

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

2,120,356

5 SOLE VOTING POWER

NUMBER OF
SHARES
BENEFICIALLY
OWNED BY EACH
REPORTING
PERSON WITH

0

6 SHARED VOTING POWER

7 SOLE DISPOSITIVE
POWER 2,120,356

8 SHARED DISPOSITIVE
POWER 0

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH
REPORTING PERSON 2,120,356

10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9)
EXCLUDES CERTAIN SHARES*
[]

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW
(9) 7.51%

12 TYPE OF REPORTING PERSON*
CO

*SEE INSTRUCTIONS BEFORE FILLING OUT!

CUSIP
609839105

No

13G

Page 3 of 7
Pages

1 NAMES OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS
(ENTITIES ONLY):

BA Venture Partners VI, LLC

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*

(a) []

(b) []

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

0

5 SOLE VOTING POWER

NUMBER OF
SHARES
BENEFICIALLY
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REPORTING
PERSON WITH

2,120,356

6 SHARED VOTING POWER

7 SOLE DISPOSITIVE
POWER

0

8 SHARED DISPOSITIVE
POWER

2,120,356

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH
REPORTING PERSON

2,120,356

10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9)
EXCLUDES CERTAIN SHARES*

[]

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW
(9)

7.51%

12 TYPE OF REPORTING PERSON*

CO

*SEE INSTRUCTIONS BEFORE FILLING OUT!

Item 1(a). Name of Issuer:

MONOLITHIC POWER SYSTEMS INC

Item 1(b). Address of Issuer's Principal Executive Offices:

983 University Avenue, Building A
Los Gatos, California 95032

Item 2(a). Name of Person Filing:

BAVP, LP
BA Venture Partners VI, LLC

Item 2(b). Address of Principal Business Office or, if None, Residence:

Each Reporting Person has its or his principal business office at 100 North Tryon Street, Floor 25, Bank of America Corporate Center, Charlotte, NC 28255.

Item 2(c). Citizenship:

BAVP, LP Delaware
BA Venture Partners VI, LLC Delaware

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

609839105

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

- (a) Broker or dealer registered under Section 15 of the Exchange Act.
- (b) Bank as defined in Section 3(a)(6) of the Exchange Act.
- (c) Insurance company as defined in Section 3(a)(19) of the Exchange Act.
- (d) Investment company registered under Section 8 of the Investment Company Act.
- (e) An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E).
- (f) An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F).
- (g) A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G).
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act.
- (j) Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

If this statement is filed pursuant to Rule 13d-1(c), check this box.

Item 4. Ownership:

With respect to the beneficial ownership of the reporting person, see Items 5 through 11 of the cover pages to this Schedule 13G, which are incorporated herein by reference.

Item 5. Ownership of Five Percent or Less of a Class:

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following .

Item 6. Ownership of More than Five Percent on Behalf of Another Person:

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person:

With respect to Subsidiary Identification and Classification, see Items 5 through 11 of the cover pages to this Schedule 13G, which are incorporated herein by reference.

Item 8. Identification and Classification of Members of the Group:

Not applicable.

Item 9. Notice of Dissolution of Group:

Not applicable.

Item 10. Certification:

By signing below each of the undersigned certifies that, to the best of such undersigned's knowledge and belief, the securities referred to above were not acquired and are not for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: April 18, 2006

BA Venture Partners VI, LLC
BAVP, LP
By: BA Venture Partners VI, LLC
Its general partner

By: /s/ Kate D. Mitchell
Name: Kate D. Mitchell
Title: Managing Director

Exhibit 99.1

EXHIBIT 99.1 - JOINT FILING AGREEMENT

The undersigned hereby agree that they are filing this statement jointly pursuant to Rule 13d-1(k)(1). Each of them is responsible for the timely filing of such Schedule 13G and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

In accordance with Rule 13d-1(k)(1) promulgated under the Securities and Exchange Act of 1934, as amended, the undersigned hereby agree to the joint filing with each other on behalf of each of them of to such a statement on Schedule 13G with respect to the common stock of beneficially owned by each of them. This Joint Filing Agreement shall be included as an exhibit to such Schedule 13G.

Dated: April 18, 2006

BA Venture Partners VI, LLC
BAVP, LP
By: BA Venture Partners VI, LLC
Its general partner

By: /s/ Kate D. Mitchell
Name: Kate D. Mitchell
Title: Managing Director