

Item 9.01. Financial Statements and Exhibits.

Exhibit No. Description

99.1 Press release dated January 21,
2010.

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/ JOHN W. HOHENER

January 21, 2010

(Date)

John W. Hohener

Vice President, Chief Financial Officer, Treasurer and Secretary

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