filed on								
	II.									
	b. 🖂 Enclosed									
	i.	\boxtimes	Amendment/Reply	iii.		Information Disclo	sure Statement (IDS)			
	ii.		Affidavit(s)/Declaration(s)	iv.	\Box	Other				
	Miscellaneous									
2.	2.									
	a. Suspension of action of the above-identified application is requested under 37 CFR 1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)									
	b. Other									
3.	Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.									
	a. The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 500417. I have enclosed a duplicate copy of this sheet. i. RCE fee required under 37 CFR 1.17(e) \$810									
	ii. Extension of time fee (37 CFR 1.136 and 1.17)									
1	III.		Other							
	b. Check in the amount of \$ enclosed									
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Signature			postal.		Date		March 29, 2010			
Nar	me (Print/T	ype)	Takashi Saito		Limited F	Recognition No.	L0123			
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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.										
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This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Docket No.: 079195-0566 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Customer Number: 53080

Masafumi TSUTSUI, et al. : Confirmation Number: 1644

Comminue

Application No.: 12/170,191 : Group Art Unit: 2814

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Filed: July 09, 2008 : Examiner: Howard Weiss

For: SEMICONDUCTOR DEVICE INCLUDING MISFET HAVING INTERNAL STRESS

FILM (as amended)

AMENDMENT ACCOMPANYING RCE

Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated December 31, 2009, wherein a three-month shortened statutory period for response is set to expire on March 31, 2010, Applicants respectfully request reconsideration of the above-identified application in view of the following amendments and remarks. A Request for Continued Examination is being filed concurrently herewith.



Application No.: 12/170,191

AMENDMENTS TO THE CLAIMS:

A listing of the claims presented in this patent application appears below. This listing replaces all prior versions and listing of claims in this patent application.

1-14. (Cancelled)

15. (Currently Amended) A semiconductor device, comprising a

MISFET, wherein

the MISFET includes:

an active region made of a semiconductor substrate;

a gate insulating film formed on the active region;

a gate electrode formed on the gate insulating film;

source/drain regions formed in regions of the active region located on both sides of the gate electrode; and

a silicon nitride film formed over from side surfaces of the gate electrode to upper surfaces of the source/drain regions, wherein

the silicon nitride film is not formed on an upper surface of the gate electrode, [[and]]

the gate insulating film is formed only under a lower surface of the gate electrode, and

the source/drain regions include lightly doped impurity regions formed in regions of the

active region located on both sides of the gate electrode, and heavily doped impurity regions

formed in regions of the active region respectively extending outwardly from the lightly doped

impurity regions to be in contact with the lightly doped impurity regions and having a higher

impurity concentration than that of the lightly doped impurity regions.



Application No.: 12/170,191

16. (Previously Presented) The semiconductor device of claim 15, wherein the silicon nitride film is for generating a stress in a substantially parallel direction to the gate length direction in a channel region located in the active region under the gate electrode.

17. (Previously Presented) The semiconductor device of claim 16, wherein the substantially parallel direction of the stress includes a direction tilted by an angle of less than 10 degree from a direction in which carriers move.

- 18. (Previously Presented) The semiconductor device of claim 15, wherein the silicon nitride film is directly in contact with the source/drain regions,
- 19. (Previously Presented) The semiconductor device of claim 15, wherein the silicon nitride film is formed above the source/drain regions with a thin film interposed therebetween.
- 20. (Currently Amended) The semiconductor device of claim 15, wherein the source/drain regions include a lightly doped impurity region, a heavily doped impurity region and a silicide layer.
 - 21. (Previously Presented) The semiconductor device of claim 15, further comprising: a sidewall formed on the side surface of the gate electrode.
- 22. (Previously Presented) The semiconductor device of claim 15, wherein

a principal surface of the semiconductor substrate is substantially a {100} plane, and the gate length direction of the gate electrode is substantially a <011> direction.



Application No.: 12/170,191

23. (Previously Presented) The semiconductor device of claim 15, further comprising:

an interlevel insulating film formed on the silicon nitride film; and a contact plug provided so as to pass through the interlevel insulating film and the silicon nitride film and to be connected to the source/drain regions.

- 24. (Previously Presented) The semiconductor device of claim 15, wherein the active region is divided by an isolation region formed in the semiconductor substrate.
- 25. (Previously Presented) The semiconductor device of claim 15, wherein the gate insulating film is a silicon oxide film.
- 26. (Previously Presented) The semiconductor device of claim 15, wherein the gate insulating film is a silicon oxynitride film.
- 27. (Previously Presented) The semiconductor device of claim 15, wherein the gate electrode has a polysilicon film.
- 28. (Previously Presented) The semiconductor device of claim 15, wherein the gate electrode has a metal film.
- 29. (Previously Presented) The semiconductor device of claim 15, wherein the silicon nitride film is provided so as to cover at least part of at least one of the source/drain regions.
 - 30. (Previously Presented) The semiconductor device of claim 15, wherein the silicon nitride film covers at least respective parts of the source/drain regions.



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