UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): September 29, 2006

MICROSEMI CORPORATION

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction 0-8866 (Commission File Number) 95-2110371 (IRS Employer

of incorporation)

Identification No.)

2381 Morse Avenue, Irvine, California (Address of principal executive offices)

92614 (Zip Code)

Registrant s telephone number, including area code

(949) 221-7100

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- " Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- " Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- " Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- " Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

INFORMATION TO BE INCLUDED IN THE REPORT

Section 1 - Registrant s Business and Operations

Item 1.01 Entry into a Material Definitive Agreement. Option Grants to Non-Employee Directors

Pursuant to the Directors Compensation Policy, annual grants were made to non-employee members of our Board of Directors effective on September 29, 2006 of Non-Qualified Stock Options to purchase shares of Microsemi Corporation common stock, par value \$0.20 per share (Microsemi Common Stock), under the Microsemi Corporation 1987 Stock Plan, as amended.

The grants were as follows:

Option Grants to Non-Employee Directors

		Shares
		under
Name	Title	Options
Dennis R. Leibel	Chairman of the Board & Director	20,000
Thomas R. Anderson	Director	20,000
William L. Healey	Director	20,000
William E. Bendush	Director	20,000
Paul F. Folino	Director	20,000
Matthew E. Massengill	Director	20,000

Total Grants to Non-Employee Directors

120,000

These options shall expire in six (6) years, are exercisable at any time, and have an exercise price of \$18.85 per share, the closing sale price reported by Nasdaq on the grant date. The options are subject to the terms and conditions contained in our Form of Notice of Stock Option Grant and Non-Employee Stock Option Agreement incorporated herein by reference as Exhibit 10.110.

The option grants were made in accordance with our Directors Compensation Policy, incorporated herein by reference as Exhibit 10.111.1, which provides, among other things, that option grants to non-employee directors shall be made annually effective on the last business day of each fiscal year.

Option Grants to Executive Officers

Annual grants under the Microsemi Corporation 1987 Stock Plan, as amended, of options to purchase shares of Microsemi Common Stock were also made to employees effective on October 2, 2006.

The grants made to our chief executive officer and each of the other executive officers were as follows:

Option Grants to Executive Officers

		Shares under
Name	Title	Options
James J. Peterson	President, CEO & Director	150,000
Ralph Brandi	Executive VP & COO	100,000
David Sonksen	Executive VP, CFO, Treasurer & Secretary	75,000
Steven Litchfield	VP Corporate Marketing & Business Development	75,000
James Gentile	Senior VP Worldwide Sales	50,000

John Holtrust	Senior VP Human Resources	45,000
John J. Petersen	Vice President-Quality & Business Process Improvement	20,000
Total Grants to Executiv	e Officers	515 000

These options shall expire in six (6) years, shall vest in three equal annual installments on the first three anniversaries of the date of grant, and have an exercise price of \$18.97 per share, the closing sale price reported by Nasdaq on the grant date. The options are subject to the terms and conditions contained in our Form of Notice of Stock Option Grant and Employee Stock Option Agreement incorporated herein by reference to Exhibit 10.109.1.

We make employee stock option grants annually effective on the first business day of each fiscal year.

Section 9 - Financial Statements and Exhibits

Item 9.01 Financial Statements and Exhibits.

Exhibit No.	Description
10.109.1	Form of Notice of Stock Option Grant and Employee Stock Option Agreement from and after March 28, 2006. Previously filed as exhibit 10.109.1 to the Registrant s Current Report on Form 8-K on April 3, 2006 and incorporated herein by reference.
10.110	Form of Notice of Stock Option Grant and Non-Employee Stock Option Agreement from and after February 22, 2006. Previously filed as exhibit 10.110 to the Registrant s Current Report on Form 8-K on February 28, 2006 and incorporated herein by reference.
10.111	Directors Compensation Policy prior to February 22, 2006, filed herewith.
10.111.1	Directors Compensation Policy from and after February 22, 2006, filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MICROSEMI CORPORATION (Registrant)

Date: October 5, 2006

/s/ DAVID R. SONKSEN Chief Financial Officer, Executive Vice President, Treasurer and Secretary

EXHIBIT INDEX

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