

**SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**FORM S-8****REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933****ON Semiconductor Corporation**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)**36-3840979**  
(I.R.S. Employer Identification No.)**5005 E. McDowell Road**  
**Phoenix, AZ 85008**  
(Address of principal executive offices) (Zip code)**ON Semiconductor Corporation 2000 Stock Incentive Plan;  
Options and Restricted Stock Units Granted Under the  
AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan and  
Assumed by ON Semiconductor Corporation**  
(Full title of the plan)**George H. Cave, Esq.**  
**ON Semiconductor Corporation**  
**5005 E. McDowell Road**  
**Phoenix, AZ 85008**  
(Name and address of agent for service)

Telephone number, including area code, of agent for service: (602) 244-5226

This registration statement shall hereafter become effective in accordance with Rule 462 promulgated under the Securities Act of 1933, as amended.

**CALCULATION OF REGISTRATION FEE**

Title of Securities to be Registered(1)	Amount to be Registered (2)	Proposed maximum offering price per share(3)	Proposed maximum aggregate offering price(3)	Amount of registration fee
ON Semiconductor Corporation 2000 Stock Incentive Plan (4) Common Stock \$0.01 par value	4,947,345	\$5.00	\$24,736,725.00	\$972.15
Assumed Options Granted under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan (5) Common Stock \$0.01 par value	9,389,882	\$9.81	\$92,114,742.42	\$3,620.10
Assumed Restricted Stock Units Granted under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan (6) Common Stock \$0.01 par value	1,089,471	\$5.00	\$5,447,355.00	\$214.08
<b>TOTAL</b>	15,426,698			\$4,806.33

- The securities to be registered include options and rights to acquire the common stock of ON Semiconductor Corporation.
- Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or similar transaction.
- Estimated pursuant to Rule 457 solely for purposes of calculating the registration fee. As to the shares of Common Stock issuable under the ON Semiconductor Corporation 2000 Stock Incentive Plan and the shares of Common Stock issuable pursuant to restricted stock units granted under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan and assumed by the registrant, the price is based upon the average of the high and low prices of the Common Stock on March 17, 2008, as reported on the Nasdaq Global Select Market. As to the shares of Common Stock issuable pursuant to the outstanding but unexercised options granted under the AMIS Holding, Inc. Amended and Restated 2000 Equity Incentive Plan and assumed by the registrant, the price is computed on the basis of the weighted average exercise price of the options.
- Represents shares of Common Stock reserved for issuance under the ON Semiconductor Corporation 2000 Stock Incentive Plan as a result of the assumption by the registrant, pursuant to the Agreement and Plan of Merger, dated December 13, 2007, by and among the registrant, Orange Acquisition Corporation, a wholly-owned subsidiary of the registrant, and AMIS Holdings, Inc. (the "Merger Agreement"), of the numbers of shares remaining available for grant under the AMIS Holdings, Inc. Employee Stock Purchase Plan and the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan at the effective time of the merger consummated pursuant to the Merger Agreement, as adjusted by the "Exchange Ratio" set forth in the Merger Agreement.
- Represents shares of Common Stock subject to issuance upon the exercise of options outstanding under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan and assumed by the registrant pursuant to the Merger Agreement.
- Represents shares of Common Stock subject to issuance upon the settlement of restricted stock units outstanding under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan and assumed by the registrant pursuant to the Merger Agreement.

PART II  
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

ON Semiconductor Corporation (the "Company") hereby incorporates by reference in this registration statement the following documents:

(a) The Company's annual report on Form 10-K filed pursuant to Sections 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), containing audited financial statements for the Company's fiscal year ended December 31, 2007, as filed with the Securities and Exchange Commission on February 12, 2008.

(b) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the fiscal year covered by the registrant document referred to in (a) above.

(c) The description of the Company's Common Stock contained in the Company's Registration Statement on Form 8-A12G, filed with the Securities and Exchange Commission on April 21, 2000, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this registration statement which indicates that all securities offered hereby have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities

The class of securities to be offered is registered under Section 12 of the Exchange Act.

Item 5. Interests of Named Experts and Counsel

Inapplicable.

Item 6. Indemnification of Directors and Officers

Section 102(b) of the Delaware General Corporation Law authorizes a corporation to provide in its Certificate of Incorporation that a director of the corporation shall not be personally liable to a corporation or its stockholders for monetary damages for breach or alleged breach of the director's "duty of care." While this statute does not change the directors' duty of care, it enables corporations to limit available relief to equitable remedies such as injunction or rescission. The statute has no effect on a director's duty of loyalty or liability for acts or omissions not in good faith or involving intentional misconduct or knowing violations of law, illegal payment of dividends or stock redemptions or repurchases, or for any transaction from which the director derives an improper personal benefit. Article Sixteenth of our Amended and Restated Certificate of Incorporation eliminates the liability of each of our directors to us and our stockholders for monetary damages for breach of fiduciary duty as a director to the full extent permitted by the Delaware General Corporation Law.

Section 145 of the Delaware General Corporation Law provides for the indemnification of officers, directors, employees and agents of a corporation. The Delaware General Corporation Law also provides that a Delaware corporation may purchase insurance on behalf of any such director, officer, employee or agent. Article Eleventh of our Amended and Restated Certificate of Incorporation provides for indemnification of our officers and directors to the full extent permitted by the Delaware General Corporation Law. We carry insurance policies which cover our individual directors and officers for legal liability and which would pay on our behalf for expenses of indemnifying directors and officers in accordance with our Amended and Restated Certificate of Incorporation.

Item 7. Exemption From Registration Claimed

Inapplicable.

Item 8. Exhibits

See Exhibit Index.

Item 9. Undertakings

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Phoenix, State of Arizona, on March 20, 2008.

ON SEMICONDUCTOR CORPORATION

By: /s/ Keith D. Jackson

Keith D. Jackson

President and Chief Executive Officer

POWER OF ATTORNEY

The officers and directors of ON Semiconductor Corporation, whose signatures appear below, hereby constitute and appoint Keith D. Jackson and Donald A. Colvin, and each of them, their true and lawful attorneys and agents, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any amendment or amendments to this registration statement on Form S-8, and each of the undersigned does hereby ratify and confirm all that each of said attorney and agent, or their or his substitutes, shall do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities indicated on March 20, 2008.

<u>Signature</u>	<u>Title</u>
<u>/s/ Keith D. Jackson</u> Keith D. Jackson	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Donald A. Colvin</u> Donald A. Colvin	Executive Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)
<u>/s/ J. Daniel McCranie</u> J. Daniel McCranie	Chairman of the Board of Directors
<u>/s/ Francis P. Barton</u> Francis P. Barton	Director
<u>/s/ Curtis J. Crawford</u> Curtis J. Crawford	Director
<u>/s/ Emmanuel T. Hernandez</u> Emmanuel T. Hernandez	Director
<u>/s/ Phillip D. Hester</u> Phillip D. Hester	Director
<u>/s/ Christine King</u> Christine King	Director
<u>/s/ Robert H. Smith</u> Robert H. Smith	Director

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## EXHIBIT INDEX

- 4.1 Amended and Restated Certificate of Incorporation of ON Semiconductor Corporation, as further amended through May 30, 2006 (incorporated by reference from Exhibit 3.1(a) to ON Semiconductor Corporation's Second Quarter 2006 Form 10-Q filed with the Commission on July 28, 2006).
- 4.2 Amended and Restated Bylaws of ON Semiconductor Corporation (incorporated by reference from Exhibit 3.1 to the Corporation's Current Report on Form 8-K filed with the Commission on November 19, 2007).
- 5.1 Legal Opinion of DLA Piper US LLP
- 23.1 Consent of Independent Registered Public Accounting Firm
- 23.2 Consent of Counsel (included in Exhibit 5.1)
- 24 Power of Attorney (included in signature pages to this registration statement)

March 20, 2008

ON Semiconductor Corporation  
5005 E. McDowell Road  
Phoenix, AZ 85008

Ladies and Gentlemen:

We have acted as legal counsel for ON Semiconductor Corporation, a Delaware corporation (the "Company"), in connection with a Registration Statement on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of up to 15,426,698 shares of the Common Stock, \$0.01 par value, of the Company (the "Shares") which may be issued pursuant to the ON Semiconductor Corporation 2000 Stock Incentive Plan (the "Plan") and upon the exercise of options and the settlement of restricted stock units granted under the AMIS Holdings, Inc. Amended and Restated 2000 Equity Incentive Plan which have been assumed by the Company (collectively, the "Assumed Awards") in accordance with the terms of the Agreement and Plan of Merger, dated December 13, 2007, by and among the Company, Orange Acquisition Corporation, a wholly-owned subsidiary of the Company, and AMIS Holdings, Inc. (the "Merger Agreement").

We have examined all instruments, documents and records which we deemed relevant and necessary for the basis of our opinion hereinafter expressed. In such examination, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies. We are admitted to practice only in the State of California and we express no opinion concerning any law other than the law of the State of California, the corporation laws of the State of Delaware and the federal law of the United States. As to matters of Delaware corporation law, we have based our opinion solely upon our examination of such laws and the rules and regulations of the authorities administering such laws, all as reported in standard, unofficial compilations. We have not obtained opinions of counsel licensed to practice in jurisdictions other than the State of California.

Based on such examination, we are of the opinion that the Shares which may be issued pursuant to awards granted under the Plan and upon the exercise or settlement of the Assumed Awards are duly authorized and, when issued against receipt of the consideration therefor in accordance with the provisions of the Plan, and, in the case of the Assumed Awards, the Merger Agreement and the award agreements evidencing the Assumed Awards, will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement referred to above and the use of our name wherever it appears in said Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act, the rules and regulations of the Securities and Exchange Commission promulgated thereunder or Item 509 of Regulation S-K.

This opinion letter is given to you solely for use in connection with the issuance of the Shares in accordance with the Registration Statement and is not to be relied on for any other purpose. Our opinion is expressly limited to the matters set forth above, and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company, the Shares or the Registration Statement.

Very truly yours,

/s/ DLA PIPER US LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated February 11, 2008 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in ON Semiconductor Corporation's Annual Report on Form 10-K for the year ended December 31, 2007.

/s/ PRICEWATERHOUSECOOPERS LLP

Phoenix, Arizona

March 19, 2008