



New Product Introduction

June 2022

3D IPOL power module voltage regulator

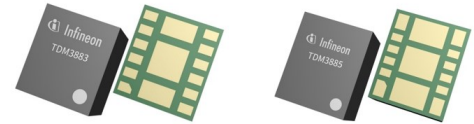
EasyPACK™ and EasyDUAL™ CoolSiC™ MOSFET power modules 1200 V enhanced generation 1

EconoDUAL™ 3 power modules 1700 V with TRENCHSTOP™ IGBT7

3D IPOL power module voltage regulator

Integrated point-of-load 3 A or 4 A single output high efficiency buck regulator module with integrated inductor

The TDM3883 / TDM3885 IPOL power module with an integrated inductor is an easy-to-design, fully integrated 3 A buck converter. It offers a high-efficiency load and line regulation over a wide input supply range with a compact design. With integrated inductor and capacitors, it reduces external components and saves 80% of PCB area. Therefore, TMD3883 / TDM3885 allows a much higher power density while minimizing the parasitic parameters.



Features

- > Optimized module with inductor included
- > Continuous 3 A / 4 A load capability
- > Single input voltage range (4.5 V to 14 V)
- > 10 μ A supply current at shutdown
- > Enhanced stability IPOL engine with ceramic capacitors and no external compensation
- > Enhanced light load efficiency with reduced switching frequency and diode emulation
- > Forced continuous conduction mode option
- > Thermally compensated internal over-current protection
- > Internal soft-start, enable input, prebias start up, thermal shut down, power good output
- > Precision reference voltage (0.5 V $\pm$ 1.0 %)
- > Lead-free, halogen-free and RoHS 6 compliant

Competitive advantage

- > Compact size
- > Better efficiency
- > More precise V_{ref}
- > Able to achieve lower V_{out} (0.5 V)
- > Lower supply current at shutdown
- > Programmable over voltage protection (OVP) available

Benefits

- > Easy to design
- > Fewer external components
- > High power density
- > High efficiency
- > Reduced BOM, 80 % area saving on the customer PCB
- > Improved performance compared to discrete solution due to low parasitic
- > Longer battery life for portable applications
- > Integrated inductor is extensively tested by Infineon in both reliability and FT

Target applications

- > Space and thermally constrained applications
- > Telecom and datacom applications
- > Network storage
- > Servers
- > FPGA / DSP / ASIC in computing, industry and autonomous driving

Product collaterals / Online support

[Product page TDM3883](#)

[Product page TDM3885](#)

Product overview incl. data sheet link

OPN	SP Number	Package
TDM3883XUMA1	SP002410358	PG-LGA-15
TDM3885XUMA1	SP002434954	PG-LG-15

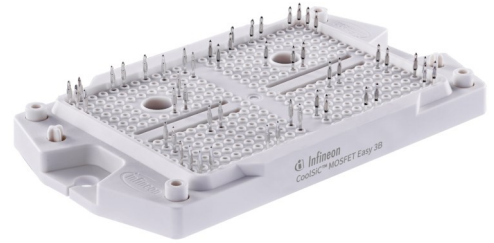
EasyPACK™ and EasyDUAL™ CoolSiC™ MOSFET power modules 1200 V enhanced generation 1

The EasyPACK™ and EasyDUAL™ power modules are the lead types with enhanced generation 1 CoolSiC™ MOSFET (M1H).

The modules feature a significantly larger gate operation window with recommended $V_{GS(on)}$ 15 – 18 V, $V_{GS(off)}$ 0 - 5 V and extended maximum gate-source voltages of +23 V & -10 V to cover over- & undershoots.

The improvement on $V_{GS(th)}$ stability significantly reduce the drift caused by the dynamic components and at the same time the $R_{DS(on)}$ performance is improved by around 12 % at 125° C. In addition, it is allowed to operate the device up to 175° C to cover overload conditions in the respective applications. The basic device concept is unchanged, the cell layout and dimensions are not touched.

The lead types include a sixpack, a 3-level NPC2 and a half-bridge topology in Easy 1B, 2B and 3B housing respectively. With this first full CoolSiC™ EasyDUAL™ 3B power module, Infineon offers the broadest industrial Silicon Carbide portfolio on the market.



Features

- > Easy 1B, 2B and 3B housing
- > 1200 V CoolSiC™ MOSFET with enhanced generation 1 trench technology
- > Enlarged recommended gate drive voltage window from +15...+18 V & 0...-5 V
- > Extended maximum gate-source voltages of +23 V and -10 V
- > T_{vjop} under overload condition up to 175° C
- > Sixpack, 3-level or half-bridge configuration
- > PressFIT pins
- > Pre-applied Thermal Interface Material (Easy 3B)

Benefits

- > Broadest industrial Silicon Carbide portfolio on the market
- > 12% $R_{DS(on)}$ improvement compared to standard CoolSiC™ MOSFET (M1)
- > Reduction of drift caused by dynamic components

Competitive advantage

- > Broadest industrial Silicon Carbide portfolio on the market

Target applications

- > Servo Drives
- > UPS
- > EV Charger
- > Solar inverters

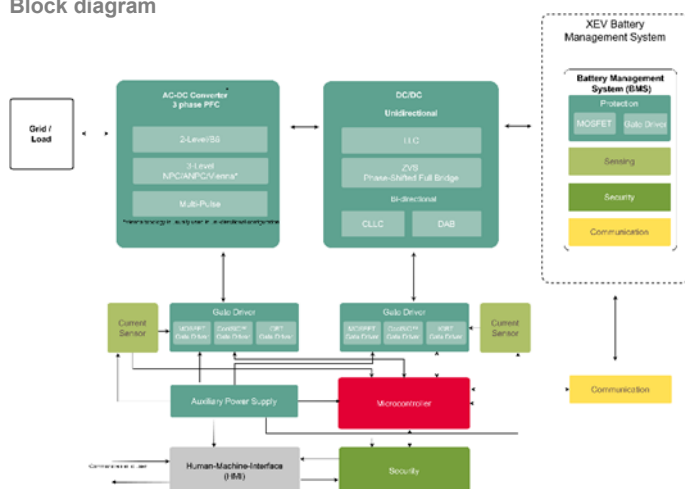
Product collaterals / Online support

[Product page FS55MR12W1M1HB11NPSA1](#)

[Product page FF2MR12W3M1HB11BPSA1](#)

[Product page F3L8MR12W2M1HPB11BPSA1](#)

Block diagram



Product overview incl. data sheet link

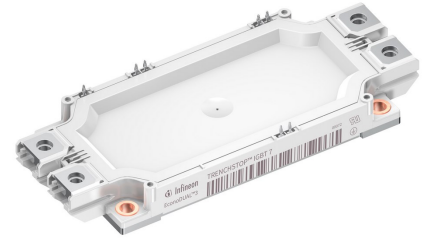
OPN	SP Number	Package
FS55MR12W1M1HB11NPSA1	SP005551133	AG-EASY1B-3111
FF2MR12W3M1HB11BPSA1	SP005551090	AG-EASY3B-3111
F3L8MR12W2M1HPB11BPSA1	SP005562921	AG-EASY2B-3111

EconoDUAL™ 3 power modules 1700 V with TRENCHSTOP™ IGBT7

The portfolio of EconoDUAL™ 3 power modules with TRENCHSTOP™ IGBT7 is now extended to 1700 V. There are three lead types with 225, 750 and 900 A.

The new best-in-class FF900R17ME7_B11 provides up to 40 % higher inverter output current for the same frame size compared to the former IGBT generation. The FF750R17ME7D_B11 comes with an enlarged diode (1200 A), which is optimized for wind and static VAR generator (SVG) applications

The higher power density of the modules helps to avoid paralleling of IGBT modules leading to a simplification of the inverter design and lower costs.



Features

- > 225, 750 and 900 A
- > 1700 V
- > Half-bridge configuration
- > TRENCHSTOP™ IGBT7 chip generation
- > Improved EconoDUAL™ 3 housing
- > 175° C during overload condition
- > PressFIT pins
- > Enlarged diode (FF750 only)

Competitive advantage

- > Best-in-class with 900 A 1700 V IGBT7 chip technology

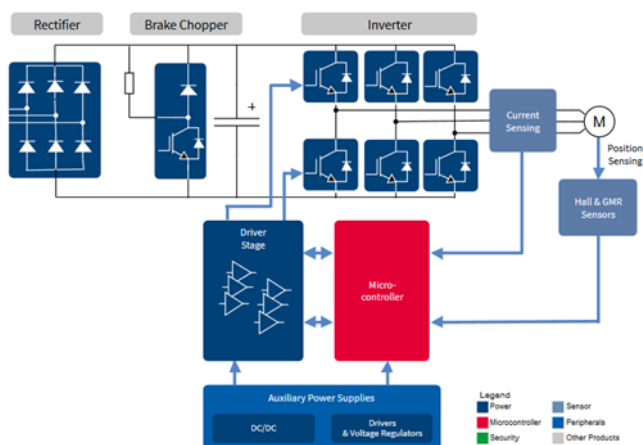
Benefits

- > Lowest static and switching losses
- > Up to 40 % higher inverter output current for the same frame -size
- > Avoidance of paralleling of IGBT modules
- > Simplification of the inverter systems
- > Meets the requirements of V_F-demanding applications (Wind, SVG)

Target applications

- > Industrial Drives
- > Wind
- > Static VAR generator

Block diagram



Product collaterals / Online support

[Product page FF225R17ME7_B11](#)

[Product page FF750R17ME7D_B11](#)

[Product page FF900R17ME7_B11](#)

[Product family page IGBT7](#)

[Product family page EconoDUAL™ 3](#)

Product overview incl. data sheet link

OPN	SP Number	Package
FF225R17ME7B11BPSA1	SP005548839	AG-ECONOD-741
FF750R17ME7DB11BPSA1	SP005569131	AG-ECONOD-711
FF900R17ME7B11BPSA1	SP005423488	AG-ECONOD-5