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FORCE BY AN HV COMPONENT

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Technical task:
The object of the technical innovation describes the use of several supports in an HV component in order to be able to pass the force through this component.

Initial situation:
Components of a power electronics system are generally protected only by external protective measures. These external protective measures are complex because they must be carried out very massively. In this case, a kind of bridge has to be represented over the component, since in most cases no force can be absorbed in the center.

Solution:
The technical innovation lies in the realization of a protective measure for components of a power electronics without external components.
The power electronics is located on an E-machine (for example, in the rear vehicle) in an area hit during a crash. In this arrangement, supports are used which can guide the force arriving in a crash through the component. Further, these supports can also be used to secure the power modules to the base plate (e.g., screws). In addition, the positioning of the components relative to one another can also be realized with these supports. When e.g. the gate driver board on the powermodules e.g. pressfit, accurate positioning is required. A graduation of the supports can be used to display several levels for the various components. By direct connection to the cooling channel of the power modules, a resulting loss line of the boards accommodated on the columns can also be dissipated via the supports.

Advantages:
- No external components are required and the supports can also be used for other functions, e.g. as a screw, for positioning, as a spacer, etc. Thus, a function integration is possible and possible further measures can be imaged in a lid variant.

Possible application:
- Protective measures for components of power electronics in motor vehicles.

Technical innovation

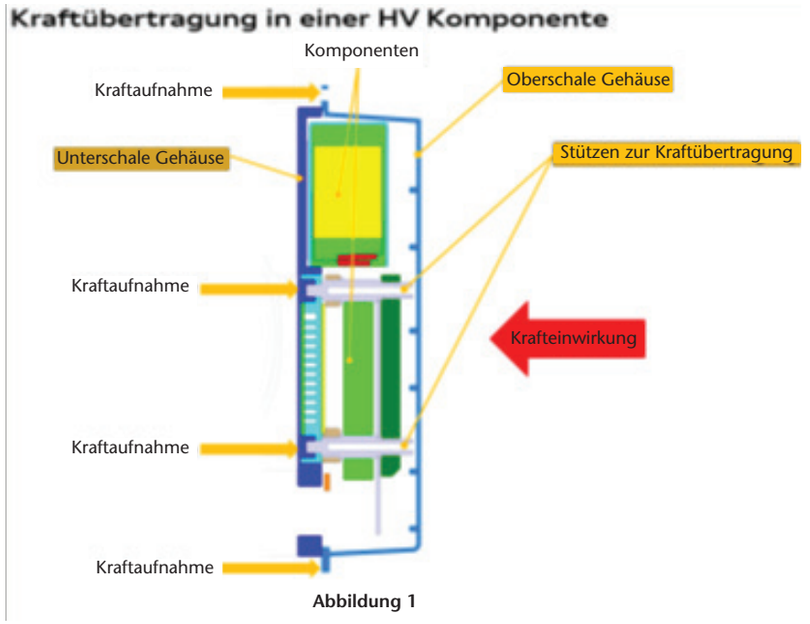

Abbildung 1

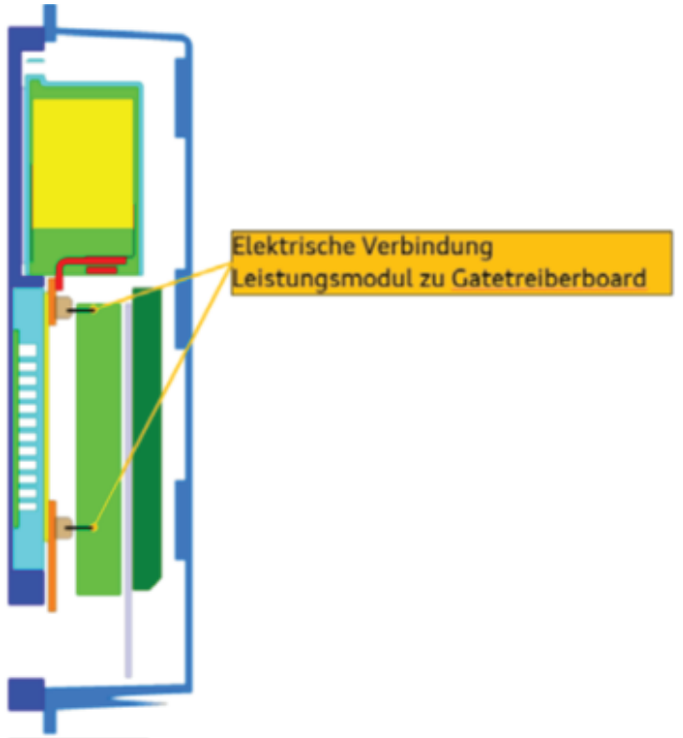

Abbildung 2

Technical innovation

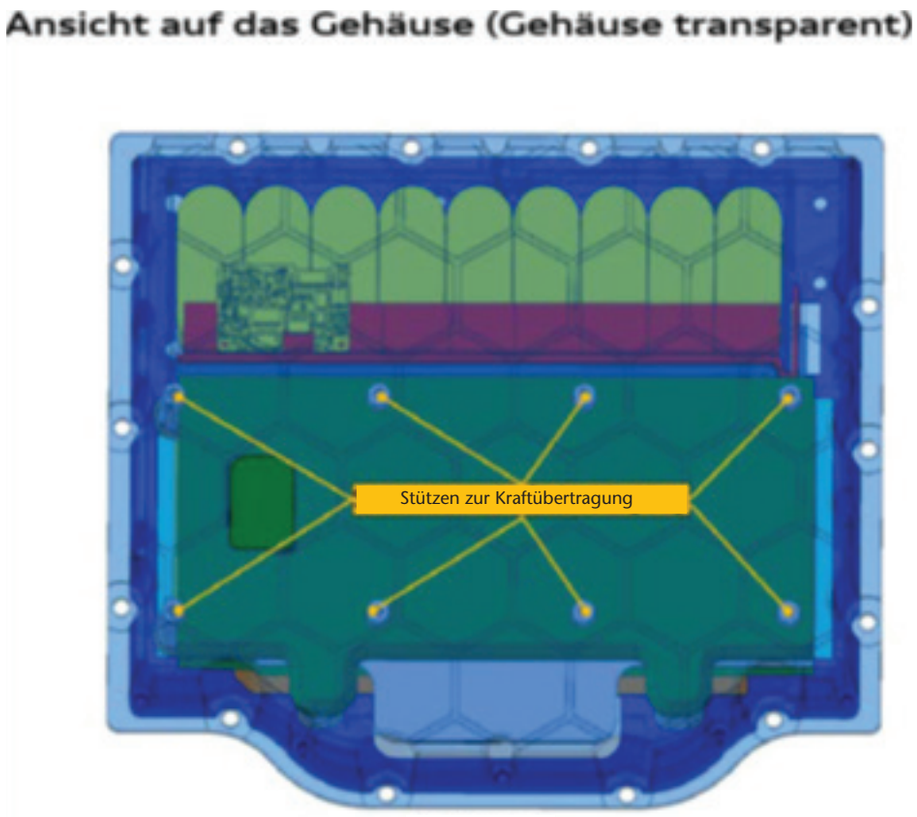

Abbildung 1