UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8 REGISTRATION STATEMENT

UNDER THE SECURITIES ACT OF 1933



(Exact Name Of Registrant As Specified In Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 86-0629024 (IRS Employer Identification No.)

2355 West Chandler Boulevard Chandler, Arizona 85224

Microsemi Corporation 2008 Performance Incentive Plan
Actel Corporation 1986 Equity Incentive Plan
Actel Corporation 2003 Director Stock Option Plan
Asic Advantage, Inc. Series B Common Stock 2010 Stock Option Plan
PMC-Sierra, Inc. 2008 Equity Plan
Symmetricom, Inc. Amended and Restated 2006 Incentive Award Plan
Vitesse Semiconductor Corporation 2015 Incentive Plan
Vitesse Semiconductor Corporation 2013 Incentive Plan
Vitesse Semiconductor Corporation 2010 Incentive Plan
Vitesse Semiconductor Corporation 2010 Incentive Plan

Steve Sanghi
Chief Executive Officer
MICROCHIP TECHNOLOGY INCORPORATED
2355 West Chandler Boulevard
Chandler, Arizona 85224
(480) 792-7200
(Telephone Number, Including Area Code, Of Agent For Service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer		Accelerated filer	
Non-accelerated filer	□ (Do not check if a small reporting company)	Small reporting company	
Emerging growth company			

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. \Box

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee (3)
Common Stock (par value \$0.001 per share) to be issued under RSU awards	registereu (1)	Ter Share	THE	Registration Fee (5)
granted under the Microsemi Corporation 2008 Performance Incentive Plan	1,477,149(2)	\$95.37(4)	\$140,875,700.13	\$17,539.02
Common Stock (par value \$0.001 per share) to be issued under SAR awards	-, . , , , , (=)	4,515,(1)	4-10,070,100110	411,000100
granted under the Actel Corporation 1986 Equity Incentive Plan	39,136(2)	\$77.74(5)	\$3,042,432.64	\$378.78
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Actel Corporation 1986 Equity Incentive Plan	11,285(2)	\$78.12(5)	\$881,584.20	\$109.76
Common Stock (par value \$0.001 per share) to be issued under SAR awards				
granted under the Actel Corporation 2003 Director Stock Option Plan	57(2)	\$81.20(5)	\$4,628.40	\$0.58
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Asic Advantage, Inc. Series B Common Stock 2010				
Stock Option Plan	147(2)	\$86.98(5)	\$12,786.06	\$1.59
Common Stock (par value \$0.001 per share) to be issued under RSU awards				
granted under the PMC-Sierra, Inc. 2008 Equity Plan	320,413(2)	\$95.37(4)	\$30,557,787.81	\$3,804.44
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Symmetricom, Inc. Amended and Restated 2006				
Incentive Award Plan	52,184(2)	\$66.52(5)	\$3,471,279.68	\$432.17
Common Stock (par value \$0.001 per share) to be issued under RSU awards		*******	***	***
granted under the Vitesse Semiconductor Corporation 2015 Incentive Plan	249(2)	\$95.37(4)	\$23,747.13	\$2.96
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Vitesse Semiconductor Corporation 2015 Incentive	5.577(0)	050.16(5)	#224 250 22	0.40.20
Plan	5,577(2)	\$58.16(5)	\$324,358.32	\$40.38
Common Stock (par value \$0.001 per share) to be issued under RSU awards	7.0(0(0)	005.27(4)	Φ750 ACC 52	002.42
granted under the Vitesse Semiconductor Corporation 2013 Incentive Plan	7,869(2)	\$95.37(4)	\$750,466.53	\$93.43
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Vitesse Semiconductor Corporation 2013 Incentive	12.0(1(2)	P75 00(5)	61.040.602.00	¢120.57
Plan	13,861(2)	\$75.08(5)	\$1,040,683.88	\$129.57
Common Stock (par value \$0.001 per share) to be issued under option				
awards granted under the Vitesse Semiconductor Corporation 2010 Incentive Plan	11 270(2)	Q(A 11(F)	£720 020 70	\$90.75
**	11,370(2)	\$64.11(5)	\$728,930.70	\$90.75
Common Stock (par value \$0.001 per share) to be issued under option awards granted under the Vitesse Semiconductor Corporation Amended and				
Restated 2001 Stock Incentive Plan	8,134(2)	\$42.58(5)	\$346,345.72	\$43.12
Total	1,947,431	\$42.30(3)	\$340,343.72	\$22,666.55
Total	1,947,431			\$22,000.33

- (1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the plans referenced above (the "Microsemi Plans"), by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant's outstanding shares of common stock.
- Pursuant to the Agreement and Plan of Merger dated as of March 1, 2018 (the "Merger Agreement") by and among Microchip Technology Incorporated, Maple Acquisition Corporation and Microsemi Corporation ("Microsemi"), upon the closing of the transaction contemplated by the Merger Agreement on May 29, 2018 (the "Merger"), the Registrant assumed certain outstanding restricted stock units under the Microsemi Plans ("RSUs"), certain outstanding options under the Microsemi Plans ("RSUs"), and such RSUs, Options and SARs were automatically converted into awards in respect of shares of the Registrant's common stock, subject to appropriate adjustments to the number of shares issuable pursuant to such RSUs, Options and SARs as provided in the Merger Agreement.
- (3) The amount of the registration fee is calculated pursuant to Section 6(b) of the Securities Act, which currently provides that the filing fee rate shall be "\$124.50 per \$1 million" of the maximum aggregate price at which such securities are proposed to be offered. The Registration Fee is therefore calculated by multiplying the Proposed Maximum Aggregate Offering Price by 0.0001245.
- (4) Estimated solely for purposes of calculating the registration fee in accordance with Rules 457(c) and (h) under the Securities Act of 1933, as amended. The proposed maximum offering price of \$95.37 per share is based on the average of the reported high and low sales prices for the Registrant's common stock as reported by the Nasdaq Global Market on May 25, 2018.
- (5) Estimated solely for purposes of calculating the registration fee in accordance with Rules 457(c) and (h) under the Securities Act of 1933, as amended, on the basis of the weighted average exercise price of Options or SARs, as applicable, outstanding under the applicable Microsemi Plan and assumed by the Registrant.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

There are hereby incorporated by reference in this Registration Statement the following documents and information heretofore filed by Microchip Technology Incorporated (the "Registrant" or the "Company") with the SEC:

- (1) The Registrant's Annual Report on Form 10-K for the fiscal year ended March 31, 2018 filed with the SEC on May 18, 2018.
- (2) The Registrant's Current Reports on Form 8-K filed on May 18, 2018, May 21, 2018, May 21, 2018 and May 29, 2018.
- (3) The description of the Registrant's Common Stock included in the Registrant's Registration Statement on Form 8-A filed on February 5, 1993, including any amendment or report updating such description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Securities Exchange Act of 1934, as amended, prior to the filing of a post-effective amendment to this Registration Statement that indicates all securities offered hereby have been sold or that de-registers all securities then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law ("Delaware Law") authorizes a court to award or a corporation's Board of Directors to grant indemnification to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities (including reimbursement for expenses incurred) arising by reason of the fact that the person was an officer, director, employee or agent of the corporation, or is or was serving at the request of the corporation or other enterprise (including liabilities arising under the Securities Act. Article VI of the Registrant's By-Laws provides for mandatory indemnification of its directors and executive officers, to the maximum extent permitted by Delaware Law. Article VI of the Registrant's By-Laws also provides for permissive indemnification of the Registrant's employees and agents to the extent, and in the manner, permitted by Delaware Law. The Registrant has entered into indemnification agreements with its directors and selected officers, a form of which was filed on February 5, 1993 as Exhibit 10.1 to Registration Statement No. 33-57960. The indemnification agreements provide the Registrant's directors and selected officers with further indemnification to the maximum extent permitted by Delaware Law. The Registrant's directors and officers are insured under policies of insurance maintained by the Registrant, subject to the limits of the policies, against any claims made against them by reason of being or having been such directors or officers.

Item 7. Exemption From Registration Claimed.

Not applicable.

Item 8. Exhibits.

- 4.1 <u>Microsemi Corporation 2008 Performance Incentive Plan (incorporated by reference to Exhibit 10.1 to Microsemi's Current Report on Form 8-K, as filed with the Securities and Exchange Commission (the "SEC") on February 16, 2016 (Commission File No. 000-08866))</u>
- 4.2 Actel Corporation 1986 Equity Incentive Plan (incorporated by reference to Exhibit 4.1 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on December 13, 2010 (Commission File No. 333-171135)
- 4.3 Actel Corporation 2003 Director Stock Option Plan (incorporated by reference to Exhibit 4.3 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on December 13, 2010) (Commission File No. 333-171135)
- 4.4 Asic Advantage, Inc. Series B Common Stock 2010 Stock Option Plan (incorporated by reference to Exhibit 4.2 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on July 15, 2011 (Commission File No. 333-175608)
- 4.5 PMC-Sierra, Inc. 2008 Equity Plan (incorporated by reference to Exhibit 4 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on January 29, 2016 (Commission File No. 333-209244))
- 4.6 Symmetricom, Inc. Amended and Restated 2006 Incentive Award Plan (incorporated by reference to Exhibit 4 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on December 6, 2013 (Commission File No. 333-192678)
- 4.7 <u>Vitesse Semiconductor Corporation 2015 Incentive Plan (incorporated by reference to Exhibit 4.1 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on May 11, 2015 (Commission File No. 333-204035))</u>
- 4.8 <u>Vitesse Semiconductor Corporation 2013 Incentive Plan (incorporated by reference to Exhibit 4.2 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on May 11, 2015 (Commission File No. 333-204035))</u>
- 4.9 <u>Vitesse Semiconductor Corporation 2010 Incentive Plan (incorporated by reference to Exhibit 4.3 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on May 11, 2015 (Commission File No. 333-204035))</u>
- 4.10 <u>Vitesse Semiconductor Corporation Amended and Restated 2001 Stock Incentive Plan (incorporated by reference to Exhibit 4.4 to Microsemi's Registration Statement on Form S-8, as filed with the SEC on May 11, 2015 (Commission File No. 333-204035))</u>
- 4.11 Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2002, as filed with the SEC on November 12, 2002)
- 4.12 Amended and Restated By-Laws of Registrant, as amended through November 14, 2016 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, as filed with the SEC on November 17, 2016)
- 5.1 Opinion and Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation
- 23.1 <u>Consent of Independent Registered Public Accounting Firm</u>
- 23.2 Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1)
- 24.1 <u>Power of Attorney (reference is made to page II-4 of this Registration Statement)</u>

Item 9. Undertakings.

- (a) The undersigned registrant hereby undertakes:
- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to Item 6 of Part II of this registration statement, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Chandler, State of Arizona, on May 29, 2018.

MICROCHIP TECHNOLOGY INCORPORATED

By: /s/ J. Eric Bjornholt

J. Eric Bjornholt, Vice President and Chief Financial Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Steve Sanghi and J. Eric Bjornholt, and each of them, his or her attorneys-in-fact, each with the power of substitution, for the undersigned and in undersigned's name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents or any of them, or his or her or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
/s/ Steve Sanghi Steve Sanghi	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	May 29, 2018
/s/ J. Eric Bjornholt J. Eric Bjornholt	Vice President, Chief Financial Officer (Principal Financial and Accounting Officer)	May 29, 2018
/s/ Matthew W. Chapman Matthew W. Chapman	Director	May 29, 2018
/s/ L.B. Day L.B. Day	Director	May 29, 2018
/s/ Ester L. Johnson Ester L. Johnson	Director	May 29, 2018
/s/ Wade F. Meyercord Wade F. Meyercord	Director	May 29, 2018

(Wilson Sonsini Goodrich & Rosati P.C. Letterhead) May 29, 2018

Microchip Technology Incorporated 2355 West Chandler Boulevard Chandler. AZ 85224

RE:

Registration Statement on Form S-8 for Issuance of Common Stock under the Microsemi Corporation 2008 Performance Incentive Plan, Actel Corporation 1986 Equity Incentive Plan, Actel Corporation 2003 Director Stock Option Plan, Asic Advantage, Inc. Series B Common Stock 2010 Stock Option Plan, PMC-Sierra, Inc. 2008 Equity Plan, Symmetricom, Inc. Amended and Restated 2006 Incentive Award Plan, Vitesse Semiconductor Corporation 2015 Incentive Plan, Vitesse Semiconductor Corporation 2013 Incentive Plan, Vitesse Semiconductor Corporation 2010 Incentive Plan and Vitesse Semiconductor Corporation Amended and Restated 2001 Stock Incentive Plan

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 to be filed by you with the Securities and Exchange Commission on or about the date hereof (the "Registration Statement") in connection with the registration under the Securities Act of 1933, as amended, of 1,477,149 shares of your common stock that are issuable pursuant to currently outstanding restricted stock units under the Microsemi Corporation 2008 Performance Incentive Plan, of 50,421 shares of your common stock that are issuable pursuant to currently outstanding stock appreciation rights and options under the Actel Corporation 1986 Equity Incentive Plan, of 57 shares of your common stock that are issuable pursuant to currently outstanding stock appreciation rights under the Actel Corporation 2003 Director Stock Option Plan, of 147 shares of your common stock that are issuable pursuant to currently outstanding options under the Asic Advantage, Inc. Series B Common Stock 2010 Stock Option Plan, of 320,413 shares of your common stock that are issuable pursuant to currently outstanding restricted stock units under the PMC-Sierra, Inc. 2008 Equity Plan, of 52,184 shares of your common stock that are issuable pursuant to currently outstanding options under the Symmetricom, Inc. Amended and Restated 2006 Incentive Award Plan, of 5,826 shares of your common stock that are issuable pursuant to currently outstanding restricted stock units and options under the Vitesse Semiconductor Corporation 2015 Incentive Plan, of 21,730 shares of your common stock that are issuable pursuant to currently outstanding options under the Vitesse Semiconductor Corporation 2013 Incentive Plan, of 8,134 shares of your common stock that are issuable pursuant to currently outstanding options under the Vitesse Semiconductor Corporation 2010 Incentive Plan, and of 8,134 shares of your common stock that are issuable pursuant to currently outstanding options under the Vitesse Semiconductor Corporation 2010 Incentive Plan, of 8,134 shares of your common stock that are issuable pursuant

It is our opinion that, upon completion of the actions being taken, or contemplated by us as your counsel to be taken by you prior to the issuance of the Shares pursuant to the Registration Statement and the Plans and upon completion of the actions being taken in order to permit such transactions to be carried out in accordance with the securities laws of the various states where required, the Shares, when issued and sold in the manner referred to in the Plans and pursuant to the agreements which accompany the Plans, will be legally and validly issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to said Registration Statement and further consent to the use of our name wherever appearing in said Registration Statement, and any amendments thereto.

Very truly yours,

/s/ Wilson Sonsini Goodrich & Rosati, P.C.

WILSON SONSINI GOODRICH & ROSATI Professional Corporation

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Microsemi Corporation 2008 Performance Incentive Plan; Actel Corporation 1986 Equity Incentive Plan; Actel Corporation 2003 Director Stock Option Plan; Asic Advantage, Inc. Series B Common Stock 2010 Stock Option Plan; PMC-Sierra, Inc. 2008 Equity Plan; Symmetricom, Inc. Amended and Restated 2006 Incentive Award Plan; Vitesse Semiconductor Corporation 2015 Incentive Plan; Vitesse Semiconductor Corporation 2013 Incentive Plan; Vitesse Semiconductor Corporation 2010 Incentive Plan; and the Vitesse Semiconductor Corporation Amended and Restated 2001 Stock Incentive Plan of Microchip Technology Incorporated our reports dated May 18, 2018, with respect to the consolidated financial statements of Microchip Technology Incorporated and the effectiveness of internal control over financial reporting of Microchip Technology Incorporated included in its Annual Report (Form 10-K) for the year ended March 31, 2018, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Phoenix, Arizona May 29, 2018