

OMB APPROVAL	
OMB Number:	3235-0287
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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* <b>SMITH- PILKINGTON KAREN A</b> <hr/> (Last) (First) (Middle) <b>79 GREAT OAKS BLVD</b> <hr/> (Street) <b>SAN JOSE CA 95119</b> <hr/> (City) (State) (Zip)			2. Issuer Name and Ticker or Trading Symbol <b>MONOLITHIC POWER SYSTEMS INC</b> <b>[ MPWR ]</b>			5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)		
			3. Date of Earliest Transaction (Month/Day/Year) <b>02/11/2013</b>					
			4. If Amendment, Date of Original Filed (Month/Day/Year)					
6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person								

**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	02/11/2013		A		4,027 <sup>(1)</sup>	A	\$0.0	14,789	D	

**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)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date					

**Explanation of Responses:**

1. According to the Company's 2004 Equity Incentive Plan and the Board Compensation Schedule as adopted by the Board on February 5, 2013, each Outside Director will be automatically granted Restricted Stock Units as of such date, if he or she will have served on the Board for at least the preceding six (6) months, with such grant to be effective as of the first day that the Company's trading window re-opens (or as of the date of the meeting of the Board or Compensation Committee, as applicable, if the Company's trading window is open on such date), subject to the Outside Director's continued service to the Board through such date. 100% of the restricted stock units shall vest on the first anniversary of the Vesting Commencement Date.

By: Meera Rao For: Karen Smith Bogart 02/13/2013

\*\* 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.