SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

 \times

For the Fiscal Year Ended December 31, 2004

Commission File Number 000-30419

ON SEMICONDUCTOR CORPORATION 2000 EMPLOYEE STOCK PURCHASE PLAN

(Name of plan)

ON SEMICONDUCTOR CORPORATION

5005 E. McDowell Road Phoenix, Arizona 85008

(Name of issuer of securities held pursuant to plan and address of its principal executive office.)

Report of Independent Registered Public Accounting Firm

To the Participants and Administrator of the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan

In our opinion, the accompanying statements of financial condition and the related statements of operations and changes in plan equity present fairly, in all material respects, the financial condition of the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan (the "Plan") at December 31, 2004 and 2003, and the results of its operations and changes in plan equity for each of the three years in the period ended December 31, 2004 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

Phoenix, Arizona March 30, 2005

ON Semiconductor Corporation 2000 Employee Stock Purchase Plan Statement of Financial Condition

	Dece	December 31, 2004		December 31, 2003	
ASSETS					
Receivable from employer	\$	18,276	\$	3,249	
Total assets	<u> </u>	18,276	\$	3,249	
10th 05005	Ψ	10,270	Ψ	5,245	
LIABILITIES AND PLAN EQUITY					
Refunds due to participants	\$	18,276	\$	3,249	
				_	
Total liabilities		18,276		3,249	
Plan equity		_		_	
Total liabilities and plan equity	\$	18,276	\$	3,249	

The accompanying notes are an integral part of these financial statements.

ON Semiconductor Corporation 2000 Employee Stock Purchase Plan Statement of Operations and Changes in Plan Equity

	Year ended December 31, 2004	Year ended December 31, 2003	Year ended December 31, 2002
Participant contributions	\$ 2,065,928	\$ 1,263,411	\$ 1,798,322
Employer contributions	662,996	1,028,473	816,051
Total additions	2,728,925	2,291,884	2,614,373
Stock purchases	2,564,118	2,217,912	2,207,132
Participant refunds	164,807	73,972	407,241
Total deductions	2,728,925	2,291,884	2,614,373
Net additions		_	_
Plan equity, beginning of period	-	_	_
			·
Plan equity, end of period	\$ —	\$ —	\$ —

The accompanying notes are an integral part of these financial statements.

ON Semiconductor Corporation 2000 Employee Stock Purchase Plan Notes to Financial Statements

1. Description of the Plan

The following description of the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan (the "Plan") provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

General

The purpose of the Plan is to encourage stock ownership by eligible employees of ON Semiconductor Corporation (the "Company") and its participating subsidiaries and thereby provide employees with an incentive to contribute to the profitability and success of the Company. The Plan is intended to qualify as an "employee stock purchase plan" under Section 423 of the Internal Revenue Code of 1986, as amended (the "Code"), and will be maintained for the exclusive benefit of eligible employees of the Company and its subsidiaries. Under the Plan, shares of the Company's common stock will be offered though a series of successive "Offering Periods" that generally coincide with calendar quarters. Each participant may contribute a portion of their compensation during an Offering Period, subject to certain limits found in the Plan. At or as promptly as practicable after the last day of an Offering Period, amounts credited to each participant's account will be applied by the Company to purchase common stock. The Plan enables each participant to purchase common stock at a price which is equal to the lesser of 85% of the closing price for a share of stock on the first or last day of such Offering Period. In February 2000, the Board of Directors and stockholders of the Company adopted the Plan and authorized issuance of 1,500,000 shares of common stock thereunder. In May 2001, the stockholders of the Company approved an amendment to the Plan to increase the number of shares of common stock issuable thereunder from 1,500,000 to 5,500,000. In May 2004, the stockholders of the Company approved an amendment to the Plan to increase the number of shares of common stock issuable thereunder from 5,500,000 to 8,500,000. At December 31, 2004, Plan participants had purchased 4,501,072 shares of stock since the Plan's inception. As a result, there were 3,998,928 shares of stock available for future purchase by Plan participants at December 31, 2004.

If, at the end of any Offering Period, the number of shares of common stock to be allocated under the Plan exceeds the number of shares of common stock then available under the Plan, the Company's Board of Directors shall make a pro rata allocation of the shares of remaining common stock available for purchase under the Plan in as uniform a manner as is practicable and equitable. Any shares of common stock delivered by the Company under the Plan may consist, in whole or in part, of authorized and unissued shares, treasury shares, or shares of common stock purchased on the open market. In the event of any stock split or other change in the capital structure of the Company, appropriate adjustments will be made in the number and kind of shares available for purchase under the Plan.

The Plan is neither qualified under Section 401(a) of the Code nor subject to any of the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA").

Eligibility

An employee of the Company or any subsidiary designated by the Company's Board of Directors may be enrolled in the Plan for any Offering Period if such employee is employed by the Company or a subsidiary authorized to participate in the Plan on the first day of the Offering Period, unless one of the following applies to the employee:

- i. such person has been employed by the Company or a subsidiary less than 90 days;
- ii. such person is customarily employed by the Company or a subsidiary for 20 hours or less a week;
- iii. such person is employed by the Company or a subsidiary for not more than five months in any calendar year; or
- iv. such person would, immediately upon enrollment, be deemed to own, for purposes of Section 423(b)(3) of the Code, an aggregate of five percent or more of the total combined voting power or value of all outstanding shares of all classes of the stock of the Company or any subsidiary.

Participant Enrollment and Contributions

Eligible employees voluntarily elect whether or not to enroll in the Plan. Employees enroll in the Plan for a period of three months. Employees who have enrolled in the Plan are automatically re-enrolled for additional rolling three-month periods, provided that they remain eligible under the provisions of the Plan. A participant may cancel his or her enrollment at any time, subject to the provisions of the Plan.

Participants make contributions by means of payroll deductions from each payroll period that ends during the Offering Period, at a rate elected by the participant. The rate of payroll contributions elected may not be less than one percent (1%) or more than ten percent (10%) of the participant's eligible compensation for each payroll period; only whole percentages may be elected. A participant may elect to increase, decrease, or discontinue payroll contributions for a future Offering Period by filing with the Company a new enrollment form designating a different rate of payroll contributions. The Company must receive forms at least two weeks prior to the beginning of an Offering Period to be effective for that Offering Period. A participant may elect to discontinue payroll contributions during an Offering Period by filing a new enrollment form with the Company. A participant's election to discontinue contributions becomes effective for the next payroll subsequent to the filing of the new enrollment form. Any accumulated excess contributions remaining after the purchase of the maximum amount of stock for the Offering Period are refunded to participants as soon as is practicable after the end of the Offering Period.

Employer Contributions

The employer contribution is a non-cash contribution which is calculated as the difference between the fair market value on the last day of the Offering Period and the discounted purchase price paid by each participant for that Offering Period times the number of shares purchased for the Offering Period. This non-cash contribution was \$662,996, \$1,028,473 and \$816,051 for the years ended December 31, 2004, December 31, 2003 and December 31, 2002, respectively.

Stock Purchases

Upon or promptly after the end of each Offering Period, each participant's payroll deductions are used to purchase shares of the Company's common stock for the participant. Such shares may be purchased from the Company or in the open market, at the discretion of the Board of Directors. The amount that a participant contributes to the purchase of each share of common stock equals 85% of the lesser of the fair market value of a share of common stock on the first or last day of the Offering Period. The maximum number of shares of common stock available for purchase by each participant in any Offering Period cannot exceed the lesser of: (1) 500 shares of common stock, or (2) the number of shares derived by dividing \$6,250 by 100% of the fair market value of one share of common stock on the first day of the Offering Period. Purchased shares of common stock are transferred to a brokerage account outside of the Plan in the name of the participant. The number of shares purchased for the years ended December 31, 2004, December 31, 2003 and December 31, 2002 were 544,838, 689,963 and 1,029,129, respectively.

Withdrawals and Transfers

Shares of common stock may be withdrawn from a participant's brokerage account maintained under the Plan, in which case certificates representing the shares will be issued in the name of, and delivered to, the participant. Alternatively, shares of common stock held in a participant's brokerage account maintained under the Plan may be transferred to a broker-dealer or financial institution that maintains an account for the participant. Participants may not designate any other person to receive shares of common stock withdrawn or transferred under the Plan.

Participant Terminations and Distributions

A participant's enrollment in the Plan will terminate upon (i) the beginning of any payroll period or Offering Period that begins after he or she files a written notice of termination of enrollment in the Plan (provided that the participant will continue to be enrolled with respect to any Offering Period for which purchases have not been completed), (ii) such time as the participant becomes ineligible to participate in the Plan, or (iii) the termination of the participant's employment with the Company and any of its participating subsidiaries. A participant's election to discontinue payroll contributions will not constitute a termination of enrollment. As soon as practicable after a participant's enrollment in the Plan terminates, accumulated payroll deductions that have not been applied toward the purchase of common stock will be refunded to the participant. If a participant's termination of enrollment results from his or her death, all amounts payable will be paid to his estate.

Administration, Amendment and Termination of the Plan

The Board of Directors has delegated the authority to administer the Plan to the Compensation Committee of the Board of Directors (the "Committee"). Subject to the terms of the Plan, the Committee has the authority to amend the rules and regulations as it deems necessary or advisable to administer the Plan, to correct any defect or supply any omission or reconcile any inconsistency in the Plan and to construe and interpret the Plan and rules and regulations thereunder. The Committee may also make any other decision and determination under the Plan, including determinations relating to eligibility. The Board of Directors may amend or terminate the Plan at any time for any reason unless stockholder approval is required by federal or state law or regulation or the rules of the automated quotation system or stock exchange on which the Company's stock is quoted or listed. In a case where stockholder approval is required, such approval must be obtained within one year of action by the Board of Directors. Without the consent of the affected participant, no amendment, alteration, suspension, discontinuation or termination of the Plan may materially and adversely affect the rights of such participant with respect to outstanding Purchase Rights (as defined in the Plan) relating to any Offering Period (as defined in the Plan) that has been completed prior to the action taken by the Board of Directors.

2. Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements have been prepared using the accrual basis of accounting.

Administrative Expenses

Costs and expenses incurred in the administration of the Plan are paid by the Company. Pursuant to the Plan, the Company pays brokerage fees and commissions for the purchase of common stock under the Plan. The Company also pays other administration costs and expenses incurred by the Plan. Administrative expenses related to the Plan amounted to approximately \$44,000, \$25,000 and \$44,000 for the years ended December 31, 2004, 2003 and 2002, respectively.

Stock Purchases

Stock purchases and the related allocation to participant's accounts are recorded as of the trade date.

Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of contributions and deductions during the reporting period. Actual results could differ from those estimates.

3. Income Taxes

It is the intent of the Company that the Plan complies in all respects with applicable requirements of Section 423 of the Code. As such, the Plan is not obligated to file income tax returns or pay income taxes.

EXHIBITS

The following exhibit is being filed with this Annual Report on Form 11-K:

Number	Description
23	Consent of PricewaterhouseCoopers LLP

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, ON Semiconductor Corporation, the administrator of the ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, has duly caused this annual report to be signed on its behalf by the undersigned thereunto duly authorized.

March 30, 2005

ON SEMICONDUCTOR CORPORATION 2000 EMPLOYEE STOCK PURCHASE PLAN

By: /s/ Robert P. Zierk

Robert P. Zierk Vice President, Human Resources Semiconductor Components Industries, LLC

Exhibits 1	Index
------------	-------

Number	Description
23	Consent of PricewaterhouseCoopers LLP

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-34130, No. 333-71336 and No. 333-118814) of ON Semiconductor Corporation of our report dated March 30, 2005 relating to the financial statements of ON Semiconductor Corporation 2000 Employee Stock Purchase Plan, which appears in this Form 11-K.

/s/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

Phoenix, Arizona March 30, 2005