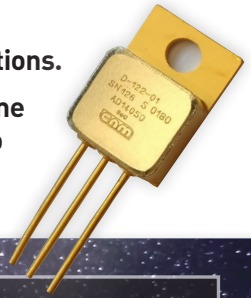
SILICON CARBIDE DIODES

SiC Power Diodes facilitate and improve the consumption efficiency in a wide variety of applications.

We have developed specific parts on SiC technology providing a consolidate solution for extreme temperature / power application as the Schottky diodes for the Solar Orbiter and BepiColombo solar panels.



SiC Properties

- high hardness
- high thermal consistency
- very good resistance at high temperatures
- low thermal expansion
- electrical conductivity
- is a semiconductor
- non linear electrical resistance

Other applications of SiC in Harsh environment

- **OIL AND GAS**. More efficient motors that perform in hotter, harsher environments to enhance oil recovery
- **HYBRID VEHICLES**. 10% longer driving range (e.g., additional 40 miles on car averaging 400 miles on a tank)
- **MEDICAL IMAGING**. Smaller, more efficient systems to lower the cost of healthcare, free up valuable hospital floor space
- **DATA CENTERS**. → 5% energy savings for fastest growing segment of electricity consumption
- **AIRPLANES**. Reduce weigh by 1,000 lbs. with more compact, high efficiency power systems
- **RENEWABLES**. More clean energy, 50% reduction in wasted power

Capabilities

D+T Microelectrónica, A.I.E. exploits the IMB-CNM (CSIC) Integrated Micro and Nanofabrication Clean Room.
Capacities: • MEMS/NEMS • Smart Micro-Nano Systems • Chemical, biological, mechanical, or radiation sensors • Power devices

ALTER TECHNOLOGY provides specific assembly and testing capabilities for very extreme temperature application including: • Packaging and custom assembly techniques • Full reliability and testing capabilities including constructional, mechanical, thermal, radiation and endurance test including performance validation from -190ºC to +400ºC.

D+T Microelectrónica, A.I.E.

CSIC Consejo Superior de Investigaciones Científicas

CNM Centro Nacional de Microelectrónica IMB

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