

Transfer Molded IPM Brings SiC Advantages To 1200-V Modules

[Infineon Technologies'](#) CIPOS Maxi IPM IM828 series 1200-V transfer-molded silicon carbide (SiC) integrated power module (IPM) is said to be the industry's first in this voltage class. The series provides a compact inverter solution with excellent thermal conduction and a wide range of switching speeds for three-phase ac motors and permanent magnet motors in variable-speed drive applications. Among others, these can be found in industrial motor drives, pump drives, and active filters for heating, ventilation, and air conditioning (HVAC).

The CIPOS Maxi IPM integrates an improved six-channel 1200-V silicon-on-insulator (SOI) gate driver and six CoolSiC MOSFETs to increase system reliability, optimize PCB size and system costs (Fig. 1). The new family member is packaged in a DIP 36x23D housing (Fig. 2). This makes it the smallest package for 1200-V IPMs with the highest power density and best performance in its class, according to the vendor.

It meets EMI requirements and overload protection of demanding designs. The rugged six-channel SOI gate driver of the SiC IPM provides built-in dead time to prevent damage from transients. It also offers undervoltage lockout (UVLO) on all channels and overcurrent shutdown protection functions.

With its multi-function pin, this IPM allows high design flexibility for various purposes. Adding to the protection features, the IPM is equipped with an independent UL-certified temperature thermistor. The low-side emitter pins can be accessed for phase-current monitoring, making the device easy to control.

The CIPOS Maxi IM828 series can be ordered now. It comprises 20-A IM828-XCC for power ratings of up to 4.8 kW. More information is available at Intelligent Power Modules (IPM) [page](#) and on the IM828-XCC product [page](#).

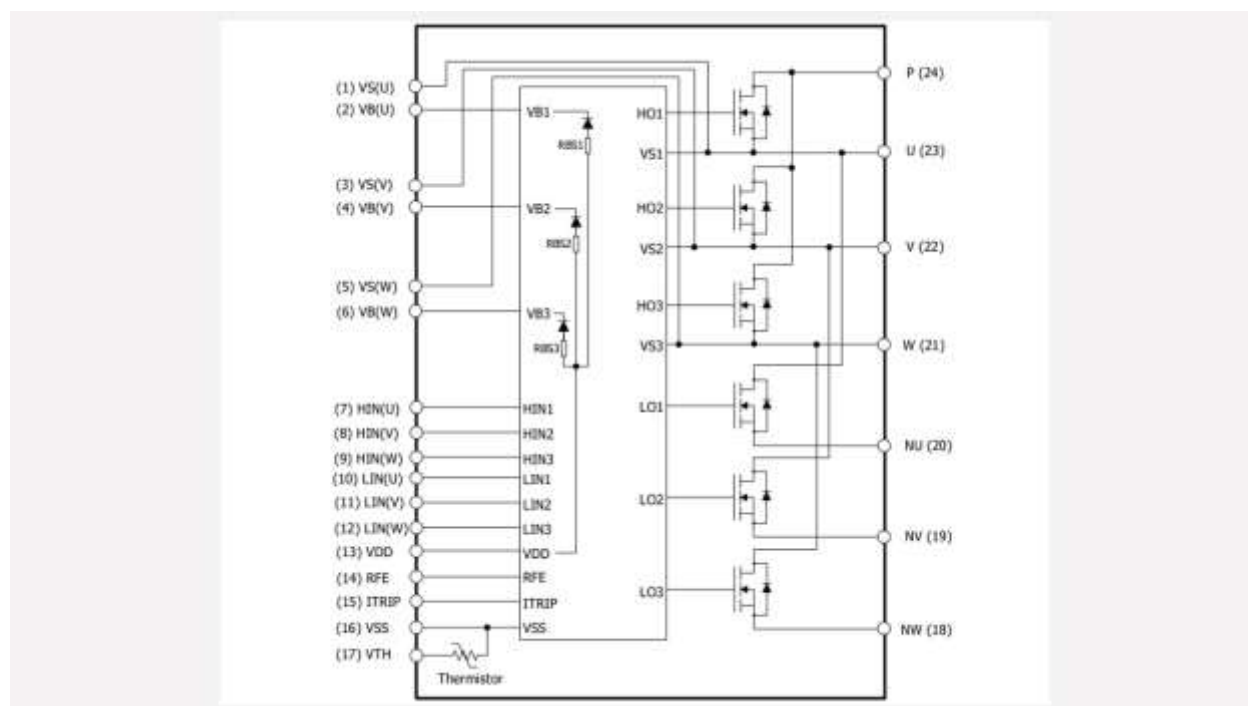


Fig. 1. Based on 1200-V, 55-mΩ CoolSiC MOSFETs, the CIPOS Maxi three-phase intelligent power module with open emitter provides a fully featured compact inverter solution with excellent thermal conduction for industrial applications including industrial drives, HVAC, active filters, motor controls and etc. It includes rugged 1200-V SOI gate driver technology with stability against transients and many protection functions.

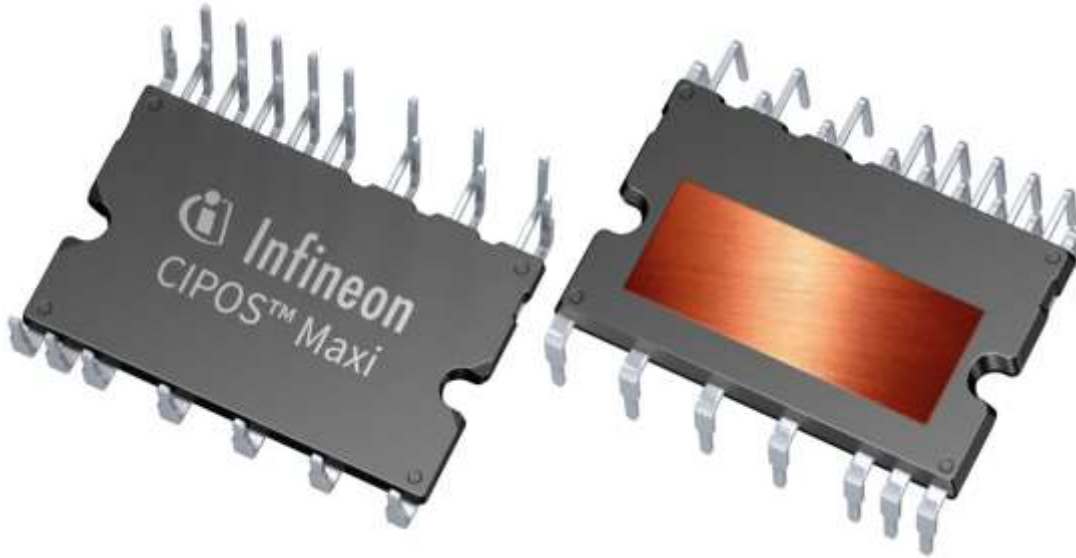


Fig. 2. The IM828 series features an isolated 36-mm x 23-mm dual-in-line (DIP) molded housing for excellent thermal performance and electrical isolation.