

P R E S S R E L E A S E

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New 2.8kV Asymmetric thyristors



Westcode Semiconductors Limited (An IXYS company) announces the launch of two new 2.8kV Asymmetric thyristors. These new fast thyristors represent a new silicon technology development, employing advanced process technology and novel device design. This advanced asymmetric structure offers an improved combination of on-state voltage and turn-off time for this voltage class, which results in better energy efficiency than symmetrical structured devices.

This new development continues IXYS' strategy and commitment to meeting the growing demand for more efficient power semiconductors, minimising losses at every opportunity is becoming vital for many users, particularly in light of ever increasing energy costs.

The devices are available in three V_{DRM} ratings, 2.8kV, 2.5kV and 2kV, for all devices V_{RRM} is limited to 10 volts. The larger device has RMS current rating of 2555A; identified by part numbers A1237NC280, A1237NC250 and A1237NC200. The smaller device has RMS current rating of 1040A; identified by part numbers A0516YC280, A0516YC250 and A0516YC200. All are encapsulated in fully hermetic, ceramic walled packages, the A1237NC device is dimensioned 26mm thick with a 47mm diameter copper pole face, the A0516YC device is 14.5mm thick with a 25mm diameter copper pole face.

The new design uses our advanced thyristor technology with an asymmetric vertical structure, optimising the forward voltage drop against the turn-off time at the cost of the symmetrical blocking characteristic. For example, the A1237NC device has an on-state voltage of 2.1V at 2000A with a typical turn-off time of 25 μ s. This presents unrivalled switching speed for the current rating and voltage class. The low losses of the new device offer the opportunity to design more energy efficient power control systems.

Typical applications include voltage fed induction heating power supplies operating at frequencies up to 20kHz. In resonant converters with nominal 1.2kV line voltages, where two lower voltage devices would typically be operated in series to achieve required switching speed and voltage, a single device can be used. Thus reducing cost and circuit complexity. In applications that already include an anti-parallel diode, the new thyristor can be substituted without modification to the circuit configuration to gain the benefits of its reduced on-state voltage and faster turn-off time.

Other applications include the replacement of obsolete technology, for example devices in thyristor traction converters for locomotive main drives. Extending the life of existing equipment and reducing the impact on the environment implicit in new build replacement.

For data sheets please visit the Westcode website at www.westcode.com or contact us at (email: WSL.sales@westcode.com) or telephone: +44 (0)1249 444524 for quotation.

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