

## **Press Release**

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### **IXYS Introduces New 4.5kV Press-Pack IGBT with Record Current Rating and Record Power Density**

Leiden, Netherlands and Chippenham, UK, May 16, 2017 — IXYS Corporation (NASDAQ:IXYS) an international power and IC semiconductor company, today announced that its wholly owned UK subsidiary, IXYS UK Westcode Ltd., launched a new 4.5kV press-pack IGBT. The new asymmetric blocking device with a continuous DC rating of 2.8kV has a record breaking DC current rating of 3000A and repetitive peak collector current of 6000A.

The new 4.5kV device incorporates proven IGBT technology and is constructed using the IXYS proprietary integration technology at a larger scale than the current state of the art. It has a record current rating of 2400A at the same 4.5kV blocking voltage. The unique IGBT die design enables the encapsulation and integration in a fully hermetic package known as a 'hockey puck'. The package is 26mm thick with a 132mm electrode diameter, larger than the established 2400A device, but maintains the same 170mm overall diameter as the lower power design. This gives an effective 25% more current rating in the same package envelope, and achieves the record-setting power density.

The robust internal construction is 'die attach free', with the dies directly pressure contacted through metallic contacts and external copper electrodes. The direct bond free contact ensures highest reliability and unrivalled thermal cycling properties, far exceeding those of conventionally packaged plastic power modules. The package design is based on IXYS UK's well-established and proven technology, with the same advantages of hermeticity, enhanced ruggedness, explosion proof, and double side cooling. These IGBTs are rugged to more than ten times the short circuit energy of conventional plastic packaged modules. These unique properties make the new device an ideal solution where high reliability, maximum power density, and stability are important even after a failure.

In particular, the short circuit failure mode makes these devices the obvious choice for applications requiring series operation. Such is the case in utilities, HVDC, and very large medium voltage drives. The unrivalled current rating can also reduce the number of parallel paths required in very high current applications in the multi-megawatt range. The devices are also well suited to harsh environments and where maintenance access is difficult such as offshore marine and wind. The hermetic structure and high rupture resistance are properties that are particularly relevant in harsh environments where explosive failures and plasma leaks are unacceptable, such as mining, gas and oil instillations.

To facilitate the application of this new higher rated press-pack IGBT, IXYS UK Westcode has also launched a new complementary diode in its range of very high di/dt HP Sonic FRDs. This new diode is constructed using a new die bonding technology to maximise reliability. Packaged in an

85mm electrode 26mm thick package, the diode is pressure compatible with the press-pack IGBT so it can be mounted in the same series string for compact three level inverter configurations.

“This new device is only possible due to IXYS UK’s long experience in manufacturing and deep understanding of the principles of very large press-pack IGBTs with multiple parallel die and the evolving improvements in design achieved with this knowledge. IXYS believe this new device, at 6000A, to be the highest genuine current rating press-pack IGBT available today on the open market, which breaks completely new ground in the power handling capacity of a single device,” commented Frank Wakeman, IXYS UK’s Marketing and Technical Support Manager.

The part number designation for this reverse conduction press-pack IGBT is T2960GB45E and the compatible HP sonic FRD is part number E3000TC45E.

Typical applications include: utilities and HVDC applications, flexible AC transition systems, HVDC transition, statcoms, VSC SVC etc., medium voltage AC drives for harsh environments and ultra-high power, such as mining, marine and off shore, gas and oil installations, renewable energy for wind turbines, hydro generation, wave-generation and solar, plus any application where high power density and reliability are key considerations.

For data sheets please go to the IXYS UK website at [www.ixysuk.com](http://www.ixysuk.com) or please contact us at (email: [sales@ixysuk.com](mailto:sales@ixysuk.com)) or telephone: +44 (0)1249 444524 for quotation.

### **About IXYS UK**

Located in Chippenham, England, IXYS UK Westcode Ltd is the IXYS leading manufacturing site for very high power thyristors, SCRs and rectifiers ranging up to 7200 Volts and 15,000 Amps. IXYS UK continues to supply high technology components for a wide range of applications such as wind and solar energy, welding, AC and DC motor drives for oil, marine and water treatment facilities, uninterruptible power supplies, motor soft starters, transportation, induction heating, mining equipment and many other industrial applications.

### **About IXYS Corporation**

Since its founding, IXYS Corporation has been developing power semiconductors and mixed signal ICs to improve power conversion efficiency, generate solar and wind power and provide efficient motor control for industrial applications. IXYS, and its subsidiary companies, offer a diversified product base that addresses worldwide needs for power control in the growing cleantech industries, renewable energy markets, telecommunications, medical devices, transportation applications, flexible displays and RF power.

### **Safe Harbor Statement**

Any statements contained in this press release that are not statements of historical fact, including the performance, features and suitability of products for various applications, may be deemed to be forward-looking statements. There are a number of important factors that could cause the results of IXYS to differ materially from those indicated by these forward-looking statements, including, among others, risks detailed from time to time in the Company's SEC reports, including its Form 10-Q for the fiscal quarter ended December 31, 2016. The Company undertakes no obligation to publicly release the results of any revisions to these forward-looking statements.