

IXYS UK Westcode introduces a new 1.6kV distributed gate thyristor



IXYS UK Westcode Ltd. announces a new pressure contact distributed gate thyristor with increased power density. This new fast thyristor with turn-off time of as little as 20 μ s and current rating 1955A, is symmetrical blocking with V_{drm}/V_{rrm} equal to 1600V and therefore suitable for both voltage and current fed applications.

The device offers higher current, while retaining the same turn-off time, when compared to other parts in the same footprint package size. This new improved designs has average current rating of 1955A at a heat sink temperature of 55°C, representing up to a 35% increase when compared to older designs in the IXYS UK product portfolio. The improvement in performance is achieved by maximising the die size and improved distributed gate geometry. The 56mm silicon die are bonded to a metal disc and encapsulated in fully hermetic 50mm electrode contact diameter ceramic packages, with an industry standard overall diameter of 74mm. Provided the correct thermal conditions are observed, with a repetitive di/dt rating of 1000A/ μ s the device can be used in applications with repetitive frequency up to 25kHz.

The larger die sizes and higher current rating offer more flexibility in customising the parts to meet the needs of customer specific applications. The increase in current rating can be traded in adapting the turn-off characteristic to give faster turn-off even than the standard offering of 20 μ s or tailoring the reverse recovery for series operation.

The full symmetrical blocking device is available in three different switching classes at two standard voltage grades, part number designations are as follows: 1600 volt parts are R1955MC16D with tq 20 microseconds, R1955MC16E with tq 25 microseconds and R1955MC16F with tq 30 microseconds; 1400V parts are R1955MC14D with tq 20 microseconds, R1955MC14E with tq 25 microseconds and R1955MC14F with tq 30 microseconds..

Typical applications for this device include: Induction power supplies for melting, billet heating and surface treatments; as well as resonant power supplies and pulse switches for applications including high power magnets and lasers.

For more information, please contact IXYS

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