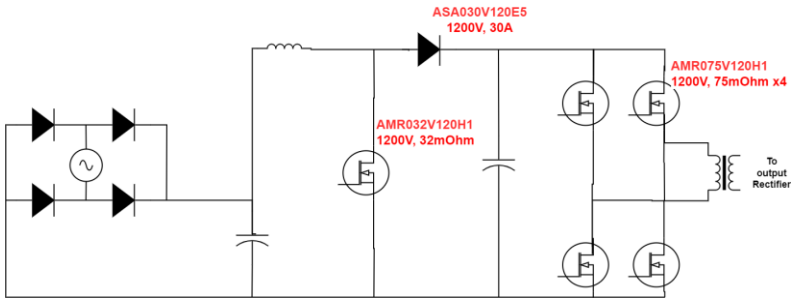
Application Brief

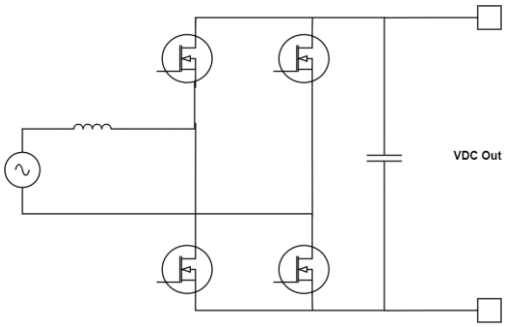
Power Supply uses SiC PFC Boost diode and MOFSETs for increased efficiency

Analog Power Conversion Electronics, LLC

Applications

- PSUs
- PV inverters
- BESS
- UPS Systems
- Modular Multilevel Converter





Totem Pole PFC

Highlighted Products***

- **AMR032V120H1– SiC Mosfet, 1200V, 32mOhm**
- **AMR075V120H1 – SiC Mosfet, 1200V, 75mOhm**
- **ASA030V120B5 – SBD, 1200V, 30A**

SiC Benefits

- SiC MOSFET's Fast Body Diode reduces switching losses. Low Rds(on) means lower conduction losses.
- High Frequency of Operation enables smaller designs by reducing size of magnetics.

Why APC

- State of the Art SiC manufacturing per latest Industry standards
- Amongst industry's shortest lead time
- Designed in the U.S., Built in the Philippines

Background

The transition from traditional Silicon power devices to SiC devices is driven by need for higher efficiency, power density and performance in modern electronic systems. In many applications replacing Si MOSFETs and diodes with their SiC equivalents can increase efficiency. Especially with PFC Boost circuits where cost is critical. SiC Mosfet have also enabled Totem Pole PFC designs for higher efficiency. Bridgeless designs are also replacing the input diode bridge rectifier with higher efficiency SiC MOSFETs.

*** You can purchase samples of Luminus Power Semiconductor products here. Our authorized distributors are Avnet Electronics, Mouser and Digikey.