

Item 9.01. Financial Statements and Exhibits.

Exhibit 99.1. Press release dated January 25, 2007

SIGNATURE

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

(Registrant)

/s/ DAVID R. SONKSEN

January 25, 2007

(Date)

David R. Sonksen

Executive Vice President, Chief Financial Officer, Treasurer and Secretary

Exhibit Index

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