
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-8
REGISTRATION STATEMENT**
*Under
The Securities Act of 1933*

MONOLITHIC POWER SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

77-0466789
(I.R.S. Employer
Identification No.)

**6409 Guadalupe Mines Road
San Jose, CA 95120**
(Address of Principal Executive Offices, including Zip Code)

**MONOLITHIC POWER SYSTEMS, INC. 2004 EQUITY INCENTIVE PLAN
MONOLITHIC POWER SYSTEMS, INC. 2004 EMPLOYEE STOCK PURCHASE PLAN**
(Full title of the plan)

Michael R. Hsing
President and Chief Executive Officer
6409 Guadalupe Mines Road
San Jose, CA 95120
(408) 826-0600
(Name, address, and telephone number, including area code, of agent for service)

Copies to:

Steven E. Bochner, Esq.
Wilson Sonsini Goodrich & Rosati
Professional Corporation
650 Page Mill Road
Palo Alto, CA 94304
(650) 493-9300

Adriana Chiocchi
Chief Legal Officer and Corporate Secretary
Monolithic Power Systems, Inc.
6409 Guadalupe Mines Road
San Jose, CA 95120
(408) 826-0600

CALCULATION OF REGISTRATION FEE

| Title of securities to be registered | Amount to be registered (1) | Proposed maximum offering price per share | Proposed maximum aggregate offering price | Amount of registration fee (2) |
|----------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------|-------------------------------------------|--------------------------------|
| Common Stock \$0.001 par value per share, to be issued pursuant to the 2004 Equity Incentive Plan | 1,518,469 shares | \$ 12.83 (3) | \$ 19,481,958 | \$ 2,085 |
| Common Stock \$0.001 par value per share, to be issued pursuant to the 2004 Employee Stock Purchase Plan | 607,387 shares | \$ 10.91 (4) | \$ 6,626,593 | \$ 710 |
| Total Registration Fee | | | | \$ 2,795 |

- (1) This Registration Statement shall also cover any additional shares of Registrant's Common Stock that become issuable under the Monolithic Power Systems, Inc. 2004 Equity Incentive Plan and the Monolithic Power Systems, Inc. 2004 Employee Stock Purchase Plan by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the Registrant's receipt of consideration that results in an increase in the number of the Registrant's outstanding shares of Common Stock.
- (2) Amount of the registration fee was calculated pursuant to Section 6(b) of the Securities Act of 1933, as amended, and was determined by multiplying the proposed maximum aggregate offering price by 0.000107.
- (3) Computed in accordance with Rules 457(c) and (h) under the Securities Act of 1933, as amended (the "Securities Act"), solely for the purpose of calculating the registration fee on the basis of the average of the high and low prices of the Registrant's Common Stock as reported on the Nasdaq Global Market on February 2, 2007, which amount was \$12.83 per share.
- (4) The proposed maximum offering price per share of \$10.91 was determined by discounting the proposed maximum offering price per share (as computed in note 3 above) by 15% in accordance with the terms of the Monolithic Power Systems, Inc. 2004 Employee Stock Purchase Plan.

Registration of Additional Securities

Pursuant to General Instruction E

This Registration Statement registers additional shares of common stock of Monolithic Power Systems, Inc. (the "Registrant") to be issued pursuant to the Registrant's 2004 Equity Incentive Plan and the Registrant's 2004 Employee Stock Purchase Plan. Accordingly, the contents of the previous Registration Statements on Form S-8 (Commission File No. 333-120886) filed by the Registrant with the Securities and Exchange Commission ("SEC") on December 1, 2004 and the Registration Statement on Form S-8 (Commission File No. 333-132411) filed with the Securities and Exchange Commission on March 14, 2006, as amended February 8, 2007 (collectively, the "Previous Forms S-8"), including periodic reports that were filed after the Previous Forms S-8 to maintain current information about the Registrant, are incorporated by reference into this Registration Statement pursuant to General Instruction E of Form S-8. The reports that the Registrant has most recently filed with the SEC are listed below:

- (a)(1) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2005, filed with the Commission on March 28, 2006;
- (b)(1) The Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2006, filed with the Commission on May 9, 2006;
- (b)(2) The Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2006, filed with the Commission on August 4, 2006;
- (b)(3) The Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2006, filed with the Commission on November 7, 2006;
- (b)(4) The Registrant's Current Report on Form 8-K filed with the Commission on January 6, 2006;
- (b)(5) The Registrant's Current Report on Form 8-K filed with the Commission on January 9, 2006;
- (b)(6) The Registrant's Current Report on Form 8-K filed with the Commission on May 15, 2006;
- (b)(7) The Registrant's Current Report on Form 8-K filed with the Commission on June 16, 2006;
- (b)(8) The Registrant's Current Report on Form 8-K filed with the Commission on July 28, 2006;
- (b)(9) The Registrant's Current Report on Form 8-K filed with the Commission on September 14, 2006;
- (b)(10) The Registrant's Current Report on Form 8-K filed with the Commission on September 22, 2006;
- (b)(11) The Registrant's Current Report on Form 8-K filed with the Commission on October 4, 2006;
- (b)(12) The Registrant's Current Report on Form 8-K filed with the Commission on November 1, 2006; and

(c)(1) The description of the Registrant's Common Stock contained in its registration statement on Form 8-A, filed with the Commission on November 16, 2004, and any subsequent amendment and restatement or report filed with the Commission for the purposes of updating such description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), prior to the filing of a post-effective amendment to the Registration Statement that indicates that all of the shares of Common Stock offered have been sold or that deregisters all of such shares 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 the filing of such documents. For the purposes of this Registration Statement, any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

PART II

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 8. Exhibits.

The following exhibits are filed as part of this Registration Statement:

| <u>Exhibit No.</u> | <u>Description</u> |
|--------------------|--------------------------------------------------------------------------------------------------|
| 5.1 | Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation. |
| 23.1 | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1). |
| 23.2 | Consent of Independent Registered Public Accounting Firm – Deloitte & Touche LLP. |
| 24.1 | Power of attorney (included in signature page to this Registration Statement). |

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 of 1933 (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. 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 Commission 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; and

(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 information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 (the “Exchange Act”) that are incorporated by reference in 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 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.

(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 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, 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 San Jose, State of California, on February 8, 2007.

MONOLITHIC POWER SYSTEMS, INC.

By: /s/ Michael R. Hsing
Michael R. Hsing
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael R. Hsing and Rick Neely, and each of them individually, his attorney-in-fact, with the power of substitution, for him in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective statements), and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-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 to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that such attorney-in-fact, or his substitute, may lawfully do or cause to be done by virtue hereof. This Power of Attorney may be signed in several counterparts.

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.

| <u>Signature</u> | <u>Title</u> | <u>Date</u> |
|-------------------------------------------------|----------------------------------------------------------------------------------------|------------------|
| <u>/s/ Michael R. Hsing</u> Michael R. Hsing | President, Chief Executive Officer and Director (<i>principal executive officer</i>) | February 8, 2007 |
| <u>/s/ C. Richard Neely</u> C. Richard Neely | Chief Financial Officer (<i>principal financial and accounting officer</i>) | February 8, 2007 |
| <u>/s/ Herbert Chang</u> Herbert Chang | Director | February 8, 2007 |
| <u>/s/ Alan Earhart</u> Alan Earhart | Director | February 8, 2007 |
| <u>/s/ Victor Lee</u> Victor Lee | Director | February 8, 2007 |
| <u>/s/ James C. Moyer</u> James C. Moyer | Director | February 8, 2007 |
| <u>/s/ Umesh Padval</u> Umesh Padval | Director | February 8, 2007 |

EXHIBIT INDEX

| <u>Exhibit No.</u> | <u>Description</u> |
|--------------------|--------------------------------------------------------------------------------------------------|
| 5.1 | Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation. |
| 23.1 | Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1). |
| 23.2 | Consent of Independent Registered Public Accounting Firm – Deloitte & Touche LLP. |
| 24.1 | Power of attorney (included in signature page to this Registration Statement). |

February 8, 2007

Monolithic Power Systems, Inc.
6409 Guadalupe Mines Road
San Jose, CA 95120

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 to be filed by you with the Securities and Exchange Commission on or about February 8, 2007 (the "Registration Statement"), in connection with the registration under the Securities Act of 1933, as amended, of an aggregate of 2,125,856 shares of Common Stock, par value \$0.001 per share (the "Shares"), reserved for issuance pursuant to the 2004 Equity Incentive Plan and the 2004 Employee Stock Purchase Plan (the "Plans"). As your legal counsel, we have examined the proceedings taken and are familiar with the proceedings proposed to be taken by you in connection with the sale and issuance of the Shares under the Plans.

It is our opinion that, when issued and sold in the manner described in the Plans, the Shares will be duly authorized, legally and validly issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to the Registration Statement, and further consent to the use of our name wherever appearing in the Registration Statement, including any prospectus constituting a part thereof, and any amendments thereto. In giving such consent, we do not consider that we are "experts" within the meaning of such term as used in the Securities Act, or the rules and regulations of the Securities and Exchange Commission issued thereunder, with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

/s/ Wilson Sonsini Goodrich & Rosati, P.C.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report on the consolidated financial statements dated March 27, 2006 (which report expresses an unqualified opinion and includes an explanatory paragraph relating to lawsuits related to alleged patent infringement and alleged misappropriation of trade secrets) of Monolithic Power Systems, Inc. (the "Company"), and our report on internal control over financial reporting dated March 27, 2006 (which report expresses an adverse opinion on the effectiveness of the Company's internal control over financial reporting because of material weaknesses), appearing in the Annual Report on Form 10-K of Monolithic Power Systems, Inc. for the year ended December 31, 2005.

/s/ Deloitte & Touche LLP

San Jose, California
February 6, 2007