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): March 28, 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:

- x 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))

INTRODUCTION

This Form 8-K is filed pursuant to Rules 165 and 425 promulgated under the Securities Act of 1933, as amended. Pursuant to Rule 425, the Exhibit filed herewith and incorporated by reference shall be deemed filed with, rather than furnished to, the Securities and Exchange Commission (SEC).

Microsemi Corporation (the Registrant) has filed with the SEC a registration statement on Form S-4 (Reg. No. 333-130655) on March 23, 2006, and a prospectus on March 28, 2006, for the acquisition of Advanced Power Technology, Inc., a Delaware corporation (APT), to which the Exhibit filed herewith relates. Before you take any action, you should read the prospectus and the registration statement and other documents the Registrant or APT has filed with the SEC. You may get these documents for free by visiting EDGAR on the SEC Web Site at www.sec.gov. Alternatively, the Registrant will arrange to send you the prospectus if you request it by calling 949-221-7101.

INFORMATION TO BE INCLUDED IN THE REPORT

Section 8 Other Events

Item 8.01 Other Events

On March 28, 2006 the Registrant issued a news release announcing that the Registrant has received all regulatory clearances necessary to complete its pending acquisition of APT. The Registrant expects to receive the approval of APT stockholders on April 27, 2006 and to close the transaction on April 28, 2006.

A copy of the news release issued by the Registrant is attached as Exhibit 99.1 to this report and is incorporated herein by this reference.

Section 9 - Financial Statements and Exhibits

Item 9.01 Financial Statements and Exhibits.

Exhibit No. Description

99.1 News Release of Microsemi Corporation, dated March 28, 2006.

SIGNATURES

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

MICROSEMI CORPORATION

Date: March 28, 2006 (Registrant)

/s/ DAVID R. SONKSEN

David R. Sonksen

Executive Vice President,

Chief Financial Officer,

Treasurer and Secretary

EXHIBIT INDEX

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