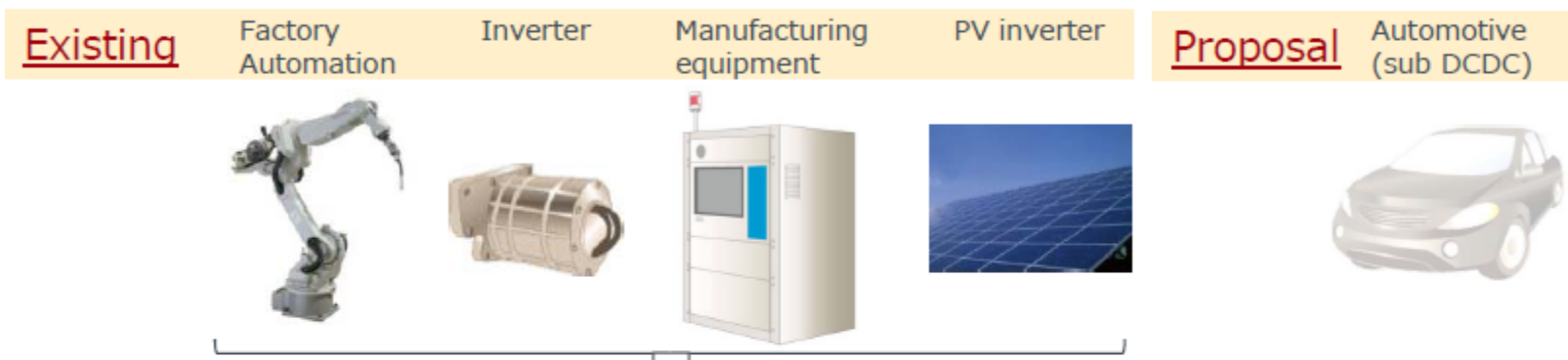


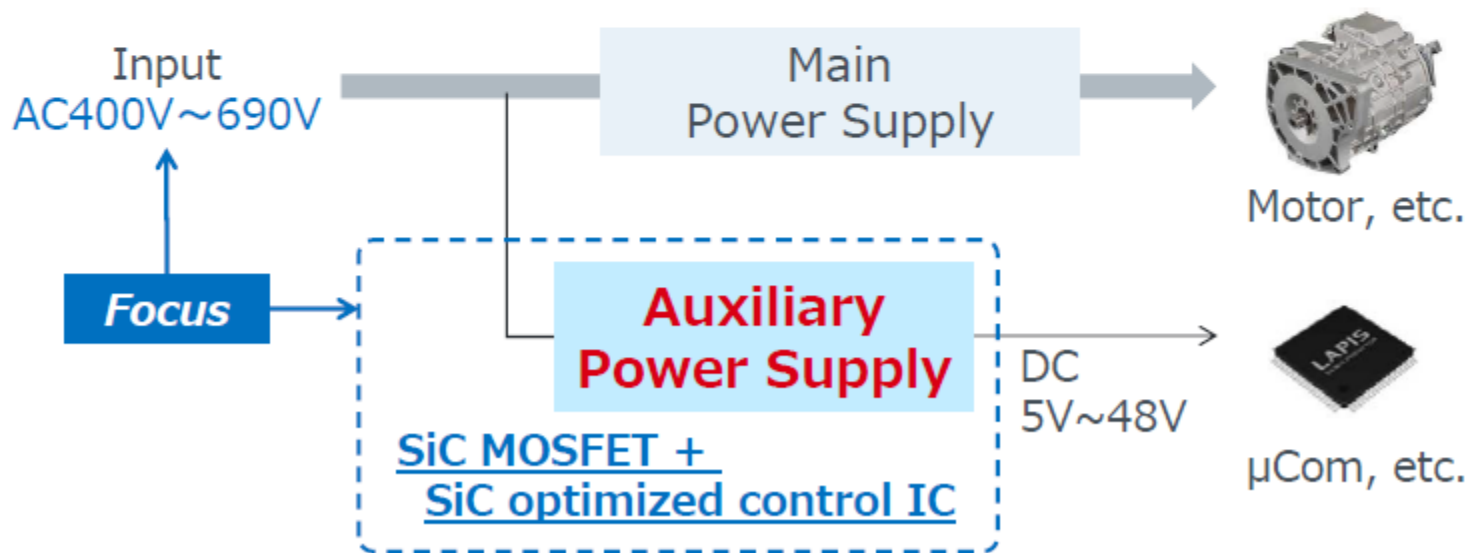
SiC MOSFET for auxiliary power supply

Confidential

Application



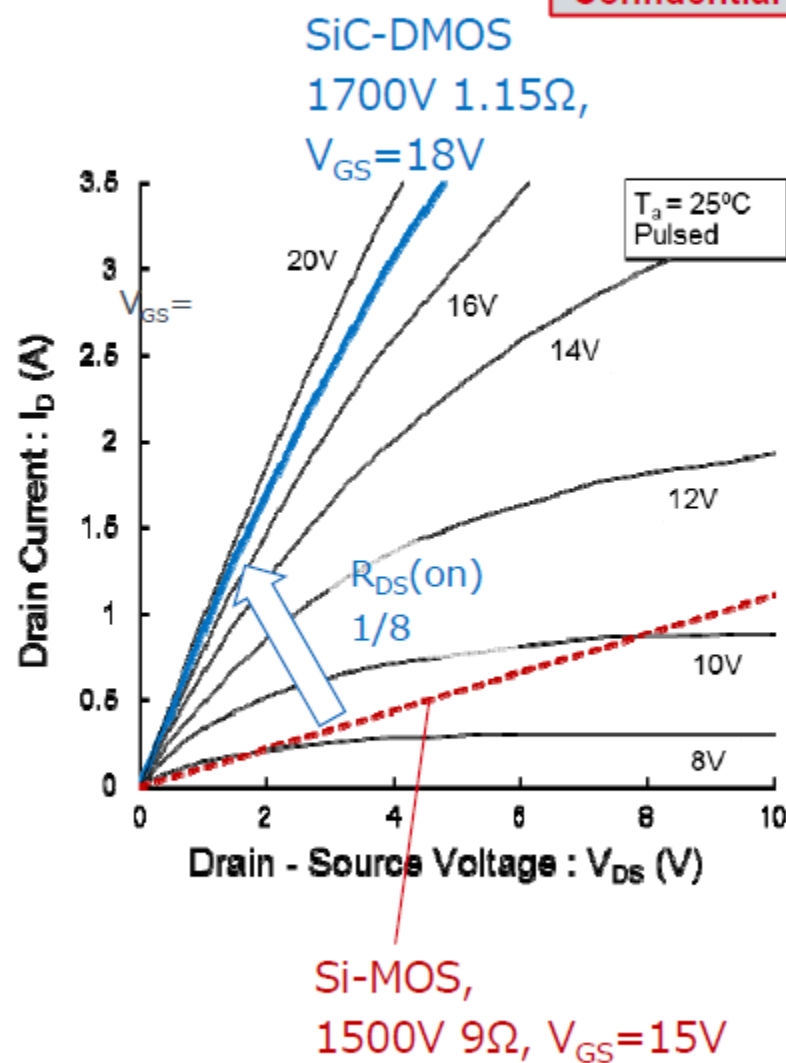
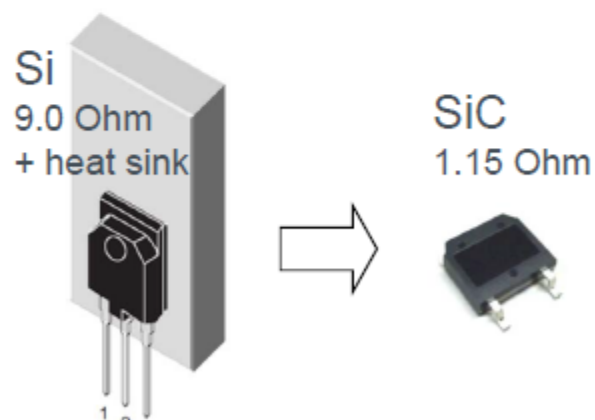
Example of block diagram for industrial application



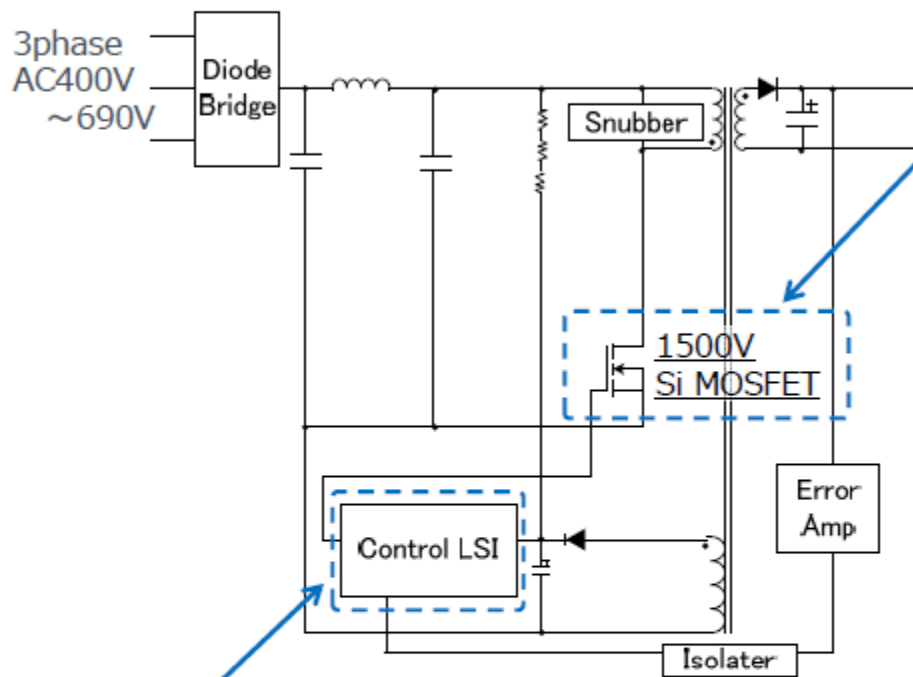
1700V Discrete MOSFET

Confidential

	2SK2225 Company R Si-MOS	SCT2H12NY ROHM SiC-MOS
Vds	1500V	1700V
Chip size	5.56 x 5.56mm ²	1.5 x 1.17mm ²
Ron	9Ω	1.15Ω
Ciss	990pF	189pF
Qg	75nC	14nC
Id max	2A	4A
Tjmax	150°C	175°C



Circuit example, flyback topology



Motivation



Power device

High voltage Si MOSFETs have higher $R_{DS(ON)}$.



Replace to SiC MOSFET

1700V	P/N	0.75Ω	1.15Ω
TO-268-2L	SCT2xxxNY	6A ✓	4A ✓
TO-3PFM	SCT2xxxNZ		3.7A ✓

Motivation

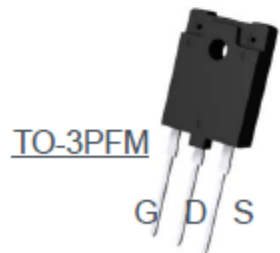


Control IC : **BD7682FJ-LB**

- ✓ Suitable drive voltage for SiC MOSFET
- ✓ Without negative voltage bias
- ✓ Quasi-resonant drive
- Low noise and greater efficiency



Mass production



TO-3PFM



TO-268-2L

System Board for Auxiliary supply

A power converter used in an industrial system such as a photovoltaic (PV) inverter, Uninterruptible Power Supply (UPS) or industrial motor drive will normally include an auxiliary supply unit which supplies power to system peripherals such as a microprocessor, LCD display, sensors and fans, as well as to the gate drivers inside the main power circuit.



Fig. 2: Top and bottom views of the ROHM AUX evaluation board

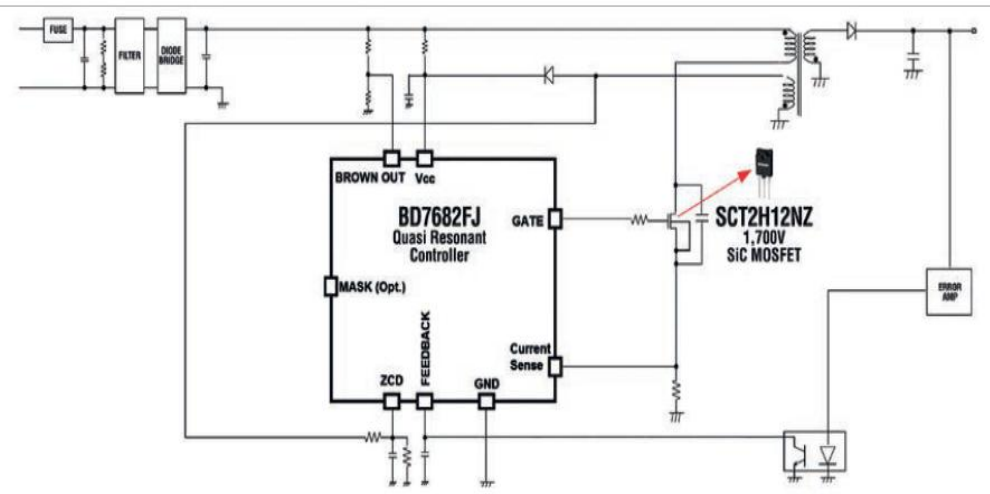


Fig. 3: Circuit schematic of the ROHM AUX Evaluation Board

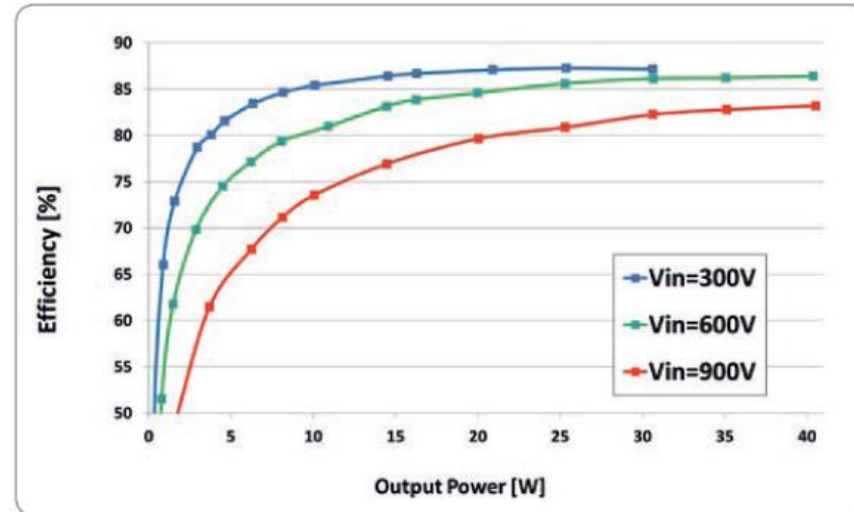


Fig. 5: Efficiency of the AUX Evaluation Board under various load and input-voltage conditions