

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

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

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

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>Sciammas Maurice</u> <hr/> (Last) (First) (Middle) 6409 GUADALUPE MINES ROAD <hr/> (Street) SAN JOSE CA 95120 <hr/> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>MONOLITHIC POWER SYSTEMS INC</u> [ MPWR ]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Sr. V.P.of Sales and Marketing</u>
	3. Date of Earliest Transaction (Month/Day/Year) 04/13/2010	
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 Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	04/13/2010		M <sup>(1)</sup>		20,000	A	\$1.2	90,741	D	
Common Stock	04/13/2010		S <sup>(1)</sup>		20,000	D	\$23.5087 <sup>(2)</sup>	70,741	D	
Common Stock								95,934	I	by Family Trust <sup>(3)</sup>
Common Stock								24,671	I	byC Sciammas 04 TRST <sup>(4)</sup>
Common Stock								24,671	I	byM Sciammas 04 Trst <sup>(5)</sup>

**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
Incentive Stock Option (right to buy)	\$1.2	04/13/2010		M <sup>(1)</sup>		20,000	09/10/2004	09/11/2013	Common Stock	20,000	\$0	10,000	D	

**Explanation of Responses:**

- In accordance with the reporting person's 10b5-1 trading plan.
- The price is the weighted average sale price for the transactions reported on this line. The prices for the transactions reported on this line range from \$23.50 to \$23.535. The reporting person undertakes to provide, upon request by the staff of the Securities and Exchange Commission, the issuer, or a security holder of the issuer, full information regarding the number of shares sold at each separate price.
- Shares held by Sciammas Family Living Trust, Maurice Sciammas and Christina Sciammas, Trustees
- Shares held by Christina Sciammas 2004 Trust, Christina Sciammas and Maurice Sciammas, Trustees
- Shares held by Maurice Sciammas 2004 Trust, Maurice Sciammas and Christina Sciammas, Trustees

By: Rick Neely For: Maurice Sciammas 04/13/2010

\*\* 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.**