

# SBE Vertically Integrated Inverter Topology



## Offering:

- Integration of the capacitor and bus
- Shared cooling for highest performance (capacitor, bus structure and IGBT)
- Direct cooling of the bus structure
- Lowest possible ESL (Equivalent Series Inductance) presented at the IGBT inputs - less than 20 nH
- DC and IGBT terminal configuration optimizing capacitor effectiveness
  - Isolating the battery from ripple current
  - Getting uniform current distribution in the capacitor
- Smaller volume and lower weight (higher power density)
- Reduced cost without sacrificing reliability
- Market ready for transportation, alternative energy, distribution
- Scalable to higher power levels
- Fast turn-around time

**Ratings:** Designed for 600V 100kW inverter

## Components:

- **SBE low inductance film capacitors integrated with the bus structure**
  - Total capacitance: 600  $\mu\text{F}$  at 600V or 950  $\mu\text{F}$  at 450V
  - Up to 300 A ripple current rating with appropriate thermal conditions
  - < 10 nH ESL
  - 200 Micro-Ohm ESR
- **Low inductance laminated bus**
  - UL Certified
  - Low inductance
  - High temperature laminated insulation
- **Cooling plate**
  - Common cooling for capacitor, bus, and IGBT
- **IGBT module**
  - Infineon HP2 three-phase module or compatible



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*SBE reserves the right to amend design data*

#Infineon/SBEDatasheet-02/2016