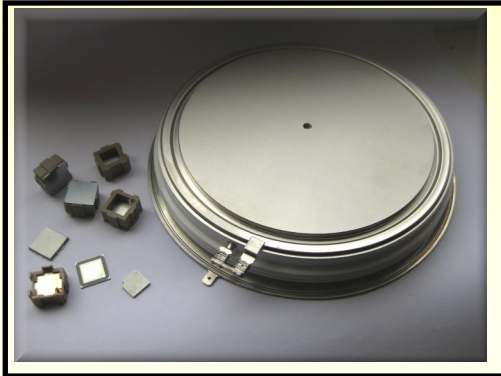


Press Release

16th May 2017



IXYS UK Westcode introduces a new 3kA, 4.5kV press-pack IGBT



IXYS UK Westcode Ltd. announces the launch of 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. IXYS believe this new device to be the highest genuine current rating press-pack IGBT available today on the open market, breaking new ground in power handling capacity of a single device. The 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.

The new 4.5kV devices incorporate proven SPT plus die technology and are constructed using fifty two parallel connected IGBT die, 10 more than the largest established part with current rating of 2400A at the same 4.5kV blocking voltage. Each die is 14.3 mm square with an active area of approximately one centimetre squared. The new device is encapsulated in fully hermetic 26mm thick with a 132mm electrode diameter, larger than the established 2400A device, but maintain the same 170mm overall diameter as the forty two die design; This gives an effective 25% more current rating in the same package envelope

The robust internal construction is bond free with the individual die directly pressure contacted through metallic pressure plates to the external copper electrodes. The direct bond free contact ensures highest reliability and unrivalled thermal cycling properties, far exceeding those of a conventionally packaged plastic package module. Package design is based on IXYS UK's well established and proven technology, with the same advantages of enhanced rupture capability, resisting more than ten times the short circuit energy of a conventional plastic packaged module device and the additional advantage that the device is virtually guaranteed to fail to a stable short circuit. These unique properties make the new device an ideal solution where high reliability, maximum power density and predictable failure are important.

In particular the short circuit failure mode makes these devices the obvious choice for applications requiring series operation, such as 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 megawatts range. In the general case the devices are also well suited to harsh environments and where maintenance access is difficult such as off-shore marine and wind. The hermetic structure and high rupture resistance are properties which are particularly relevant in harsh environments where explosive failure and plasma leak are unacceptable, such as mining, gas and oil installations.

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.

Part number designations for this reverse conduction press-pack IGBT is T2960BB45E & the compatible HP sonic FRD is part number E3000EC45E.

Typical applications for these devices include: Utilities and HVDC applications like, 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 more information, please contact IXYS

UK Westcode Ltd

Author—Mr. Frank Wakeman

E-mail—f.wakeman@ixysuk.com



Langley Park Way

Chippenham, SN15 1GE, United Kingdom

Tel: +44 (0)1249 444524 Fax: +44 (0)1249 659448

E-mail: sales@ixysuk.net

www.ixysuk.com