



High Performance DT-Triac™ Technology Platform

HIGH VOLTAGE & CURRENT DT-TRIAC™

May 2014

Overview:

IXYS Corporation (NASDAQ: IXYS), a leader in power semiconductors and integrated circuits technologies for energy efficient products used in power conversion and motor control applications, announces today the extension of its Triac-family for AC-Control applications.

This new IXYS Triac design is the combination of two IXYS Thyristors technologies. Instead of using two back to back thyristors with two separated gates IXYS uses its proprietary Anode Gated Thyristor ("AGT") technology to integrate an AC-Controllers with two complementing thyristors. The two gates of said AGT and its complementary thyristor are connected together as one lead.

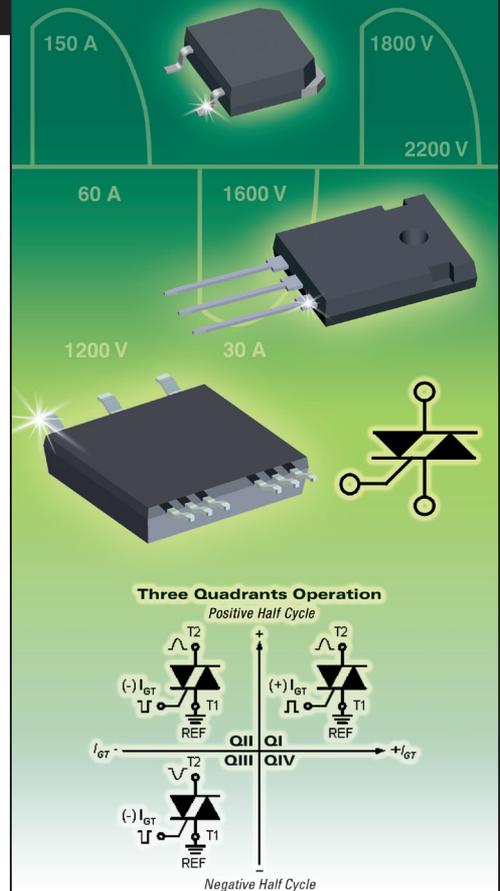
This integrated Triac design offers superior performance to prior art standard Triacs, thus expanding the applications of this IXYS Triac in more power control designs.

Most obvious impact is the change of the AC-Controller application from a four-terminal-device to one with three terminal, namely with one gate terminal, thus reducing the components count for the gate drivers. Less components, mean lower cost, smaller size and more reliable.

In terms of reliability this complementary two-die-solution is much more rugged then the standard Triac versions, with higher dv/dt and di/dt ratings, which can reduce the need for external snubber or protection components. Furthermore, higher voltage class of Triacs can be produced with higher current ratings. While single-die Triacs are typically limited to a voltages of 600-1000 volts and the current capability hardly exceeds 25 amps. This new class of IXYS Triacs, allow voltage classes up to 2200 volts and several hundred amps.

Higher voltage and higher current ratings, allow the designers to add AC power control, with one universal designs for the worldwide line voltage applications.

The IXYS new Triac family offers several new products that give to the designers more options, more flexibility, higher performance, with less components and lower cost.



Features

- Triac for line frequency
- Three Quadrants Operation: QI - QIII
- Planar passivated chip
- Long-term stability of blocking currents and voltages
- Voltage range: 800-2200 V
- Current range: 10-700 A

Applications

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control

Products	V _{R/D} / V	I _{T(RMS)} / A	Package
CLA60MT1200NHB\TZ	1200	60	T0-247\D3Pak-HV
CLA60MT1200NHR	1200	60	ISO247
CLA60MU1200NHR	1200	60	SMPD
CMA60MT1600NHR	1600	60	ISO247
CLA40MT1200NPB\PZ	1200	40	T0-220\D2Pak-HV
CLA30MT1200NPB\PZ	1200	30	T0-220\D2Pak-HV
MCMA700P1600NCA	1600	700	ComPack

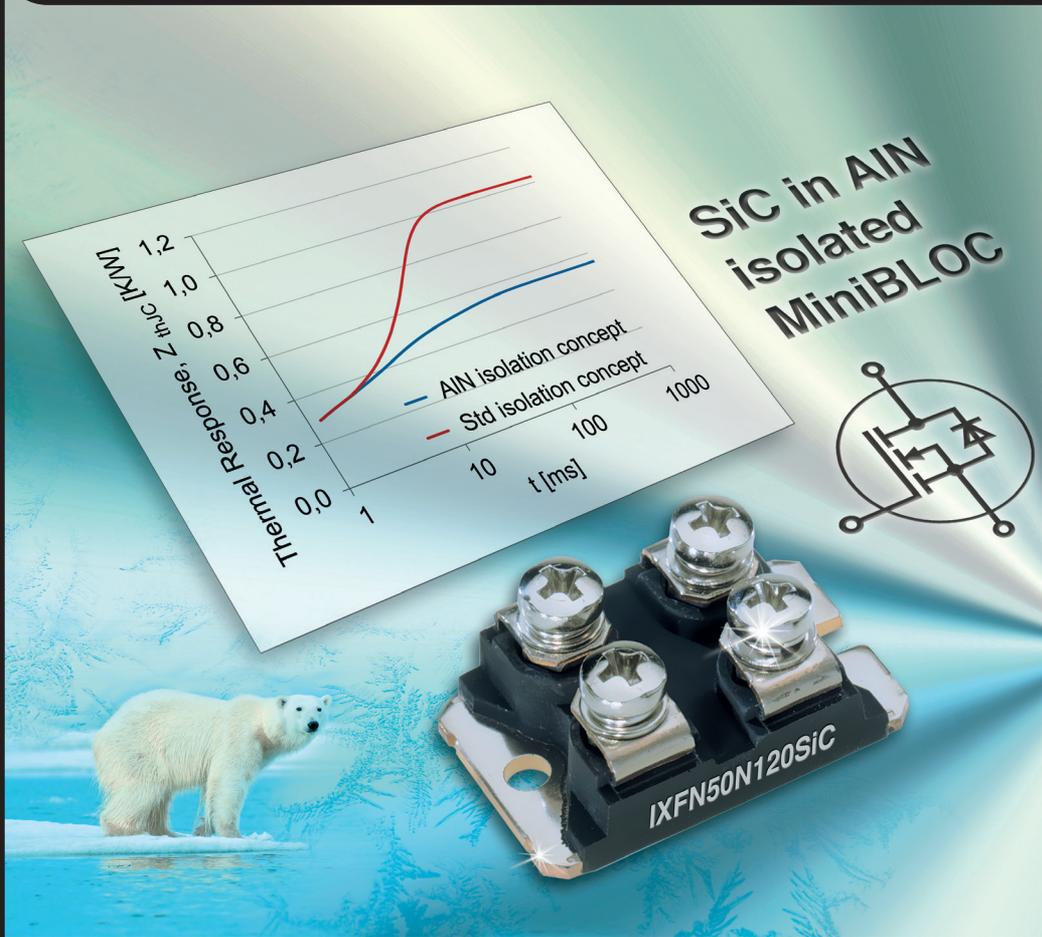




IXYS offers SiC MOSFET in MiniBLOC package

THE "COOL" SOLUTION!

May 2014



Overview:

SiC is known as a semiconductor material offering very fast switching, very low switching and conduction losses and increased power density. These features can be used achieving smaller and more efficient converters following the trend to higher bus voltages. Examples among others are high efficient DC-DC converters, solar inverters, UPS systems or rapid-charger solutions.

IXYS meets this market demand by offering IXFN50N120SiC a 40 mΩ N channel enhancement SiC Mosfet (normally off) with 1200V blocking voltage in MiniBLOC (SOT-227) package featuring 3kV isolation to heat sink and an low thermal impedance. This "cool" solution is based on unique thermal design high thermal conductivity AlN ceramic isolation. Further features are very low gate charge for easy drive, a fast body diode, low input and output capacities and a positive temperature coefficient facilitating paralleling for higher power.

Features

- SiC MOSFET
- V_{DSS} : 1200 V
- $R_{DS(ON)}$: 40 mΩ
- I_{D25} : 47 A
- Very fast switching speed
- Possible to parallel for more power

Applications

- SMPS
- High frequency inverter
- Inductive welding
- Inductive hardening
- Solar inverters

Package

- MiniBLOC (SOT-227B)
- UL recognized
- 3000 V AC isolation voltage
- Aluminum nitride isolation for optimized thermal performance
- Advanced power cycling