

FORM 5**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

OMB APPROVAL

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ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Form 3 Holdings Reported.

Form 4 Transactions Reported.

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Moyer James C</u> (Last) (First) (Middle) <u>6409 GUADALUPE MINES ROAD</u> (Street) <u>SAN JOSE CA 95120</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>MONOLITHIC POWER SYSTEMS INC</u> <u>[MPWR]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Chief IC Design Engineer</u>
	3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year) <u>12/31/2006</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
				Amount	(A) or (D)	Price			
Common Stock	05/10/2006		J ⁽¹⁾	1,496	D	\$0	1,359,572	D	
Common Stock	06/05/2006		J ⁽²⁾	518,504	D	\$0	841,068	D	
Common Stock	05/11/2006		J ⁽³⁾	43,255	D	\$0	86,953	I	By F. Moyer 04 Trust
Common Stock	05/11/2006		G ⁽⁴⁾	86,953	D	\$0	0	I	By F. Moyer 04 Trust
Common Stock	05/11/2006		J ⁽⁵⁾	43,255	D	\$0	86,953	I	By J. Moyer 04 Trust
Common Stock	05/11/2006		G ⁽⁶⁾	86,953	D	\$0	0	I	By J. Moyer 04 Trust
Common Stock	06/05/2006		J ⁽²⁾	518,504	A	\$0	518,504	I	By Jointly w/Spouse
Common Stock	05/10/2006		J ⁽¹⁾	1,496	A	\$0	239,584	I	by Moyer Family Trust
Common Stock	05/11/2006		J ⁽⁷⁾	86,510	A	\$0	326,094	I	by Moyer Family Trust

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
						(A)	(D)					
						Date Exercisable	Expiration Date	Title	Amount or Number of Shares			

Explanation of Responses:

1. Represents shares transferred from the reporting person's account to his family trust.
 2. Represents shares transferred from the reporting person's account to his joint account with his spouse.
 3. Represents shares transferred from the Frances K. Moyer 2004 Trust to the Moyer Family Trust.

4. Gifted shares from the Frances K. Moyer 2004 Trust to the following: 10,811 shares to William C. & Viola J. Moyer Trust, Viola J. McCreary Moyer, Trustee; 38,071 shares to Cynthia Anne Moyer; and 38,071 to William James Moyer.

5. Represents shares transferred from the James C. Moyer 2004 Trust to the Moyer Family Trust.

6. Gifted shares from the reporting person's trust to the following: 10,811 shares to William C. & Viola J. Moyer Trust, Viola J. McCreary Moyer, Trustee; 38,071 shares to Cynthia Anne Moyer; and 38,071 to William James Moyer.

7. Represents shares transferred from the James C. Moyer 2004 Trust and the Frances K. Moyer 2004 Trust.

James C. Moyer

02/01/2007

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.