EXHIBIT 10.1

RESTRICTED STOCK UNITS AGREEMENT

This Restricted Stock Units Agreement (the "**Agreement**") is made and entered into on ______ (the "**Date of Grant**"), pursuant to the Mattson Technology, Inc. 2005 Equity Incentive Plan, as amended (the "**Plan**"). The Committee administering the Plan has selected the party specified on the execution page hereof (the "**Participant**") to receive the following award (the "**Award**") of Restricted Stock Units, each of which represents the right to receive on the applicable Settlement Date one (1) share of the Common Stock ("**Stock**") of Mattson Technology, Inc., a Delaware corporation (the "**Company**"), on the terms and conditions set forth below to which Participant accepts and agrees:

1. Award Granted.

Date of Grant
No. of Restricted Stock Units
Vesting Commencement Date
Settlement Date

For each Restricted Stock Unit, except as otherwise provided by this Agreement, the date on which such unit becomes a Vested Unit in accordance with Section 4 or Section 8 below.

2. Grant of Units. On the Date of Grant, the Participant shall acquire, subject to the provisions of this Agreement, the Number of Restricted Stock Units, as specified in Section 1 above (the "**Units**"). Each Unit represents a right to receive on a date determined in accordance with this Agreement one (1) share of Stock. This Award shall be governed by the terms of the Plan, which are incorporated herein by this reference. The Participant acknowledges having received and read a copy of the Plan. Capitalized terms not otherwise defined by this Agreement will have the meanings assigned in the Plan.

3. No Monetary Payment Required. The Participant is not required to make any monetary payment (other than applicable tax withholding, if any) as a condition to receiving the Units or shares of Stock issued upon settlement of the Units, the consideration for which shall be past services actually rendered and/or future services to be rendered to a Participating Company or for its benefit. Notwithstanding the foregoing, if required by applicable state corporate law, the Participant shall furnish consideration in the form of cash or past services rendered to or for the benefit of a Participating Company having a value not less than the par value of the shares of Stock issued upon settlement of the Units.

4. Vesting of Units. Subject to Participant's continued Service through the applicable vesting date, the Units will vest and become "Vested Units" in accordance with the following schedule:

25% of the Units will vest forty-five (45) calendar days after the end of a fiscal quarter in which fiscal year-to-date net sales exceed ------; and

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25% of the Units will vest forty-five (45) calendar days after the end of a fiscal quarter in which fiscal year-to-date net sales exceed ------; million;

provided, however, that no Units shall vest unless the (a) the operating profit margin (i.e. income from operations, divided by net sales) for such fiscal year (through the end of such quarter) equals or exceeds ------ percent, and (b) the average closing Stock price for such quarter equals or exceeds ------dollars.

If the Participant's Service terminates because of the death or Disability of the Participant, a percentage of the Units that otherwise would not be vested as of the date of Service termination (the "Nonvested Units") shall vest. Such percentage shall be the percentage of Nonvested Units that, on the date of Service termination, would have

been vested had such Nonvested Units been subject to a straight-line, monthly vesting schedule beginning January 1, 2008 and ending December 31, 2011.

5. Company Reacquisition Right. In the event that the Participant's Service terminates for any reason (other than death or Disability) or no reason, with or without cause, the Participant shall forfeit and the Company shall automatically reacquire all Units which are not, as of the time of such termination, Vested Units, and the Participant shall not be entitled to any payment therefor.

6. Settlement of the Award.

- (a) Issuance of Shares of Stock. Subject to the provisions of Section 6(c) below, the Company shall issue to the Participant on the Settlement Date with respect to each Vested Unit to be settled on such date one (1) share of Stock. Shares of Stock issued in settlement of Units shall not be subject to any restriction on transfer other than any such restriction as may be required pursuant to Section 6(c), Section 7 or the Company's Insider Trading Policy. For purposes of this Section, "Insider Trading Policy" means the written policy of the Company pertaining to the sale, transfer or other disposition of the Company's equity securities by members of the Board, officers or other employees who may possess material, non-public information regarding the Company, as in effect at the time of a disposition of any Shares.
- (b) Beneficial Ownership of Shares; Certificate Registration. The Participant hereby authorizes the Company, in its sole discretion, to deposit for the benefit of the Participant with any broker with which the Participant has an account relationship of which the Company has notice any or all shares acquired by the Participant pursuant to the settlement of the Award. Except as provided by the preceding sentence, a certificate for the shares as to which the Award is settled shall be registered in the name of the Participant, or, if applicable, in the names of the heirs of the Participant.
- (c) Restrictions on Grant of the Award and Issuance of Shares. The grant of the Award and issuance of shares of Stock upon settlement of the Award shall be subject to compliance with all applicable requirements of federal, state or foreign law with respect to such securities. No shares of Stock may be issued hereunder if the issuance of such shares would constitute a violation of any applicable federal, state or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Stock may then be listed. If the Company is unable to obtain authority from any applicable regulatory body deemed by the Company's legal counsel to be necessary for the lawful issuance of any shares subject to the Award, the Company shall be relieved of any liability in relation to its inability to issue such shares. As a condition to the settlement of the Award, the Company may require the Participant to satisfy any qualifications that may be necessary or appropriate, to evidence compliance with any applicable law or regulation and to make any representation or warranty with respect thereto as may be requested by the Company.
- (d) **Fractional Shares.** The Company shall not be required to issue fractional shares upon the settlement of the Award.

7. Tax Matters.

- (a) Tax Withholding in General. At the time this Agreement is executed, or at any time thereafter as requested by the Company, the Participant hereby authorizes withholding from payroll and any other amounts payable to the Participant, and otherwise agrees to make adequate provision for, any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company, if any, which arise in connection with the Award or the issuance of shares of Stock in settlement thereof. The Company shall have no obligation to deliver shares of Stock until the tax withholding obligations of the Company have been satisfied by the Participant.
- (b) Assignment of Sale Proceeds; Payment of Tax Withholding by Check. Subject to compliance with applicable law and the Company's Insider Trading Policy, the Participant shall satisfy the Company's tax withholding obligations in accordance with procedures established by the Company providing for delivery by the Participant to the Company or a broker approved by the Company of properly executed instructions, in a form approved by the Company, providing for the assignment to the Company of the proceeds of a sale with respect to some or all of the shares being acquired upon settlement of Units. Notwithstanding the

foregoing, the Participant may elect to pay by check the amount of the Company's tax withholding obligations arising on any Settlement Date by delivering written notice of such election to the Company on a form specified by the Company for this purpose at least thirty (30) days (or such other period established by the Company) prior to such Settlement Date. By making such election, the Participant agrees to deliver a check for the full amount of the required tax withholding to the Company on or before the third business day following the Settlement Date. If the Participant elects to pay the required tax withholding by check but fails to make such payment as required by the preceding sentence, the Company is hereby authorized at its discretion, to satisfy the tax withholding obligations through any other means authorized by this Section 7, including by effecting a sale of some or all of the shares being acquired upon settlement of Units, withholding from payroll and any other amounts payable to the Participant, or by withholding shares in accordance with Section 7(c).

(c) Withholding in Shares. The Company may, in its discretion, permit or require the Participant to satisfy all or any portion of the Company's tax withholding obligations by deducting from the shares of Stock otherwise deliverable to the Participant in settlement of the Award a number of whole shares having a fair market value, as determined by the Company as of the date on which the tax withholding obligations arise, not in excess of the amount of such tax withholding obligations determined by the applicable minimum statutory withholding rates. Any adverse consequences to the Participant resulting from the procedure permitted under this Section, including, without limitation, tax consequences, shall be the sole responsibility of the Participant.

8. Effect of Change in Control on Award.

- (a) In the event of a Change in Control, a percentage of the Units that otherwise would not be vested (the "Unvested Units") shall vest immediately prior to (but conditioned upon the consummation of) the Change in Control. Such percentage shall be the percentage of Unvested Units that, on the date of the Change of Control, would have been vested had such Unvested Units been subject to a straight-line, monthly vesting schedule beginning January 1, 2008 and ending December 31, 2011. Subject to the Acquiror's assumption, continuation or substitution for the Remaining Units pursuant to Section 8(b), after the Change in Control, the remainder of the Unvested Units (the "Remaining Units") shall continue to vest on a straight-line, monthly vesting schedule, and the vesting schedule described in Section 4 above shall no longer be in effect.
- (b) In the event of a Change in Control, the surviving, continuing, successor, or purchasing entity or parent thereof, as the case may be (the "Acquiror"), may, without the consent of the Participant, either assume or continue the Company's rights and obligations with respect to the Remaining Units or substitute for outstanding Remaining Units substantially equivalent rights with respect to the Acquiror's stock. For purposes of this Section, a Remaining Unit shall be deemed assumed if, following the Change in Control, the Remaining Unit confers the right to receive, subject to the terms and conditions of the Plan and this Agreement, the consideration (whether stock, cash, other securities or property or a combination thereof) to which a holder of a share of Stock on the effective date of the Change in Control was entitled. In the event the Acquiror elects not to assume, continue or substitute for the Remaining Units in connection with a Change in Control, all Units subject to the Award that otherwise would not be vested shall vest in full immediately prior to (but conditioned upon the consummation of) the Change in Control.

9. Adjustments for Changes in Capital Structure. Subject to any required action by the stockholders of the Company, in the event of any change in the Stock effected without receipt of consideration by the Company, whether through merger, consolidation, reorganization, reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares, or similar change in the capital structure of the Company, or in the event of payment of a dividend or distribution to the stockholders of the Company in a form other than Stock (excepting normal cash dividends) that has a material effect on the fair market value of shares of Stock, appropriate adjustments shall be made in the number of Units subject to the Award and/or the number and kind of shares to be issued in settlement of the Award, in order to prevent dilution or enlargement of the Company shall not be treated as "effected without receipt of consideration by the Company." Any fractional share resulting from an adjustment pursuant to this Section shall be rounded down to the nearest whole number. Such adjustments shall be determined by the Committee, and its determination shall be final, binding and conclusive.

10. Rights as a Stockholder or Employee. The Participant shall have no rights as a stockholder with respect to any shares which may be issued in settlement of this Award until the date of the issuance of a certificate for such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). No adjustment shall be made for dividends, distributions or other rights for which the record date is prior to the date such certificate is issued, except as provided in Section 9. If the Participant is an Employee, the Participant understands and acknowledges that, except as otherwise provided in a separate, written employment agreement between the Company and the Participant, the Participant's employment is "at will" and is for no specified term. Nothing in this Agreement shall confer upon the Participant any right to continue in the Service of the Company or interfere in any way with any right of the Company to terminate the Participant's Service at any time.

11. Legends. The Company may at any time place legends referencing any applicable federal, state or foreign securities law restrictions on all certificates representing shares of stock issued pursuant to this Agreement. The Participant shall, at the request of the Company, promptly present to the Company any and all certificates representing shares acquired pursuant to this Award in the possession of the Participant in order to carry out the provisions of this Section.

12. Delivery of Documents and Notices. Any document relating to participation in the Plan or any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given (except to the extent that this Agreement provides for effectiveness only upon actual receipt of such notice) upon personal delivery, electronic delivery at the e-mail address, if any, provided for the Participant by the Company, or upon deposit in the U.S. Post Office or foreign postal service, by registered or certified mail, or with a nationally recognized overnight courier service, with postage and fees prepaid, addressed to the other party at the address shown below that party's signature to the Notice or at such other address as such party may designate in writing from time to time to the other party.

- (a) Description of Electronic Delivery. The Plan documents, which may include but do not necessarily include: the Plan, this Agreement, a prospectus covering securities issuable under the Plan, and any reports of the Company provided generally to the Company's stockholders, may be delivered to the Participant electronically. In addition, the Participant may deliver electronically this Agreement to the Company or to such third party involved in administering the Plan as the Company may designate from time to time. Such means of electronic delivery may include but do not necessarily include the delivery of a link to a Company intranet or the Internet site of a third party involved in administering the Plan, the delivery of the document via e-mail or such other means of electronic delivery specified by the Company.
- (b) Consent to Electronic Delivery. The Participant acknowledges that the Participant has read Section 12(a) of this Agreement and consents to the electronic delivery of the Plan documents and this Agreement, as described in Section 12(a). The Participant acknowledges that he or she may receive from the Company a paper copy of any documents delivered electronically at no cost to the Participant by contacting the Chief Financial Officer of the Company by telephone or in writing. The Participant further acknowledges that the Participant will be provided with a paper copy of any documents if the attempted electronic delivery of such documents fails. Similarly, the Participant understands that the Participant must provide the Company or any designated third party administrator with a paper copy of any documents if the attempted electronic delivery of documents fails. The Participant may revoke his or her consent to the electronic delivery of documents are to be delivered (if Participant has provided an electronic mail address) at any time by notifying the Company of such revoked consent or revised e-mail address by telephone, postal service or electronic mail. Finally, the Participant understands that he or she is not required to consent to electronic delivery of documents described in Section 13(a).

13. Miscellaneous Provisions.

(a) Termination or Amendment. The Committee may terminate or amend the Plan or this Agreement at any time; provided, however, that no such termination or amendment may adversely affect the Participant's rights under this Agreement without the consent of the Participant unless such termination or amendment is necessary to comply with applicable law or government regulation. No amendment or addition to this Agreement shall be effective unless in writing.

- (b) Nontransferability of the Award. Prior the issuance of shares of Stock on the applicable Settlement Date, neither this Award nor any Units subject to this Award shall be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. All rights with respect to the Award shall be exercisable during the Participant's lifetime only by the Participant or the Participant's guardian or legal representative.
- (c) **Further Instruments.** The parties hereto agree to execute such further instruments and to take such further action as may reasonably be necessary to carry out the intent of this Agreement.
- (d) **Binding Effect.** This Agreement shall inure to the benefit of the successors and assigns of the Company and, subject to the restrictions on transfer set forth herein, be binding upon the Participant and the Participant's heirs, executors, administrators, successors and assigns.
- (e) **Integrated Agreement.** This Agreement and the Plan, together with any employment, service or other agreement between the Participant and a Participating Company referring to the Award, shall constitute the entire understanding and agreement of the Participant and the Participating Company Group with respect to the subject matter contained herein or therein and supersedes any prior agreements, understandings, restrictions, representations, or warranties among the Participant and the Participating Company Group with respect to such subject matter other than those as set forth or provided for herein or therein. To the extent contemplated herein or therein, the provisions of this Agreement shall survive any settlement of the Award and shall remain in full force and effect.
- (f) **Severability.** Should any term, covenant, provision, paragraph or condition of this Agreement be held invalid or illegal, such invalidity or illegality shall not invalidate the whole Agreement, but it shall be construed as if not containing the invalid or illegal part or parts and the rights and obligations of the parties shall be construed and enforced accordingly.
- (g) **Applicable Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of California, as such laws are applied to agreements entered into between residents of said state which are to be performed wholly within said state.

IN WITNESS WHEREOF, each of the parties hereto has executed this Agreement, in the case of the Company by its duly authorized officer, as of the date and year written above.

MATTSON TECHNOLOGY, INC.

a Delaware Corporation

By: David Dutton	
	President and Chief Executive Officer
Address:	47131 Bayside Parkway, Fremont, California 94538
PARTICIPANT	
Signature:	
Please Print Name:	
Address:	