



SILICON CARBIDE (SiC)

SiC Technology for
KIEPE Auxiliary Power Converters

HIGHER POWER DENSITY. LESS SPACE REQUIRED.

Silicon carbide enables a new generation of compact power electronics for light rail vehicles. Lower losses and higher switching frequencies allow auxiliary power converters to achieve greater efficiency while significantly reducing weight and volume.



LESS WEIGHT & VOLUME

More compact power electronics create additional flexibility for vehicle integration.



HIGHER EFFICIENCY

Lower electrical losses reduce energy consumption and heat generation.



HIGHER SWITCHING FREQUENCIES

Enable more compact magnetic components and support a simplified system design.

Why SiC?

SiC MOSFETs combine high switching speeds with low losses. KIEPE uses these properties not only to replace individual power semiconductors, but to enable a more compact design of the entire power electronics system.



More Flexibility for Vehicle Design

For OEMs

- **More compact integration**
Reduced space requirements make it easier to integrate electrical systems into increasingly complex vehicle architectures.
- **Targeted weight reduction**
Lower weight of the electrical equipment creates greater flexibility for the overall vehicle design.

For transport operators

- **Efficient operation**
Lower losses reduce operating costs and the CO₂ footprint.
- **Reduced thermal load**
More efficient power electronics reduce the heat generated within the system.
- **Greater passenger comfort**
Higher switching frequencies significantly reduce audible noise.

More than a SiC module

From power electronics to an integrated auxiliary power solution



KIEPE combines expertise in power electronics with comprehensive system competence for rail vehicles. Our experience ranges from the development and design of power electronics to control and diagnostics, as well as the integration of converters into the vehicle.

