Powerex is a leading supplier of discrete, modular and integrated high power semiconductor solutions, supporting many markets, including:

- AC, DC and Servo Drives (Low and Medium Voltage)
- Aircraft
- Power Generators
- Alternative Energy and Distributed Power
- Wind
- Photovoltaic
- Hydroturbine
- Electric Vehicles
- Induction Heating
- Industrial Pump Controls
- Medical Power Supplies
  - CT
  - MRI
  - X-Ray
- Power Generation and Distribution
- Pulsed Power
- Transportation
- Propulsion and Auxiliary Power for Rail and Shipboard
- Uninterruptible Power Supplies (UPS)
- Welding
- White Goods and HVAC

Powerex and its strategic partners maintain a commitment to research and innovative product development to meet customer power semiconductor requirements, including:

- Decreased Component Size
- Reduced Costs
- Increased Energy Efficiency
- Switches that
  - Operate at Higher Frequencies
  - Are More Reliable
  - Offer Integrated Functions

This broad product line is enhanced by business units devoted to the development of:

- Custom Modules
- Customer Specific Assemblies

Powerex standard and custom products are all supported by its world-class applications engineering staff.
Optimized on-state voltage results in the lowest E_off from proven Carrier Stored Trench Gate Bipolar Transistor (CSTBT™) chip technology. The 1200V CSTBT chip utilizes an optimized vertical structure based on Light Punch-Through (LPT) technology providing the efficient high speed switching characteristics as shown in the graph below.

These devices are the industry’s fastest switching high current IGBT modules.

**Efficient**

The CSTBT chips are packaged, along with optimized free wheel diodes, in a low inductance dual package to provide high performance and simplified design in a variety of high frequency industrial inverter applications. Applications include: X-Ray machines, plasma cutters, industrial welders, and MRI amplifiers.

The optimized IGBTs provide ~60% reduction in total power loss compared to the conventional IGBT in higher frequency applications.

Other key features include:

- Excellent performance in soft switching applications (resonant modes).
- Significant improvement in power cycling capability
- RoHS Compliant
- Significantly improved power cycling performance
- High reliability
- Zero Voltage Turn-on
- Excellent performance in soft switching applications (resonant modes)
- Compact design

**Reliable**

These high frequency IGBT modules are designed to provide a simplified, cost-effective, reliable alternative to many parallel discrete MOSFETs typically used in high frequency industrial applications.

Find Out More

**Applications Support**

Do you need help to determine the optimal solution for your application?

Contact our Applications Engineering Team at HFhelp@pwrx.com.

**Powerex Tools for Rapid Design and Validation**

Powerex tools help you achieve efficient, reliable designs that go to market faster.

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- DC-to-DC converters are designed for use with high frequency IGBTs.
- Gate Drivers and Gate Development Kits provide rapid prototyping and quick design validation.

**Optimized**

**Efficient**

**Reliable**