

Ascent Solar Technologies, Inc.  
Form 8-A12B  
August 08, 2006

As filed with the Securities and Exchange Commission on August 8, 2006

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM 8-A**

**FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR (g) OF THE  
SECURITIES EXCHANGE ACT OF 1934**

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**ASCENT SOLAR TECHNOLOGIES, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State of incorporation)

**20-3672603**

(I.R.S. Employer Identification No.)

**8120 Shaffer Parkway  
Littleton, CO**

(Address of principle executive offices)

**80127**

(Zip code)

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), check the following box.  X

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box.  O

Securities Act registration statement file number to which this form relates: Registration No. 333-131216

**Securities to be registered pursuant to Section 12(b) of the Act:**

**Common Stock, \$0.0001 par value**

**Class A warrants, each to purchase one share of Common Stock  
Class B warrants, each to purchase one share of Common Stock**  
(Title of Each Class to be So Registered)

**The Nasdaq Stock Market, LLC  
Boston Stock Exchange**

(Name of Each Exchange on Which Each  
Class is to be Registered)

**Securities to be registered pursuant to Section 12(g) of the Act:**

**Not applicable**  
(Title of Class)



ITEM 1. DESCRIPTION OF REGISTRANT'S SECURITIES TO BE REGISTERED.

Incorporated herein by reference is the Registrant's Registration Statement on Form SB-2 (File No. 333-131216), filed on January 23, 2006, as amended on March 13, 2006, April 20, 2006, May 26, 2006, June 19, 2006, July 3, 2006 and July 10, 2006, and as further amended from time to time thereafter (the "Registration Statement"). See the section of the Registration Statement titled "Description of Securities."

ITEM 2. EXHIBITS

EXHIBIT NO. DESCRIPTION

1. Certificate of Incorporation (incorporated by reference to Exhibit 3.1 of the Registration Statement).
2. Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.2 of the Registration Statement).
3. Bylaws (incorporated by reference to Exhibit 3.3 of the Registration Statement).
4. Form of Common Stock certificate (incorporated by reference to Exhibit 4.1 of the Registration Statement).
5. Form of Class A warrant (incorporated by reference to Exhibit 4.5 of the Registration Statement).
6. Form of Class B warrant (incorporated by reference to Exhibit 4.5 of the Registration Statement).
7. Form of Unit certificate (incorporated by reference to Exhibit 4.4 of the Registration Statement).
8. Form of Warrant Agreement (incorporated by reference to Exhibit 4.5 of the Registration Statement).

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

ASCENT SOLAR TECHNOLOGIES, INC.

Date: August 8, 2006

By: */s/* Matthew B. Foster  
**Matthew B. Foster**  
**President and Chief Executive Officer**