

MICROSEMI CORP  
Form SC 13G/A  
February 14, 2007  
CUSIP NO. 595137100

13G

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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 3)\*

MicroSemi Corporation

(Name of Issuer)

Common Stock, \$0.20 par value

(Title of Class of Securities)

595137100

(CUSIP Number)

December 31, 2006

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

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Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1. NAMES OF REPORTING PERSONS.  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY).

Franklin Resources, Inc. (13-2670991)

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  
(b) X

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

0

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

0

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9,306,356

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.0%

12. TYPE OF REPORTING PERSON

HC (See Item 4)

1. NAMES OF REPORTING PERSONS.  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY).

Charles B. Johnson

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  (b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

USA

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

0

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

0

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9,306,356

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.0%

12. TYPE OF REPORTING PERSON

HC (See Item 4)

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1. NAMES OF REPORTING PERSONS.  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY).

Rupert H. Johnson, Jr.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  (b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

USA

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

0

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

0

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9,306,356

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

13.0%

12. TYPE OF REPORTING PERSON

HC (See Item 4)

1. NAMES OF REPORTING PERSONS.  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY).

Franklin Advisers, Inc.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)  (b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

California

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

8,523,682 (See Item 4)

6. SHARED VOTING POWER

0

7. SOLE DISPOSITIVE POWER

8,558,382 (See Item 4)

8.

SHARED DISPOSITIVE POWER

0

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

8,558,382

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

11.9%

12. TYPE OF REPORTING PERSON

IA

Item 1.

(a) Name of Issuer

MicroSemi Corporation

(b) Address of Issuer's Principal Executive Offices

2381 Morse Ave.  
Irvine, CA 92614

Item 2.

(a) Name of Person Filing

(i): Franklin Resources, Inc.  
(ii): Charles B. Johnson  
(iii): Rupert H. Johnson, Jr.  
(iv): Franklin Advisers, Inc.

(b) Address of Principal Business Office or, if none, Residence

(i), (ii), (iii), and (iv):  
One Franklin Parkway  
San Mateo, CA 94403-1906

(c) Citizenship

(i): Delaware  
(ii) and (iii): USA  
(iv): California

(d) Title of Class of Securities

Common Stock, \$0.20 par value

(e) CUSIP Number

595137100

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

- (a)  Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).
- (b)  Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c)  Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d)  Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8).
- (e)  An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);
- (f)  An employee benefit plan or endowment fund in accordance with §240.13d-1(b)(1)(ii)(F);
- (g)  A parent holding company or control person in accordance with §240.13d-1(b)(1)(ii)(G);
- (h)  A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i)  A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j)  Group, in accordance with §240.13d-1(b)(1)(ii)(J).

#### Item 4. Ownership

The securities reported herein (the Securities ) are beneficially owned by one or more open- or closed-end investment companies or other managed accounts that are investment management clients of investment managers that are direct and indirect subsidiaries (each, an Investment Management Subsidiary and, collectively, the Investment Management Subsidiaries ) of Franklin Resources, Inc. ( FRI ), including the Investment Management Subsidiaries listed in Item 7. Investment management contracts grant to the Investment Management Subsidiaries all investment and/or voting power over the securities owned by such investment management clients, unless otherwise noted in this Item 4. Therefore, for purposes of Rule 13d-3 under the Act, the Investment Management Subsidiaries may be deemed to be the beneficial owners of the Securities.

Beneficial ownership by investment management subsidiaries and other affiliates of FRI is being reported in conformity with the guidelines articulated by the SEC staff in Release No. 34-39538 (January 12, 1998) relating to organizations, such as FRI, where related entities exercise voting and investment powers over the securities being reported independently from each other. The voting and investment powers held by Franklin Mutual Advisers, LLC ( FMA ), an indirect wholly-owned Investment Management Subsidiary, are exercised independently from FRI and from all other Investment Management Subsidiaries (FRI, its affiliates and the Investment Management Subsidiaries other than FMA are collectively, FRI affiliates ). Furthermore, internal policies and procedures of FMA and FRI establish informational barriers that prevent the flow between FMA and the FRI affiliates of information that relates to the voting and investment powers over the securities owned by their respective investment management clients. Consequently, FMA and the FRI affiliates report the securities over which they hold investment and voting power separately from each other for purposes of Section 13 of the Act.

Charles B. Johnson and Rupert H. Johnson, Jr. (the Principal Shareholders ) each own in excess of 10% of the outstanding common stock of FRI and are the principal stockholders of FRI. FRI and the Principal Shareholders may be deemed to be, for purposes of Rule 13d-3 under the Act, the beneficial owners of securities held by persons and entities for whom or for which FRI subsidiaries provide investment management services. The number of shares that may be deemed to be beneficially owned and the percentage of the class of which such shares are a part are reported in Items 9 and 11 of the cover pages for FRI and each of the Principal Shareholders. FRI, the Principal Shareholders and each of the Investment Management Subsidiaries disclaim any pecuniary interest in any of the Securities. In addition, the filing of this Schedule 13G on behalf of the Principal Shareholders, FRI and FRI affiliates, as

applicable, should not be construed as an admission that any of them is, and each disclaims that it is, the beneficial owner, as defined in Rule 13d-3, of any of the Securities.

FRI, the Principal Shareholders, and each of the Investment Management Subsidiaries believe that they are not a group within the meaning of Rule 13d-5 under the Act and that they are not otherwise required to attribute to each other the beneficial ownership of the Securities held by any of them or by any persons or entities for whom or for which FRI subsidiaries provide investment management services.

(a) Amount beneficially owned:

9,306,356

(b) Percent of class:

13.0%

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

Franklin Resources, Inc.:	0
Charles B. Johnson:	0
Rupert H. Johnson, Jr.:	0
Franklin Advisers, Inc.:	8,523,682
Franklin Templeton Portfolio Advisors, Inc. <sup>[1]</sup> :	712,404
Fiduciary Trust Company International:	25,500
Franklin Templeton Investment Management Limited:	0
Franklin Templeton Investments (Asia) Limited:	1,070

(ii) Shared power to vote or to direct the vote

0

(iii) Sole power to dispose or to direct the disposition of

Franklin Resources, Inc.:	0
Charles B. Johnson:	0
Rupert H. Johnson, Jr.:	0
Franklin Advisers, Inc.:	8,558,382
Franklin Templeton Portfolio Advisors, Inc.:	712,404
Fiduciary Trust Company International:	25,500
Franklin Templeton Investment Management Limited:	9,000
Franklin Templeton Investments (Asia) Limited:	1,070

(iv) Shared power to dispose or to direct the disposition of

0

Item 5. Ownership of Five Percent or Less of a Class

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Franklin Templeton Portfolio Advisors, Inc. ( FTPA ) may beneficially own these securities pursuant to various separately managed account investment management arrangements. Under these arrangements, underlying clients may, from time to time, delegate to FTPA the power to vote such securities, in which case FTPA has sole voting power. To the extent that the underlying client retains voting power over any securities, FTPA disclaims any power to vote or direct the vote of such securities.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following .

Not Applicable

Item 6. Ownership of More than Five Percent on Behalf of Another Person

The clients of the Investment Management Subsidiaries, including investment companies registered under the Investment Company Act of 1940 and other managed accounts, have the right to receive or power to direct the receipt of dividends from, as well as the proceeds from the sale of, such securities reported on in this statement. Franklin Small-Mid Cap Growth Fund, a series of Franklin Strategic Series, an investment company registered under the Investment Company Act of 1940, has an interest in 5,584,100 shares, or 7.8%, of the class of securities reported herein.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company

See Attached Exhibit C

(See also Item 4)

Item 8. Identification and Classification of Members of the Group

Not Applicable (See also Item 4)

Item 9. Notice of Dissolution of Group

Not Applicable



Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

This report shall not be construed as an admission by the persons filing the report that they are the beneficial owner of any securities covered by this report.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: February 13, 2007

Franklin Resources, Inc.

Charles B. Johnson

Rupert H. Johnson, Jr.

Franklin Advisers, Inc.

Franklin Strategic Series on behalf of

Franklin Small-Mid Cap Growth Fund

By: /s/BARBARA J. GREEN

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Barbara J. Green  
Vice President, Deputy General Counsel,  
and Secretary of Franklin Resources, Inc.

Attorney-in-Fact for Charles B. Johnson pursuant to Power of Attorney attached to this Schedule 13G

Attorney-in-Fact for Rupert H. Johnson, Jr. pursuant to Power of Attorney attached to this Schedule 13G

Secretary of Franklin Advisers, Inc.

Vice President and Assistant Secretary of Franklin Strategic Series

EXHIBIT A

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the undersigned hereby agree to the joint filing with each other of the attached statement on Schedule 13G and to all amendments to such statement and that such statement and all amendments to such statement are made on behalf of each of them.

IN WITNESS WHEREOF, the undersigned have executed this agreement on

February 13, 2007.

Franklin Resources, Inc.

Charles B. Johnson

Rupert H. Johnson, Jr.

Franklin Advisers, Inc.

Franklin Strategic Series on behalf of

Franklin Small-Mid Cap Growth Fund

By: /s/BARBARA J. GREEN

-----  
Barbara J. Green  
Vice President, Deputy General Counsel,  
and Secretary of Franklin Resources, Inc.

Attorney-in-Fact for Charles B. Johnson pursuant to Power of Attorney attached to this Schedule 13G

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Attorney-in-Fact for Rupert H. Johnson, Jr. pursuant to Power of Attorney attached to this Schedule 13G

Secretary of Franklin Advisers, Inc.

Vice President and Assistant Secretary of Franklin Strategic Series

EXHIBIT B

POWER OF ATTORNEY

CHARLES B. JOHNSON hereby appoints BARBARA J. GREEN his true and lawful attorney-in-fact and agent to execute and file with the Securities and Exchange Commission any Schedule 13G or 13D, any amendments thereto or any related documentation which may be required to be filed in his individual capacity as a result of his position as an officer, director or shareholder of Franklin Resources, Inc. and, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing which he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, may lawfully do or cause to be done by virtue hereof.

Date: 9-11-03

/s/Charles B. Johnson

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Charles B. Johnson

POWER OF ATTORNEY

RUPERT H. JOHNSON hereby appoints BARBARA J. GREEN his true and lawful attorney-in-fact and agent to execute and file with the Securities and Exchange Commission any Schedule 13G or 13D, any amendments thereto or any related documentation which may be required to be filed in his individual capacity as a result of his position as an officer, director or shareholder of Franklin Resources, Inc. and, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing which he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, may lawfully do or cause to be done by virtue hereof.

Date: Sept 4, 2003

/s/Rupert H. Johnson, Jr.

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Rupert H. Johnson





Exhibit C

Franklin Advisers, Inc.	Item 3 Classification: 3(e)
Franklin Templeton Portfolio Advisors, Inc.	Item 3 Classification: 3(e)
Fiduciary Trust Company International	Item 3 Classification: 3(b)
Franklin Templeton Investment Management Limited	Item 3 Classification: 3(e)
Franklin Templeton Investments (Asia) Limited	Item 3 Classification: 3(e)