UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDERTHE 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, Arizona 85008 (Address of Principal Executive Offices) (Zip Code)

ON SEMICONDUCTOR CORPORATION 2000 EMPLOYEE STOCK PURCHASE PLAN (Full title of the plan)

George H. Cave, Esq.
ON SEMICONDUCTOR CORPORATION
5005 E. McDowell Road
Phoenix, Arizona 85008
(602) 244-5226

(Name, address, telephone number, including area code, of agent for service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an

| emerging growth compain In Rule 12b-2 of the Exc | ny. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting compa hange Act. | ny," and "emerging growth comp | oany" |
|---|---|--------------------------------|-------|
| Large accelerated filer | \boxtimes | Accelerated filer | |
| Non-accelerated filer | \square (Do not check if a smaller reporting company) | Smaller reporting company | |
| | | Emerging growth company | |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 7(a)(2)(B) of the Securities Act. \Box

CALCULATION OF REGISTRATION FEE

| | | Proposed | Proposed | |
|---------------------|------------------|----------------|-----------------|------------------|
| | Amount | maximum | maximum | |
| Title of securities | to be | offering price | aggregate | Amount of |
| to be registered | registered(1) | per share(2) | offering price | registration fee |
| Common Stock | 5,000,000 shares | \$15.02 | \$75,100,000.00 | \$8,704.09 |

- Together with an indeterminate number of shares that may be necessary to adjust the number of shares reserved for issuance pursuant to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan as the result of a stock split, stock dividend, or similar adjustment of the outstanding common stock of the registrant. In addition, pursuant to Rule 416(c) under the Securities Act of 1933, as amended, this registration statement also covers an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plan described herein.
- (2) Estimated solely for the purposes of calculating the amount of the registration fee pursuant to Rules 457(c) and 457(h)(1) under the Securities Act of 1933, as amended, on the basis of the average of the high and low prices of the registrant's common stock as reported on the NASDAQ Stock Market LLC (NASDAQ Global Select Market) on August 1, 2017.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I of Form S-8 will be sent or given to each employee who is eligible to participate in the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended (the "Plan"), as required by Rule 428(b)(1) of the Securities Act of 1933, as amended (the "Securities Act"). Such documents need not be filed with the Securities and Exchange Commission (the "SEC" or the "Commission") either as part of this registration statement on Form S-8 (this "Registration Statement") or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act, and accordingly, such information is omitted from this Registration Statement and is not being filed with the SEC either as part of this Registration Statement or as prospectuses or prospectuses or prospectus supplements pursuant to Rule 424 under the Securities Act.

These documents and the documents incorporated by reference into this Registration Statement pursuant to Item 3 of Part II of this Registration Statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act. Pursuant to General Instruction E to Form S-8, the contents of the registration statements on Form S-8 filed by ON Semiconductor Corporation (the "Company") with the SEC on May 21, 2009 (File No. 333-159381), Form S-8 filed with the SEC on August 2, 2013 (File No. 333-190344), Form S-8 filed with the SEC on August 19, 2015 (File No. 333-206471), and each of them are hereby incorporated by reference into this Registration Statement.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

The sole purpose of this Registration Statement is to register an additional 5,000,000 shares of the Company's common stock, par value \$0.01, reserved for issuance under the Plan. This increase was approved by the Company's Board of Directors on March 22, 2017 and by the Company's shareholders on May 17, 2017.

Item 3. Incorporation of Documents by Reference.

The following documents have been filed by the Company or by the Plan with the SEC pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and are incorporated herein by reference, excluding, in each case, information deemed furnished and not filed:

- 1. The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
- 2. The Plan's Annual Report on Form 11-K for the fiscal year ended December 31, 2016.
- 3. The Company's Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2017 and June 30, 2017.

- 4. The Company's Current Reports on Form 8-K filed January 17, 2017, February 1, 2017, February 17, 2017, February 28, 2017, March 20, 2017, April 3, 2017, May 18, 2017, and June 2, 2017.
- 5. The description of the Company's common stock included in its registration statement on Form 8-A12G, filed April 21, 2000, and any amendment or report that the Company has filed (or will file after the date of this Registration Statement and prior to the termination of this offering) for the purpose of updating such description, including, but not limited to, its Current Report on Form 8-K filed with the SEC on May 18, 2017.

All documents subsequently filed by the Company or by the Plan 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 have been sold, or which deregisters all securities then 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, excluding, in each case, information deemed furnished and not filed. Any statement contained in this Registration Statement or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law ("DGCL") authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers under certain circumstances and subject to certain limitations. The terms of Section 145 of the DGCL are sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement of expenses incurred, arising under the Securities Act.

As permitted by the DGCL, the Company's Amended and Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), contains provisions relating to the limitation of liability and indemnification of directors and officers. The Certificate of Incorporation eliminates the personal liability of each of the Company's directors to the fullest extent permitted by Section 102(b)(7) of the DGCL, as it may be amended or supplemented, and provides that the Company will indemnify its directors and officers to the fullest extent permitted by Section 145 of the DGCL, as amended from time to time.

The Company has entered into indemnification agreements with each of its directors and executive officers. The form of agreement (the "Indemnification Agreement") provides, subject to certain exceptions and conditions specified in the Indemnification Agreement, that the Company will indemnify each indemnitee to the fullest extent permitted by Delaware law against all expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with a proceeding or claim in which such person is involved because of his or her status as one of the Company's directors or executive officers. In addition, the Indemnification Agreement provides that the Company will, to the extent not prohibited by law and subject to certain exceptions and repayment conditions, advance specified indemnifiable expenses incurred by the indemnitee in connection with such proceeding or claim. The foregoing description of the Indemnification Agreement does not purport to be complete and is qualified in its entirety by reference to the full and complete terms of the Indemnification Agreement, which is filed as Exhibit 10.1 to the Current Report on Form 8-K filed by the Company on February 25, 2016.

The Company also maintains directors' and officers' insurance policies that indemnify its directors and officers against various liabilities, including certain liabilities under the Securities Act, that might be incurred by any director or officer in his or her capacity as such.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

| Exhibit No. | Description |
|-------------|--|
| 5.1 | Opinion of Snell & Wilmer L.L.P. |
| 23.1 | Consent of PricewaterhouseCoopers LLP |
| 23.2 | Consent of Snell & Wilmer L.L.P. (included in the opinion filed as Exhibit 5.1) |
| 24.1 | Powers of Attorney |

In addition to those Exhibits shown above, the Company hereby incorporates the following Exhibits pursuant to Rule 411 of Regulation C promulgated under the Securities Act by reference to the filings set forth below:

| Exhibit No. | Description | Previously Filed as Exhibit | File No. | Date Filed |
|-------------|--|---|-----------|------------|
| 4.1(a) | Amended and Restated Certificate of Incorporation of ON Semiconductor Corporation, as further amended through March 26, 2008 | Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 28, 2008 | 000-30419 | 5/7/08 |

| 4.1(b) | Certificate of Amendment to the Amended and Restated Certificate of Incorporation | Exhibit 3.1 to the Company's Current Report on Form 8-K dated May 28, 2014 | 000-30419 | 6/3/14 |
|--------|--|---|------------|----------|
| 4.1(c) | Certificate of Amendment to the Amended and Restated Certificate of Incorporation | Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 | 000-30419 | 8/7/17 |
| 4.2 | Amended and Restated Bylaws of ON Semiconductor Corporation | Exhibit 3.1 to the Company's Current Report on Form 8-K dated November 21, 2013 | 000-30419 | 11/25/13 |
| 4.3 | Specimen of share certificate of Common Stock, \$.01 par value, ON Semiconductor Corporation | Exhibit 4.1 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2003 | 000-30419 | 3/10/04 |
| 99.1 | ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended and restated as of May 20, 2009 | Exhibit 4.1 to the Company's Registration Statement on Form S-8 | 333-159381 | 5/21/09 |
| 99.2 | Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 15, 2013 | Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 28, 2013 | 000-30419 | 8/2/13 |
| 99.3 | Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 20, 2015 | Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 3, 2015 | 000-30419 | 8/3/15 |
| 99.4 | Amendment to the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, as amended as of May 17, 2017 | Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 | 000-30419 | 8/7/17 |
| 99.5 | Form of Indemnification Agreement with Directors and Officers | Exhibit 10.1 to the Company's Current Report on Form 8-K dated February 19, 2016 | 000-30419 | 2/25/16 |

Item 9. Undertakings.

- A. 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 this 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 this Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

Provided, however, that paragraphs (A)(1)(i) and (A)(1)(i) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Exchange Act that are incorporated by reference into this 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.
- B. 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 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 this 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.

C. 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 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

THE REGISTRANT. Pursuant to the requirements of the Securities Act of 1933, 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 August 7, 2017.

ON SEMICONDUCTOR CORPORATION

By: /s/ Keith D. Jackson

Keith D. Jackson

President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement on Form S-8 has been signed by the following persons in the capacities and on the dates indicated.

| SIGNATURE | TITLE | <u>DATE</u> |
|---|--|----------------|
| /s/ Keith D. Jackson Keith D. Jackson | President, Chief Executive Officer and Director (Principal Executive Officer) | August 7, 2017 |
| /s/ Bernard Gutmann Bernard Gutmann | Executive Vice President, Chief Financial Officer, and Treasurer (Principal Financial Officer) | August 7, 2017 |
| /s/ Bernard R. Colpitts, Jr. Bernard R. Colpitts, Jr. | Principal Accounting Officer (Principal Accounting Officer) | August 7, 2017 |
| * Alan Campbell | Chair of the Board of Directors | August 7, 2017 |
| * Atsushi Abe | Director | August 7, 2017 |
| * Curtis J. Crawford | Director | August 7, 2017 |

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| * Gilles Delfassy | Director | August 7, 2017 |
|--|------------------|----------------|
| * Emmanuel T. Hernandez | Director | August 7, 2017 |
| * Paul A. Mascarenas | Director | August 7, 2017 |
| * | Director | August 7, 2017 |
| Daryl A. Ostrander * | Director | August 7, 2017 |
| Teresa M. Ressel *By: /s/ Bernard Gutmann | Attorney in Fact | August 7, 2017 |
| Bernard Gutmann | - | - |

THE PLAN. Pursuant to the requirements of the Securities Act of 1933, the trustees (or other persons who administer the employee benefit plan) have 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 August 7, 2017.

ON SEMICONDUCTOR 2000 EMPLOYEE STOCK PURCHASE PLAN

By: /s/ Tobin Cookman

Tobin Cookman

Senior Vice President of Human Resources

INDEX TO EXHIBITS

| Exhibit No. | <u>Description</u> |
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| 24.1 | Powers of Attorney |
| | |

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

Ladies and Gentlemen:

We have acted as counsel to ON Semiconductor Corporation, a Delaware corporation (the "<u>Company</u>"), in connection with the Company's preparation and filing with the Securities and Exchange Commission (the "<u>Commission</u>") of a registration statement on Form S-8 (the "<u>Registration Statement</u>") under the Securities Act of 1933, as amended (the "<u>Securities Act</u>"), relating to the Company's 2000 Employee Stock Purchase Plan (as amended as of May 17, 2017) (the "<u>Plan</u>"). The Registration Statement relates to the issuance and sale from time to time, pursuant to Rule 415 of the General Rules and Regulations promulgated under the Securities Act, of up to 5,000,000 shares of common stock, \$.01 par value, of the Company (the "<u>Offered Shares</u>") and an indeterminate amount of interests to be offered or sold pursuant to the Plan.

This opinion is delivered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act. In rendering the opinions set forth herein, we have examined the (i) Registration Statement and exhibits thereto; (ii) Amended and Restated Certificate of Incorporation of the Company, as amended to the date hereof and currently in effect; (iii) Amended and Restated Bylaws of the Company, as amended to the date hereof and currently in effect; (iv) resolutions adopted by the Board of Directors of the Company relating to the filing of the Registration Statement and the offering and sale of the Offered Shares; and (v) specimen certificate for the Offered Shares as incorporated by reference into the Registration Statement. We have also examined such other documents and records and have made such other investigation as we have deemed necessary or appropriate to render the opinions set forth below. As to any facts material to the opinions expressed herein that were not independently established or verified by us, we have relied upon oral or written statements and representations of officers and other representatives of the Company and others.

We have assumed the legal competency and capacity of all natural persons, the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as electronic, certified, conformed, photostatic, or facsimile copies, and the authenticity of the originals of such latter documents.

Based upon the foregoing and in reliance thereon, and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that when the Offered Shares shall have been issued and delivered in accordance with the Plan, including receipt of the purchase price therefor as contemplated in the Plan, the Offered Shares will be validly issued,

ON Semiconductor Corporation August 7, 2017 Page 2

fully paid, and non-assessable. For purposes of this opinion, we have assumed that (i) in all cases the consideration for each Offered Share is not less than the par value thereof; and (ii) the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the Delaware General Corporation Law. This opinion relates only to original issuance securities.

Our opinions herein are 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 Offered Shares, or the Registration Statement. The opinions expressed herein are limited to the Delaware General Corporation Law and we express no opinion as to the effect on matters covered by this letter of the laws of any other jurisdiction. It is understood that this opinion is to be used only in connection with the offer and sale of the Offered Shares while the Registration Statement is in effect. The opinions herein are based upon the facts in existence and laws in effect on the date hereof and we assume no obligation to revise or supplement our opinions in the event of future changes in such facts or laws.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement. In giving this consent, we do not concede that we are included in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Snell & Wilmer L.L.P.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of ON Semiconductor Corporation of our report dated February 28, 2017 relating to the financial statements, financial statement schedule, and the effectiveness of internal control over financial reporting of ON Semiconductor Corporation, which appears in ON Semiconductor Corporation's Annual Report on Form 10-K for the year ended December 31, 2016.

/s/ PricewaterhouseCoopers LLP

Phoenix, Arizona August 7, 2017

POWER OF ATTORNEY (Alan Campbell)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as Chair of the Board of Directors of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ ALAN CAMPBELL

Alan Campbell

POWER OF ATTORNEY (Atsushi Abe)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ ATSUSHI ABE

Atsushi Abe

POWER OF ATTORNEY (Curtis J. Crawford)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ CURTIS J. CRAWFORD

Curtis J. Crawford

POWER OF ATTORNEY (Gilles Delfassy)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ GILLES DELFASSY

Gilles Delfassy

POWER OF ATTORNEY (Emmanuel T. Hernandez)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ EMMANUEL T. HERNANDEZ

Emmanuel T. Hernandez

POWER OF ATTORNEY (Paul Mascarenas)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ PAUL A. MASCARENAS

Paul A. Mascarenas

POWER OF ATTORNEY (Daryl A. Ostrander)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ DARYL A. OSTRANDER

Daryl A. Ostrander

POWER OF ATTORNEY (Teresa M. Ressel)

I hereby appoint Bernard Gutmann and George H. Cave, and each of them, my attorneys-in-fact, each with full power of substitution, to sign for me as a Director of ON Semiconductor Corporation and file with the Securities and Exchange Commission the Corporation's Form S-8 relating to new shares to be registered under the 2000 Employee Stock Purchase Plan (as amended by the Amendment effective May 17, 2017), together with any and all amendments thereto (including post-effective amendments) and all documents in connection therewith.

Dated: August 7, 2017

/s/ TERESA M. RESSEL

Teresa M. Ressel