IDEAL POWER

Investor Presentation

Safe Harbor

All statements in this presentation that are not based on historical fact are "forward looking statements." While management has based any forward looking statements included in this presentation on its current expectations, the information on which such expectations were based may change.

These forward looking statements rely on a number of assumptions concerning future events and are subject to a number of risks, uncertainties and other factors, many of which are outside of our control, that could cause actual results to materially differ from such statements.

Such risks, uncertainties, and other factors include, but are not limited to, whether the patents for our technology provide adequate protection and whether we can be successful in maintaining, enforcing and defending our patents, whether demand for our products, which we believe are disruptive, will develop and whether we can compete successfully with other manufacturers and suppliers of power semiconductor products, both now and in the future, as new products are developed and marketed.

Furthermore, we operate in a highly competitive and rapidly changing environment where new and unanticipated risks may arise. Accordingly, investors should not place any reliance on forward looking statements as a prediction of actual results. We disclaim any intention to, and undertake no obligation to, update or revise forward looking statements.

Investment Highlights

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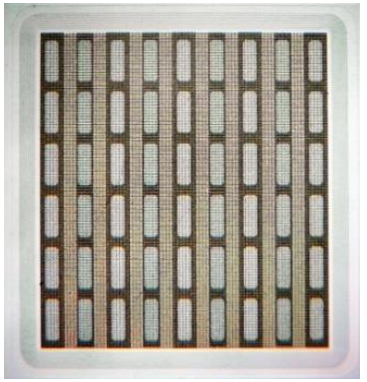
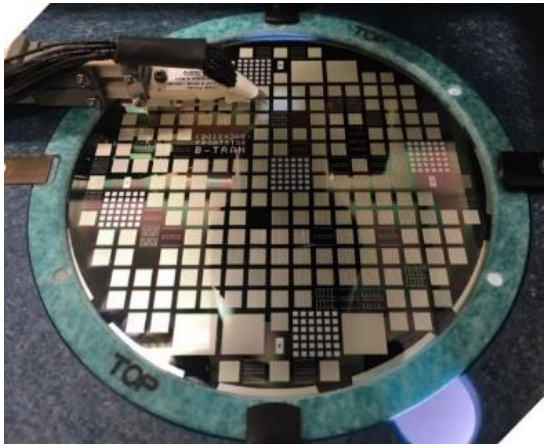
B-TRAN

- Disruptive Semiconductor Architecture Technology
- Bi-directional, Low Loss Semiconductor Switch
- Broad Patent Estate – 65 Issued & 23 Pending
- Attractive Growth Markets – EV, Renewables
- Fabless Model, Strong Balance Sheet
- Building Strategic Relationships for Commercialization

What is B-TRAN™?

- B-TRAN is a proprietary semiconductor power switch
  - New, disruptive design (architecture)
  - Fabrication of both sides of wafers
- B-TRAN architecture has 3 compelling advantages
  - Bi-directional switching
  - Lower losses = lower user costs
  - Smaller, lower cost product designs
- Critical performance characteristics validated





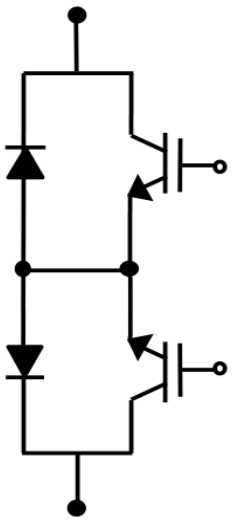
B-TRAN™ Will Address Many Power Switching Needs

B-TRAN Bi-directional Switching

Conduction losses in bi-directional applications ~ 5x better than IGBT + blocking diode

- B-TRAN replaces 4 conventional devices to provide a bi-directional switch
- Effective forward drop <0.65 V

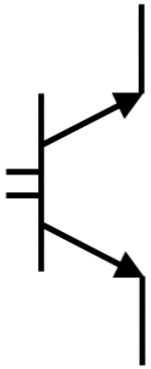
Conventional IGBT Switch



Back to back 1200 V IGBTs plus series diodes

Typical forward drop = 1.75 V + 1.45 V = 3.20 V

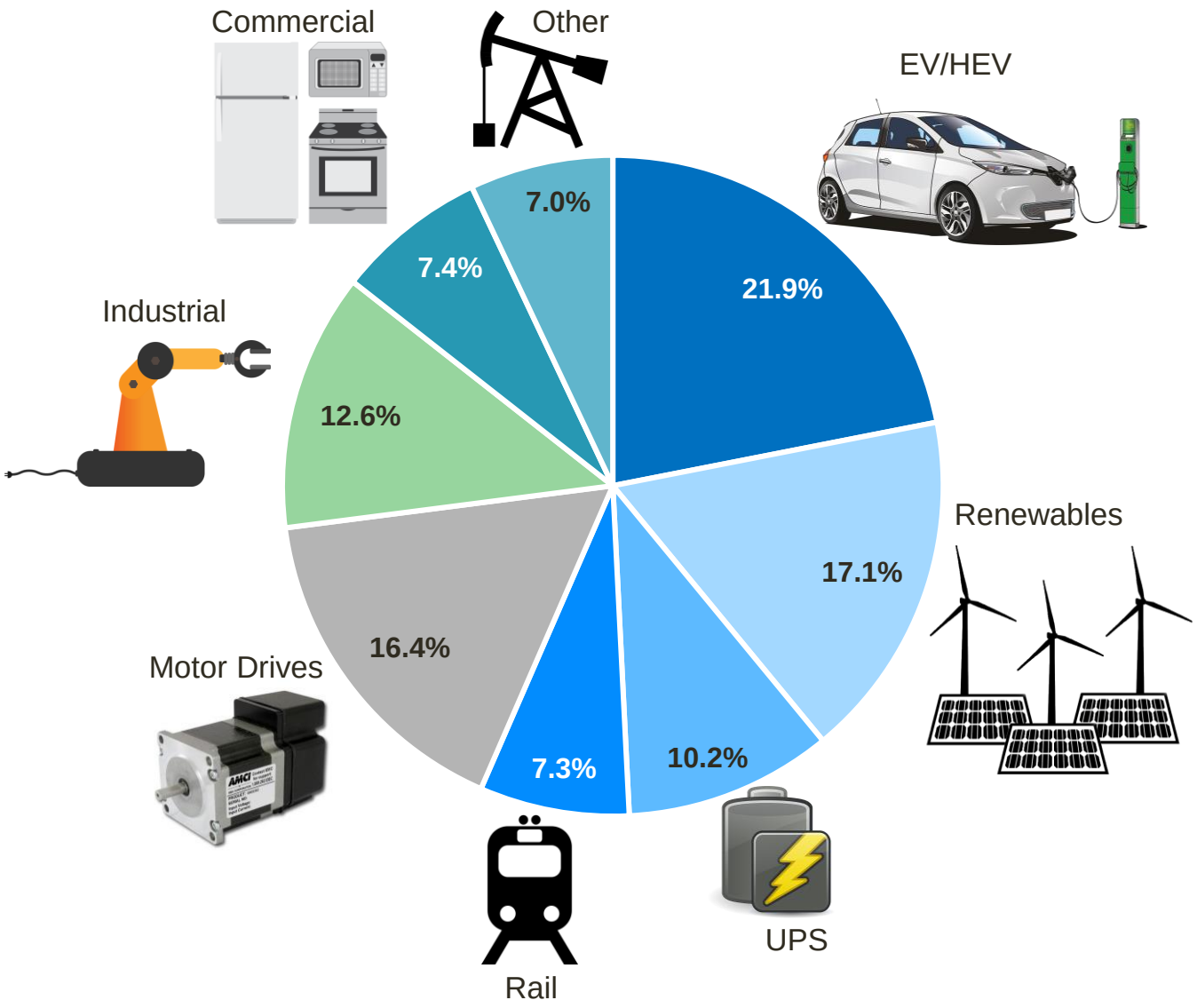
B-TRAN



1200 V bi-directional B-TRAN

Typical voltage drop = 0.2 V B-TRAN die + 0.45 V from internal resistance = 0.65 V

IGBT Market

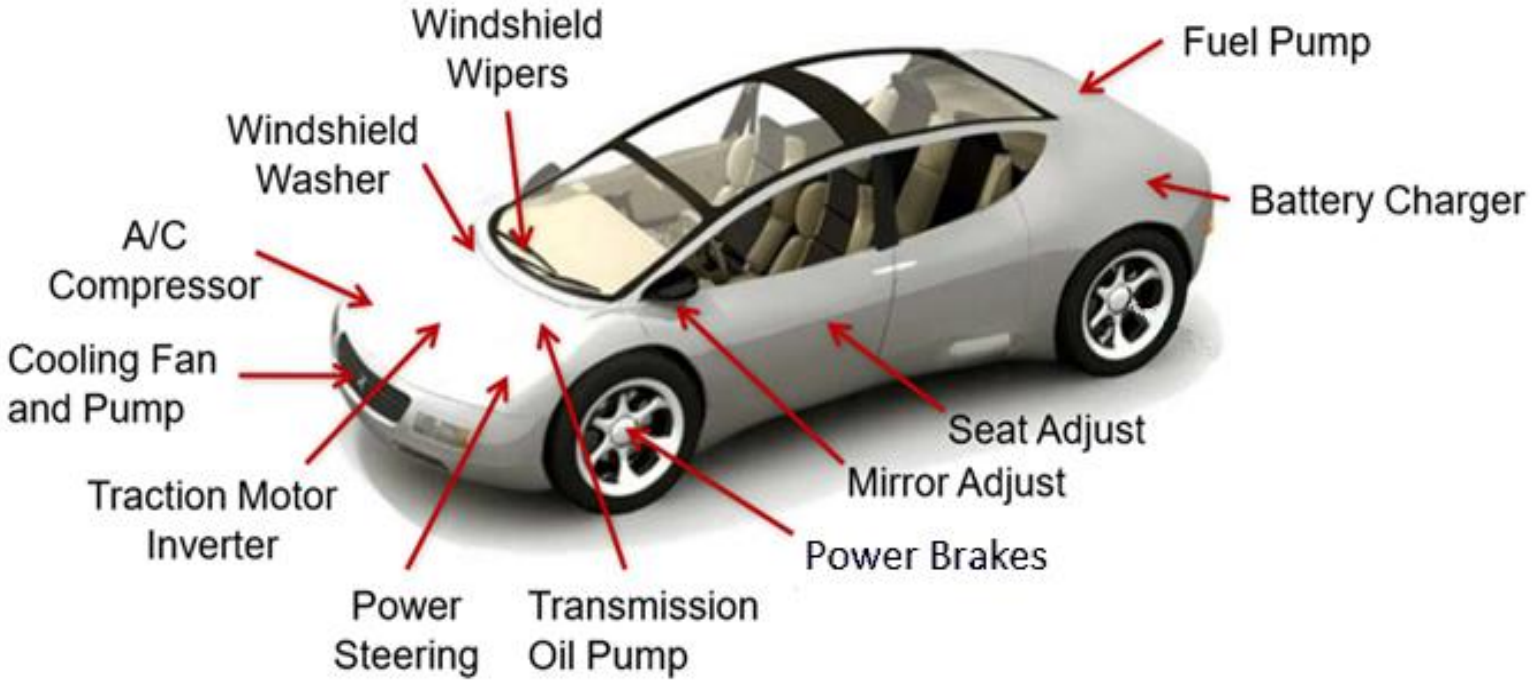


- IGBT market expected to reach $11B by 2026[1]
- 10.6% projected CAGR[1]
- EV/HEV segment to drive the growth of the IGBT market[1]

[1] *Global Insulated-Gate Bipolar Transistor (IGBT) Market (2021-2026)* by Mordor Intelligence

Electric Power Switching is Required Everywhere –

Key Addressable Market Segments



EV/HEV: $1.5B IGBT Market Segment

CAGR: 15%

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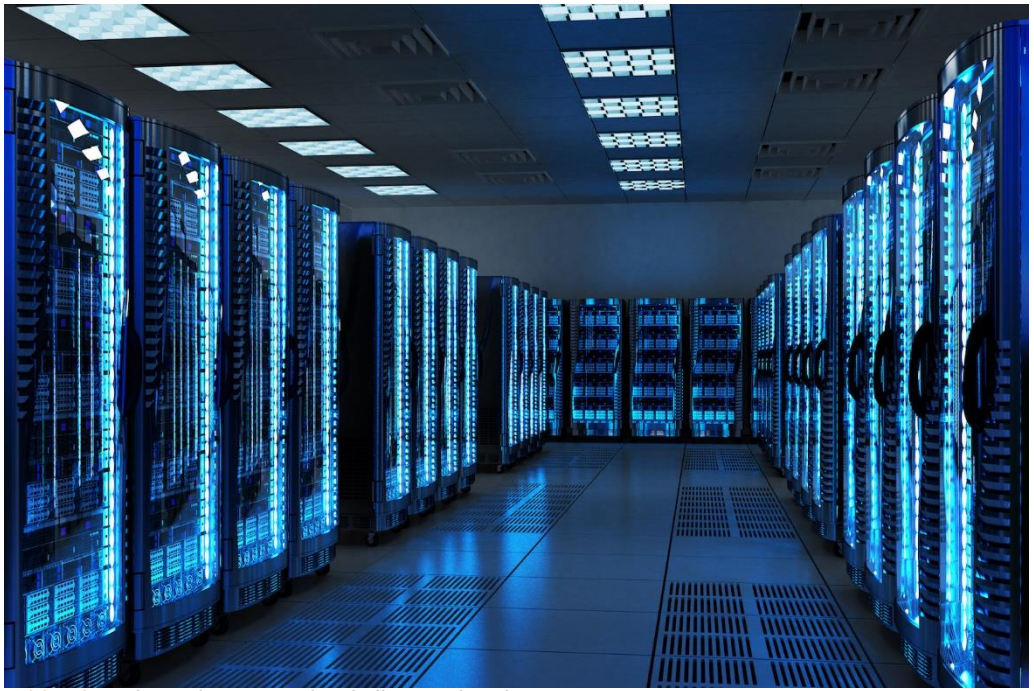
[1] *Global Insulated-Gate Bipolar Transistor (IGBT) Market – (2021-2026) and (2016-2022)* by Mordor Intelligence

Electric Power Switching is Required Everywhere –

Key Addressable Market Segments Continued

Renewable Energy:
$1.1B IGBT Market Segment
CAGR: 12%



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Data Center/Cloud Storage:
$0.5B IGBT Market Segment
CAGR: 6%

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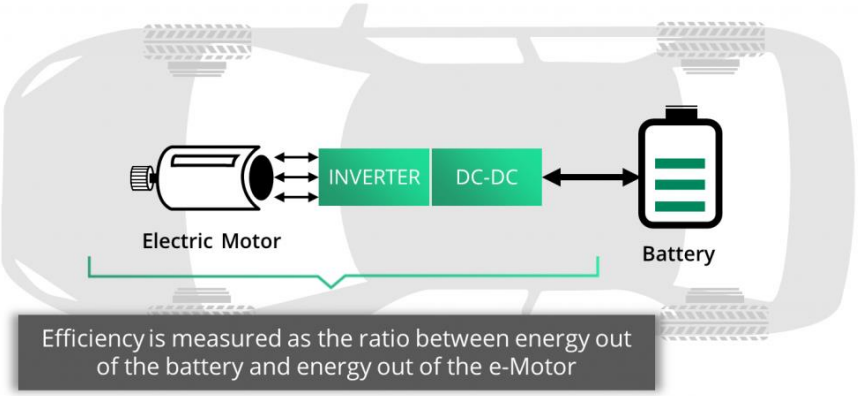
Global Insulated-Gate Bipolar Transistor (IGBT) Market (2016-2022) by Mordor Intelligence

B-TRAN™ Impact in Electric Vehicles



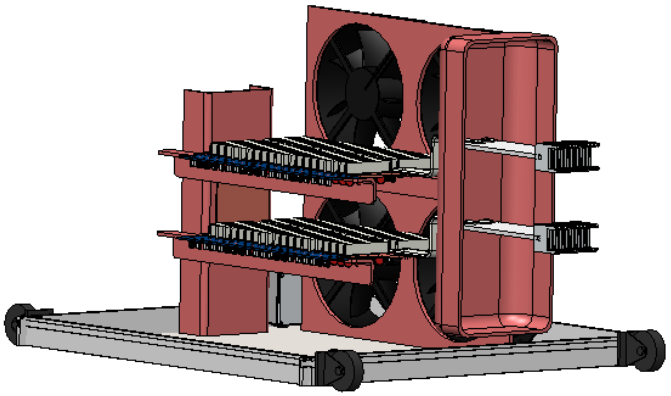
- EVs need to convert DC-AC, AC-DC, and DC-DC efficiently to improve range and performance
- Power switches are needed in the Traction Inverter, DC-DC Converter, On-Board Charger (OBC) and Circuit Protection
- The largest cost component of the drivetrain is the power semiconductor switches which make up 8-10% of the total electric vehicle production cost[1]
- B-TRAN™ reduces the number of power devices needed in bi-directional circuits from 4 to 1 while increasing EV efficiency and range by an estimated 7 to 10%[2]

B-TRAN enables new architectures and solutions to improve EV efficiency, range and performance, while lowering total system size, cost and component count

[1] IGBTs Critical to EV Cost by David Manners
[2] Company estimate extrapolated from A Novel Carrier Accumulating Structure for 1220V IGBTs without Negative Capacitance and Decreasing Breakdown-Voltage by Toyota Motor Corporation

B-TRAN™ Enabled Circuit Breakers

- Solid state circuit breakers enabled by B-TRAN™s low conduction losses
- U.S. Navy/NAVSEA funded project ($1.2M to Ideal Power) for DC circuit breaker
- Funded under DOD's Rapid Innovation Fund
- Mission critical technology for ship electrification program
- Partnered with Diversified Technologies (DTI)
- New DOE SBIR Phase 1 award with DTI for AC circuit breaker
- AC circuit breaker intended to be used in power distribution and renewable energy / microgrid connection to utility power grids



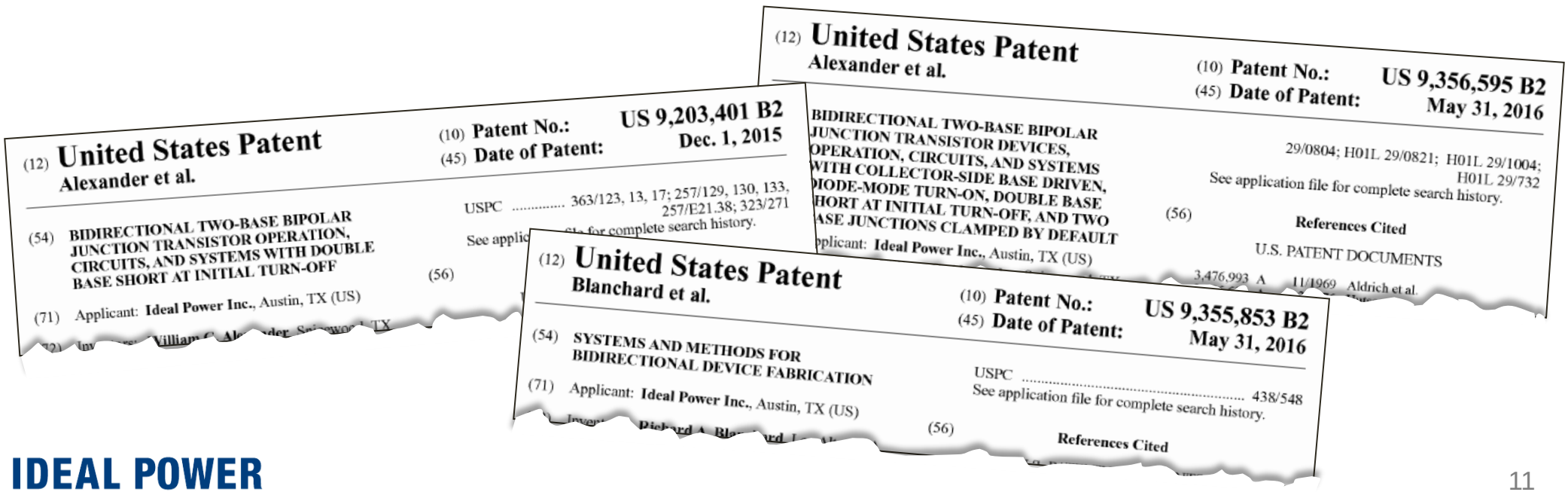
B-TRAN based MVDC solid-state circuit breaker rated at 12 kV, 500 A (6 MW)

Ideal Power's IP

Region	Issued Patents	Pending Patents
United States	38	6
Foreign	27	17
TOTAL	**65**	**23**

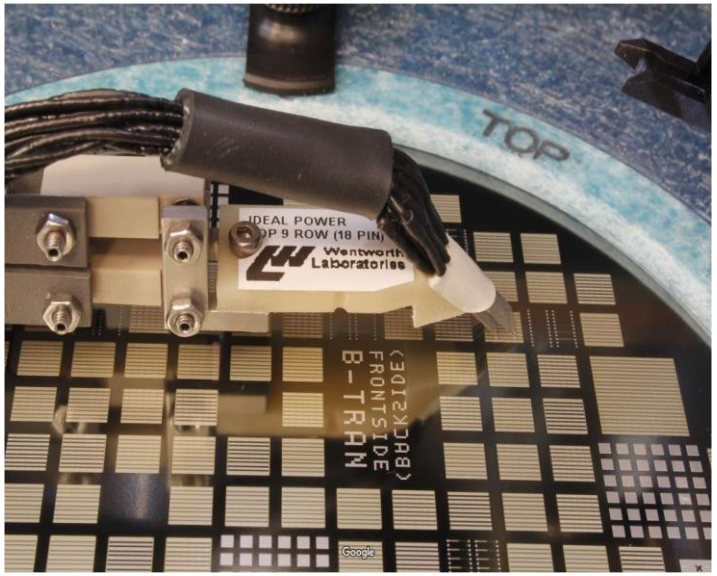
The patents cover:

- B-TRAN device architecture
- Control methodologies and techniques
- Double-sided device manufacturing techniques
- Applications specific uses of B-TRAN



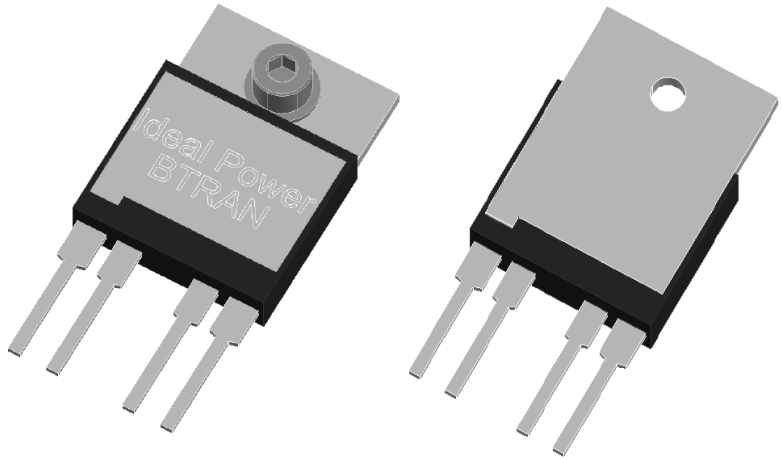
Where We Are Now

- B-TRAN™ manufactured using standard silicon processing equipment
- Driver and packaging designs completed
- Completed multiple major milestones under the NAVSEA project
- Announced collaborations for the testing and evaluation of B-TRAN™ with:
  - a top 10 global automaker
  - a top 10 global solar power conversion provider
  - an EV charging company
  - with more to be announced



What's Ahead

- Sign additional evaluation agreements for target markets
- Deliver packaged B-TRAN™s with a driver for test and evaluation program
- Receive customer feedback for intelligent module design for commercialization
- Complete qualification of second domestic fabrication partner



- NAVSEA program – Additional fabrication runs followed by demonstration of a B-TRAN™ enabled 12kV DC circuit breaker in mid-2022
- SBIR Phase I – Design, build and demonstrate B-TRAN™ driven SSCB modules

Capital Structure and Recent News

IPWR

Nasdaq Listed

Shares Outstanding[1]:	**5,872,046**
Options/Warrants[1]:	**1,496,185**
Cash Balance[1]:	**$25.7 Million**
Debt Balance[1]**:**	**$0.0 Million**
Sector:	**Industrials**
Year-End:	**December 31**

1) As of June 30, 2021

News Releases

August 3, 2021

Ideal Power Signs B-TRAN™ Test and Evaluation Agreement with Top 10 Global Provider of Power Conversion Solutions to the Solar Industry

July 27, 2021

Ideal Power Signs B-TRAN™ Sampling Agreement for Electric Vehicle Charging Application

July 20, 2021

Ideal Power to Sample B-TRAN™ Bi-Directional Power Switches with Top 10 Global Automaker

June 16, 2021

Ideal Power and Diversified Technologies, Inc. to Collaborate on B-TRAN™ Based AC Circuit Breaker Under New Department of Energy SBIR Award

May 6, 2021

Ideal Power Names Dr. Jiankang Bu Vice President of Engineering

March 4, 2021

Ideal Power Completes B-TRAN™ Driver for Customer Sampling Program