

## B8 Series

### Power Module for Hybrid- and Electric Vehicles

SME's B8 is an automotive qualified power module designed for Hybrid- and Electric Vehicle applications from a power range up to 180kW continuous power. Designed for a 150°C junction operation temperature, the module accommodates a 3-phase Six-Pack configuration of Trench-Field-Stop IGBT3 and matching emitter controlled diodes. Maximum chip ratings are 600A/1200V. The B8 power module is based on Infineon's leading IGBT Trench- Field-Stop Technology, which offers lowest conduction and switching losses. The B8 power module is built on SME's 10 years long time experience in the development of IGBT power modules, intense research efforts of new material combinations and assembly technologies. Based on the usage of modern power semiconductor chips, SME has developed - dedicated for B8 power module as a part of the Hybrid package family for automotive applications. The B8 comes with a Pin-Fin baseplate for direct liquid cooling which significantly improves the thermal cycles capability and extends the lifetime of the power module. The Pin-Fin baseplate with its excellent cooling properties enables a very high power density of the B8 package. The high-performance ceramic substrate (DCB) and SME's enhanced wire-bonding process provides unparalleled thermal and power cycling capability leading to highest reliability for xEV inverter applications. For a compact design the driver stage PCB can be connected on the top of the module. All power connections are realized with screw terminals. All modules from the Hybrid package family are dedicated for automotive applications with highest power density and efficiency. Built in accordance with SME's automotive excellence program, this fully automotive qualified B8 sets the quality and reliability standards for power modules in hybrid and electric vehicles.

| Sales Name       | ICN[A] | Vces[V] | Package | Product Status |
|------------------|--------|---------|---------|----------------|
| GTM600FF65B8S    | 600    | 650     | B8      | In Production  |
| GTM800FF65B8S    | 800    | 650     | B8      | In Production  |
| GTM800FF65B8SAN  | 800    | 650     | B8      | In Production  |
| GTI400FF120B8S   | 400    | 1200    | B8      | In Production  |
| GTI400FF120B8SAN | 400    | 1200    | B8      | In Production  |
| GTS600FF120B8S   | 600    | 1200    | B8      | In Production  |
| GTS600FF120B8SAN | 600    | 1200    | B8      | In Production  |

### Applications

- Motor and/or generator inverter for Hybrid- and Electric Vehicles and Range Extenders (up to 180kW continuous)
- Rugged ceramic substrate for automotive applications

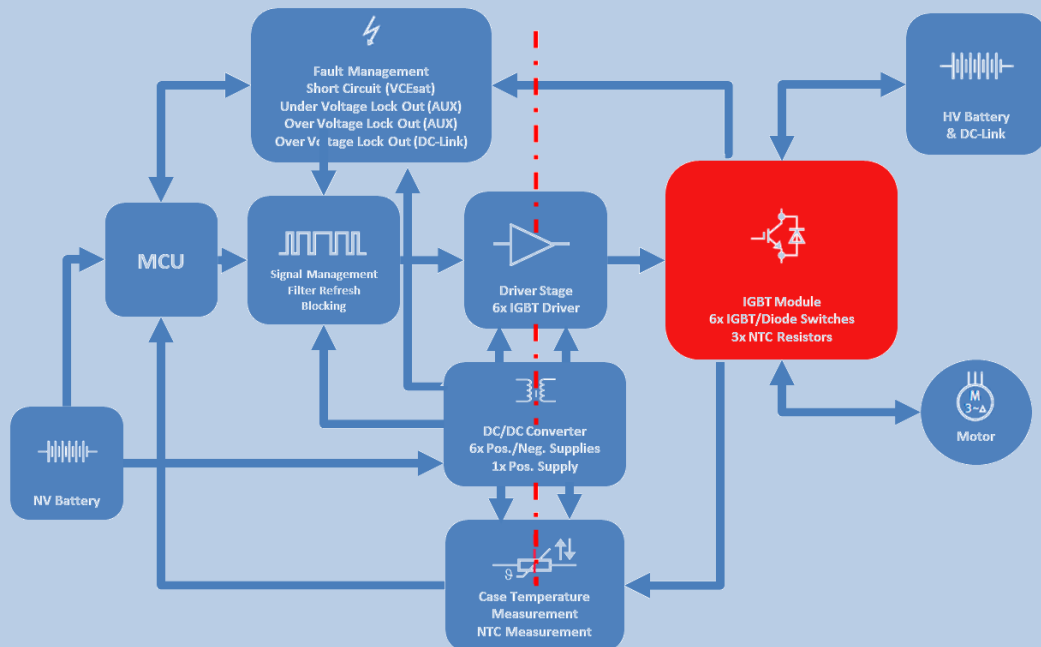
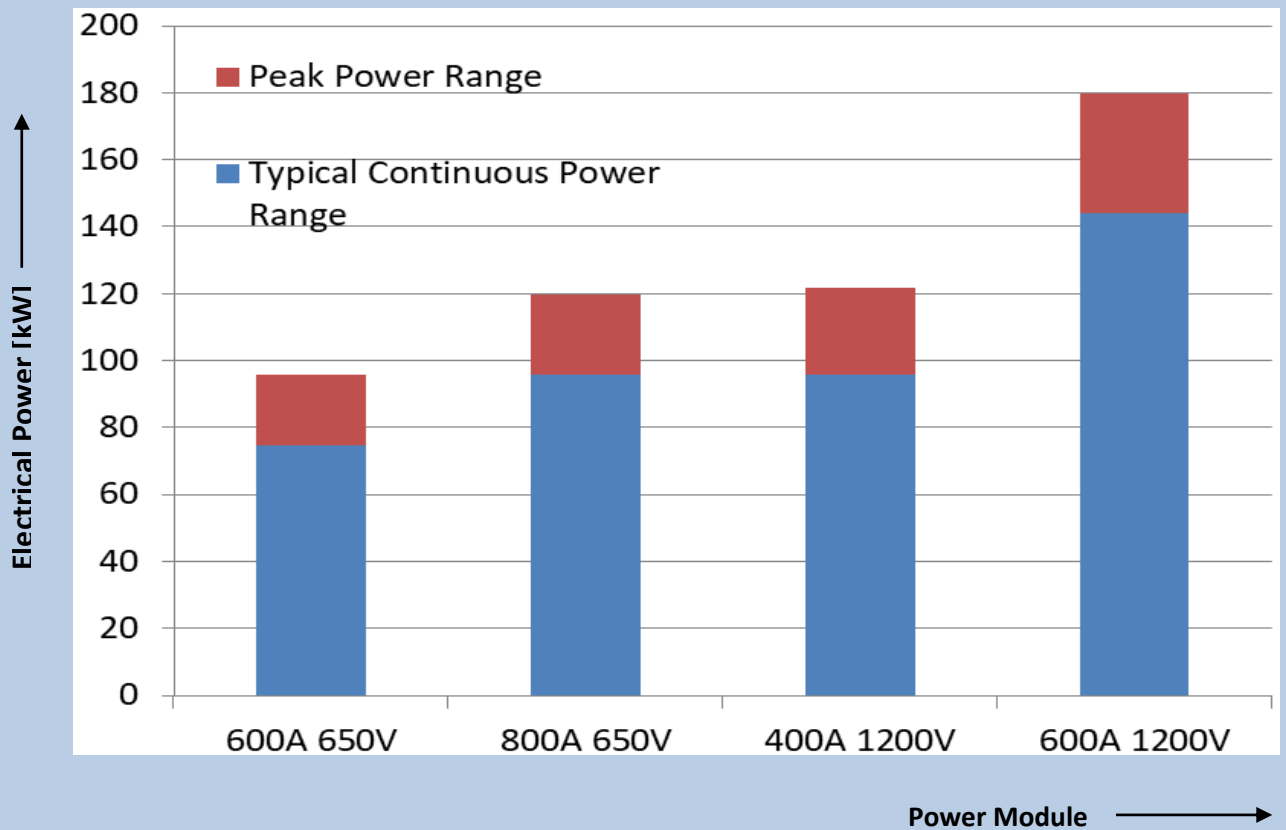
### Key Features

- Complete 3-phase six pack with NTC
- 650V Trench-Field-Stop IGBT3 with matching emitter controlled diode
- Extended temperature range
  - Tjop = 150°C
  - Tjmax = 175°C
- Current rating up to 800A DC
- Rugged AlN or ZrO2 ceramic for automotive applications
- Pin-Fin baseplate for direct cooling
- Fully automotive qualified

### Benefits

- Cost efficient system approach
- High efficiency due to low power losses
- High reliability
- Compact design
- B8 reference design Available
- Very high power density

## B8 Family Power Range Comparison



### Application Note

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