Registration	No.	333	

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ON SEMICONDUCTOR CORPORATION

(Exact name of Registrant as specified in its charter)

Delaware (State of incorporation)

36-3840979 (I.R.S. Employer Identification Number)

5005 E. McDowell Road, Phoenix, Arizona 85008 (602) 244-6600

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

George H. Cave, Esq.
Vice President, Secretary, and General Counsel
ON Semiconductor Corporation
5005 E. McDowell Road, A700
Phoenix, Arizona 85008
(602) 244-6600

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

Copies to:

Stephen H. Shalen Cleary, Gottlieb, Steen & Hamilton One Liberty Plaza New York, New York 10006 (212) 225-2000

Trew Tork, new Tork 10000
(212) 225-2000
Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement, as determined in light of market conditions.
If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.
If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.
If this Form is filed to register additional securities for an offering pursuant to Rule 464(b) under the Securities Act, please check the following box and list the Securities Act Registration Statement number of the earlier effective registration statement for the same offering. \Box
If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. \Box

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Maximum Offering Price Per Unit(1)	Aggregate Offering Price (1)	Amount of Registration Fee
Common Shares (2)	40,000,000	\$5.69	\$227,600,000	\$20,940

- (1) Estimated solely for purposes of computing registration fee pursuant to Rule 457(c), based on the average of the high and low prices of the common stock on April 18, 2002, as reported by the Nasdaq National Market.
- (2) The aggregate amount of Common Stock registered hereunder is limited to that which is permissible under Rule 415(a)(4) under the Securities Act of 1933.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where an offer or sale is prohibited.

Subject to completion, dated April 24, 2002

Prospectus

40,000,000 Shares

ON Semiconductor Corporation

Common S	tock
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ON Semiconductor Corporation may offer from time to time shares of common stock, par value \$.01 per share at prices and on terms to be determined at or prior to the time of sale.

We may offer and sell our common stock to or through underwriters, dealers and agents or directly to purchasers. The names of any underwriters or agents involved in the sale of our common stock and their compensation will be described in the accompanying prospectus supplement.

This prospectus may not be used to consummate a sale of our common stock unless accompanied by a supplement to the prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is	, 2002.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement we filed with the Securities and Exchange Commission using a shelf registration process. Under this process, ON Semiconductor may sell from time to time up to an aggregate of 40,000,000 shares of common stock in one or more offerings.

This prospectus describes our common stock and the general manner in which we will offer our common stock. Each time shares of common stock are sold, we will provide a supplemental prospectus that describes the specific manner in which they may be offered. You should read the prospectus supplement and this prospectus, along with the documents incorporated by reference and described under the heading "WHERE YOU CAN FIND MORE INFORMATION", before making your investment decision.

WHERE YOU CAN FIND MORE INFORMATION

ON Semiconductor files annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's public reference rooms in Washington, D.C. and New York, New York. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public from the SEC's web site at http://www.sec.gov.

FORWARD-LOOKING STATEMENTS

This prospectus and each prospectus supplement includes and incorporates forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements, other than statements of historical facts, included or incorporated in this prospectus or any prospectus supplement regarding our strategy, future operations, financial position, future revenues, projected costs, prospects, plans and objectives are forward-looking statements. The words "anticipates," "believes," "estimates," "expects," "intends," "may," "plans," "projects," "will," "would," and similar expressions are intended to identify forward-looking statements.

Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included in this prospectus and each prospectus supplement important factors that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. We do not have any obligation to release updates or any changes in events, conditions or circumstances on which any forward-looking statement is based or to conform those statements to actual results.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information that we incorporate by reference is considered to be part of this prospectus.

Information that we file later with the SEC will automatically update and supersede this information. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any documents previously incorporated by reference have been modified or superseded. ON Semiconductor incorporates by reference into this prospectus the following documents:

- Annual Report on Form 10-K for the year ended December 31, 2001.
- Current Reports on Form 8-K filed on January 30, 2002, March 20, 2002, March 29, 2002, April 2, 2002, April 18, 2002 and April 22, 2002.
- The description of our common shares contained in the Registration Statement on Form 8-A filed with the SEC on April 21, 2000.

• All documents filed by us under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of the initial registration statement and before effectiveness of this registration statement, and after the date of this prospectus and before the termination of this offering.

You may request a copy of these filings at no cost, by writing, telephoning or e-mailing us:

ON Semiconductor Corporation 5005 E. McDowell Road Phoenix, Arizona 85008 (602) 244-3437 investor@onsemi.com

ON SEMICONDUCTOR CORPORATION

We are a leading global supplier of power and data management semiconductors and standard semiconductor components. We design, manufacture and market an extensive portfolio of semiconductor components that addresses the design needs of sophisticated electronic systems and products. Our power management semiconductor components distribute and monitor the supply of power to the different elements within a wide variety of electronic devices. Our data management semiconductor components provide high-performance clock management and data flow management for precision computing and communications systems. Our standard semiconductor components serve as "building block" components within virtually all electronic devices.

We serve a broad base of end-user markets including wireless communications, consumer electronics, automotive and industrial electronics and networking and computing. Applications for our products in these markets included portable electronics, computers, servers, automotive and industrial automation control systems, routers, switches, storage-area networks and automated test equipment.

We have four main product lines: power management and standard analog devices, metal oxide semiconductor (MOS) power devices, high frequency clock and data management devices and standard components. Our extensive portfolio of devices enables us to offer advanced integrated circuits and the complementary parts that deliver system level functionality and design solutions. We are an industry leader in micro packages, which offer increased performance characteristics while reducing the critical board space inside today's ever shrinking electronic devices. We believe that our ability to offer a broad range of products provides our customers with single source purchasing on a cost-effective and timely basis. This has become increasingly important to our customers as they seek to reduce the number of suppliers with which they conduct business.

USE OF PROCEEDS

Except as may be otherwise set forth in the prospectus supplement accompanying this prospectus, we will use the net proceeds we receive from sales of these securities for general corporate purposes, which may include the repayment of indebtedness.

DESCRIPTION OF COMMON STOCK

The following summary does not purport to be complete. You should read the applicable provisions of the Delaware General Corporation Law, our restated certificate of incorporation and by-laws.

We are authorized to issue up to 300,000,000 shares of common stock, par value \$.01 each. At March 31, 2001, we had outstanding 175,342,972 shares of common stock and had reserved approximately 80,000,000 shares of common stock for issuance with respect to our Series A preferred stock and various employee benefit plans.

Subject to the prior dividend rights of the holders of shares of our Series A cumulative convertible redeemable preferred stock and any other shares of preferred stock from time to time outstanding, holders of shares of common stock are entitled to receive dividends when, as and if declared by the Board of Directors out of funds legally available therefor.

Each share of common stock is entitled to one vote on all matters submitted to a vote of shareholders. Holders of shares of common stock do not have cumulative voting rights. In the event of any liquidation, dissolution or winding up of ON Semiconductor, after the satisfaction in full of the liquidation preferences of holders of shares of our Series A preferred stock and any other shares of preferred stock then outstanding, holders of shares of common stock are entitled to ratable distribution of the remaining assets available for distribution to shareholders. The shares of common stock are not subject to redemption by operation of a sinking fund or otherwise. Holders of shares of common stock are not entitled to pre-emptive rights. The issued and outstanding shares of common stock are fully paid and nonassessable.

PLAN OF DISTRIBUTION

ON Semiconductor may sell the shares of common stock described in this prospectus from time to time in one or more of the following ways:

- to or through underwriters or dealers;
- directly to one or more purchasers;
- · through agents; or
- through a combination of any of such methods of sale.

The prospectus supplement with respect to the offered shares of common stock will describe the terms of the offering, including:

- the name or names of any agents or underwriters;
- the purchase price of such shares and the proceeds to us from such sale;
- any underwriting discounts and other items constituting underwriters' or agents' compensation;
- any initial public offering price;
- · any discounts or concessions allowed or reallowed or paid to dealers; and
- any securities exchanges on which such shares may be listed.

Only agents or underwriters named in the prospectus supplement are deemed to be agents or underwriters in connection with the shares of common stock offered thereby. If underwriters are used in the sale, the shares will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, either:

- at a fixed public offering price or prices;
- at market prices prevailing at the time of sale;
- at varying prices determined at the time of sale; or
- · at negotiated prices.

The obligations of the underwriters to purchase the shares of common stock will be subject to various conditions precedent, and the underwriters will be obligated to purchase all of the shares offered by the applicable prospectus supplement if any of such shares are purchased. Any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

ON Semiconductor may also sell shares of common stock directly or through agents designated from time to time. Any agent involved in the offering and sale of the offered shares of common stock will be named in the applicable prospectus supplement. Any commissions payable by us to such agent will be set forth in the applicable prospectus supplement, any such agent is acting on a best efforts basis for the period of its appointment.

If so indicated in a prospectus supplement, we will authorize agents, underwriters or dealers to solicit offers by certain institutional investors to purchase shares of common stock providing for payment and delivery on a future date specified in such prospectus supplement. There may be limitations on the number of shares that may be purchased by any such institutional investor or on the number of shares that may be sold pursuant to such arrangements.

Institutional investors to which such offers may be made, when authorized, include, commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions we may approve. The obligations of any such purchasers under this delayed delivery and payment arrangement will only be subject to the following two conditions:

- at the time of delivery the purchase of the shares of common stock by an institution will not be prohibited under the laws of any jurisdiction in the United States to which such institution is subject; and
- if the shares of common stock are being sold to underwriters, ON Semiconductor will have sold to such underwriters the total number of shares less the number of shares covered by such arrangements.

Underwriters will not have any responsibility in respect of the validity of such arrangements or the performance of ON Semiconductor or such institutional investors.

Shares of our common stock may be offered or sold in connection with the settlement of forward purchase contracts we enter into from time to time with a financial institution. The financial institution may be deemed to be an underwriter or may be deemed to be a selling shareholder. If any such sales are conducted, whether the third party is deemed to be an underwriter or a selling shareholder, the prospectus supplement related to such sales will set forth, as required, the following information:

- · the identity of the underwriter or selling shareholder;
- the number of shares being sold;
- the aggregate number of shares held by the financial institution before and after the proposed sale; and
- any material arrangements between us and the financial institution within the past three years.

In connection with an offering, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by underwriters of a greater number of shares than they are required to purchase in an offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased shares of common stock sold by or for the account of the underwriter in stabilizing or short-covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the shares of common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on an exchange or automated quotation system, if the securities are

listed on that exchange or admitted for trading on that automated quotation system, or in the over-the-counter market or otherwise.

Agents and underwriters may be entitled under agreements entered into with ON Semiconductor to indemnification by ON Semiconductor against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended, or to contribution with respect to payments which the agents or underwriters may be required to make in respect thereof. Agents and underwriters may be customers of, may engage in transactions with, or perform services for, ON Semiconductor in the ordinary course of business.

LEGAL MATTERS

Cleary, Gottlieb, Steen & Hamilton, New York, New York, will pass upon the validity of the securities for us.

EXPERTS

The consolidated financial statements of ON Semiconductor Corporation as of December 31, 2001 and 2000 and for each of the years ended December 31, 2001 and 2000 and for the period from August 4, 1999 through December 31, 1999, incorporated in this prospectus by reference to ON Semiconductor Corporation's Annual Report on Form 10-K for the year ended December 31, 2001 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in accounting and auditing.

The combined statement of revenues less direct and allocated expenses before taxes of the Semiconductor Components Group of Motorola, Inc. for the period from January 1, 1999 through August 3, 1999 incorporated in this prospectus by reference to ON Semiconductor Corporation's Annual Report on Form 10-K for the year ended December 31, 2001 have been so incorporated in reliance on the report of KPMG LLP, independent public accountants, given on the authority of said firm as experts in accounting and auditing.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the costs and expenses payable by ON Semiconductor in connection with the distribution of the securities being registered. All amounts are estimates except the SEC registration fee.

SEC registration fee	\$ 20,940
Printing expenses	200,000
Legal fees and expenses	75,000
Accounting fees and expenses	20,000
Nasdaq Listing Fee	67,500
Miscellaneous	 15,560
Total	\$ 399,000

Item 15. Indemnification of Directors and Officers.

The registrant is a Delaware corporation. Section 145 of the Delaware General Corporation Law (the "DGCL") provides that a Delaware corporation has the power to indemnify its officers and directors in certain circumstances. Article Eleventh of the registrant's Restated Certificate of Incorporation provides that the registrant shall indemnify its directors and officers to the fullest extent permitted by Section 145 of the DGCL.

Subsection (a) of Section 145 of the DGCL empowers a corporation to indemnify any director or officer, or former director or officer, who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of his service as director, officer, employee or agent of the corporation, or his service, at the corporation's request, as a director, officer, employee or agent of another corporation or enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding provided that such director or officer acted in good faith and in a manner reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, provided that such director or officer had no reasonable cause to believe his conduct was unlawful.

Subsection (b) of Section 145 empowers a corporation to indemnify any director or officer, or former director or officer, who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred in connection with the defense or settlement of such action or suit provided that such director or officer acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification may be made in respect of any claim, issue or matter as to which such director or officer shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such director or officer is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper.

Section 145 further provides that to the extent a director or officer of a corporation has been successful in the defense of any action, suit or proceeding referred to in subsections (a) or (b) or in the defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith, provided that indemnification provided for by Section 145 or granted pursuant thereto shall not be deemed exclusive of any other rights to which the indemnified party may be entitled, and empowers the corporation to purchase and maintain insurance on behalf of a director or officer of the

corporation against any liability asserted against him or incurred by him in any such capacity or arising out of his status as such whether or not the corporation would have the power to indemnify him against such liabilities under Section 145.

In addition, Section 102(b)(7) of the DGCL permits Delaware corporations to include a provision in their certificates of incorporation eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provisions shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) for unlawful payment of dividends or other unlawful distributions, or (iv) for any transactions from which the director derived an improper personal benefit. Article Sixteenth of the registrant's Restated Certificate of Incorporation states that the personal liability of the directors of the registrant is eliminated to the fullest extent permitted by Section 102(b)(7).

The registrant also carries liability insurance covering officers and directors.

As of September 7, 2001, we entered into an investment agreement with an affiliate of Texas Pacific Group in connection with the affiliate's acquisition of our Preferred Stock. In connection with this transaction, the Board of Directors formed a special independent committee to assist with the Preferred Stock purchase. As part of the investment agreement, we agreed to indemnify and hold harmless each member of the special committee from and against any and all losses, penalties, judgments, suits, costs, claims, liabilities, damages and expenses incurred by each special committee member as a result of, or arising out of, any claim relating to breach of fiduciary duty or illegality (other than claims based upon fraud, embezzlement or any criminal violation of law), in each case, related to the Preferred Stock purchase; provided, however, that such indemnification shall only be available to the extent that both (i) indemnification for these losses is not available from us under applicable law or as a result of our insolvency, and (ii) our insurers refuse to pay on our directors' and officers' liability insurance policies with respect to these losses.

The foregoing summaries are necessarily subject to the complete text of the DGCL, our Certificate of Incorporation, our insurance policies and the investment agreement referred to above and are qualified in their entirety by reference thereto.

Item 16. Exhibits.

Exhibit	Description
3.1	Amended and Restated Certificate of Incorporation of ON Semiconductor Corporation (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form l0-Q filed with the Commission on November 14, 2000)
3.2	Amended and Restated Bylaws of SCG Holding Corporation (incorporated by reference from Exhibit 3.2 to Registration Statement No. 333-30670 filed with the Commission on April 7, 2000)
3.3	Certificate of Designations relating to the Series A Cumulative Convertible Preferred Stock (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Commission on September 7, 2001)
4.1	Specimen of share certificate of Common Stock, par value \$.01, SCG Holding Corporation (incorporated by reference to Exhibit 4.1 to Registration Statement No. 333-30670 filed with the Commission on April 7, 2000)
5.1	Opinion of Cleary, Gottlieb, Steen & Hamilton

Exhibit	Description
23.1	Consent of Cleary, Gottlieb, Steen & Hamilton (included in Exhibit 5.1)
23.2	Consent of PricewaterhouseCoopers LLP
23.3	Consent of KPMG LLP
24.1	Power of Attorney (included on signature page)

Item 17. 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) Securities Act of 1933;
 - (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. 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 a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective 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 (l)(i) and (l)(ii) do not apply if 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 Securities Exchange Act of 1934 that are incorporated by reference in the registration statement;

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 this offering.

The undersigned registrant further undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 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 of 1933 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 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 Act and will be governed by the final adjudication of such issue.

SIGNATURES

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-3 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 the 24th day of April 2002.

ON SEMICONDUCTOR CORPORATION

By: /s/ Steven P. Hanson

(Steven P. Hanson, President and Chief Executive Officer)

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Steven P. Hanson, John T. Kurtzweil and George H. Cave, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Form S-3 Registration Statement and to sign any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) of the Securities Act of 1933, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully and to all intents and purposes as he might or could do in person hereby ratifying and confirming that all said attorneys-in-fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Syrus P. Madavi	Executive Chairman and Chairman of the Board of Directors	April 24, 2002
(Syrus P. Madavi)	of the Board of Directors	
/s/ Steven P. Hanson	President, Chief Executive Officer and Director	April 24, 2002
(Steven P. Hanson)	and Director	
/s/ John T. Kurtzweil	Senior Vice President, Chief Financial Officer and Chief Accounting Officer	April 24, 2002
(John T. Kurtzweil)		
/s/ David Bonderman	Director	April 24, 2002
(David Bonderman)		
/s/ Richard W. Boyce	Director	April 24, 2002
(Richard W. Boyce)		

/s/ Justin T. Chang	Director	April 24, 2002
(Justin T. Chang)		
/s/ Curtis J. Crawford	Director	April 24, 2002
(Curtis J. Crawford)		
/s/ William A. Franke	Director	April 24, 2002
(William A. Franke)		
/s/ Jerome N. Gregoire	Director	April 24, 2002
(Jerome N. Gregoire)		
/s/ John W. Marren	Director	April 24, 2002
(John W. Marren)		
/s/ J. Daniel McCranie	Director	April 24, 2002
(J. Daniel McCranie)		

EXHIBIT INDEX

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[CLEARY, GOTTLIEB, STEEN & HAMILTON letterhead]

April 24, 2002

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

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to ON Semiconductor Corporation, a Delaware corporation (the "Company"), in connection with the registration statement on Form S-3 (the "Registration Statement") filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Act"), for the registration of shares of the Company's Common Stock, par value \$.01 per share (the "Securities").

We have participated in the preparation of the Registration Statement and have reviewed the originals or copies certified or otherwise identified to our satisfaction of all such corporate records of the Company and such other instruments and other certificates of public officials, officers and representatives of the Company and such other persons, and we have made such investigations of law, as we have deemed appropriate as a basis for the opinions expressed below.

In arriving at the opinions expressed below, we have assumed the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies. In addition, we have assumed and have not verified the accuracy as to factual matters of each document we have reviewed.

Based on the foregoing, and subject to the further assumptions and qualifications set forth below, it is our opinion that the Securities have been duly authorized and, when issued and sold in accordance with due action of the Board of Directors of the Company or a duly constituted committee thereof, will be validly issued, fully paid and non-assessable.

The foregoing opinion is limited to the General Corporation Law of the State of Delaware (including the applicable provisions of the Delaware Constitution and reported judicial decisions interpreting that Law).

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to this firm under the heading "Legal Matters" in the Registration Statement and the related prospectus included in the Registration Statement. In giving such consent, we do not thereby admit that we are "experts" within the meaning of the Act or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this exhibit.

> Very truly yours, CLEARY, GOTTLIEB, STEEN & HAMILTON /s/ Stephen H. Shalen

> > Stephen H. Shalen, a partner

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated February 5, 2002 relating to the consolidated financial statements, which appears in ON Semiconductor Corporation's Annual Report on Form 10-K for the year ended December 31, 2001. We also consent to the incorporation by reference of our report dated February 5, 2002 relating to the financial statement schedule, which appears in such Annual Report on Form 10-K. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/S/ PRICEWATERHOUSECOOPERS LLP

Phoenix, Arizona

April 24, 2002

INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in the registration statement filed on Form S-3 of ON Semiconductor Corporation of our report dated January 7, 2000 on the combined statement of revenues less direct and allocated expenses before taxes of the Semiconductor Components Group of Motorola, Inc. for the period from January 1, 1999 through August 3, 1999 which appears in the Annual Report on Form 10-K of ON Semiconductor Corporation for December 31, 2001 and to the reference to our firm under the heading "Experts" in the registration statement.

/S/ KPMG LLP

Phoenix, Arizona

April 24, 2002