

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

OMB APPROVAL

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

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).

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>MOORTHY GANESH</u>  (Last) (First) (Middle) <u>C/O MICROCHIP TECHNOLOGY INCORPORATED</u> <u>2355 WEST CHANDLER BOULEVARD</u>  (Street) <u>CHANDLER</u> <u>AZ</u> <u>85224-6199</u>  (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>MICROCHIP TECHNOLOGY INC [ MCHP ]</u>  3. Date of Earliest Transaction (Month/Day/Year) <u>03/01/2010</u>  4. If Amendment, Date of Original Filed (Month/Day/Year)	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>Exec. VP &amp; COO</u>  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
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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	03/01/2010		A		1,197 <sup>(1)</sup>	A	\$15.181	36,084 <sup>(2)</sup>	I	Shares held Directly and Indirectly by Trust. (2)

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	Title	Amount or Number of Shares				

Explanation of Responses:  
1. Shares were acquired under the Microchip Technology Incorporated 2001 Employee Stock Purchase Plan on March 1, 2010, in an exempt transaction pursuant to Rule 16(b)-3(d), paid for by contributions made during the six month period ended February 26, 2010.  
2. Of the 36,084 shares held, 8,310 shares were held Directly; 27,774 shares were held by Trust.

Remarks:

Deborah L. Wussler, as Attorney-in-Fact 03/03/2010  
\*\* 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.