Adjustable Bulk Input Capacitance Controlled from High Voltage Bus

Description

- A high value, low voltage “adjust” capacitor is added to a low value, high voltage “base” capacitor when input voltage is low.
- A control module powered from the high voltage bus switches the adjust capacitor in parallel with the base capacitor when the bus voltage is below a threshold.
- Adjust capacitor is switched out when the bus voltage goes above the threshold.
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- **Benefits**
  - Reduces cost and volume by using large capacitance only when needed
  - Direct use of bus voltage to determine switching of adjust capacitor
  - DC-to-DC converter control and adjust driver may be integrated into a single integrated circuit (IC)
  - Could be used with: power converters operating over a wide range of input voltage

*Figure 3. Full converter schematic*