



Product brief

MOSFET based CIPOS™ IPMs

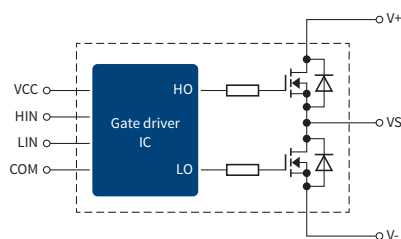
Infineon offers energy-efficient MOSFET based intelligent power modules (IPMs) in three families of highly integrated, compact power modules namely CIPOS™ Nano, CIPOS™ Micro, and CIPOS™ Mini. They are available in a broad range of packages, voltage class, power and configurations. These IPMs integrate various power and control components to optimize motor and pump applications in consumer, home appliances and general purpose industrial drives.

Infineon utilizes various MOSFET technologies like HEXFET™, Trench FREDFET and CoolMOS™ that significantly improve power efficiency comparing to IGBT based IPMs by reducing power loss, especially when a system is operated under light load conditions. AC-DC applications requiring high voltage blocking capability and fast switching with low losses take advantage of the revolutionary CoolMOS™ superjunction technology for more efficient power supplies. This enables overall system energy and cost saving through reduced power consumption.

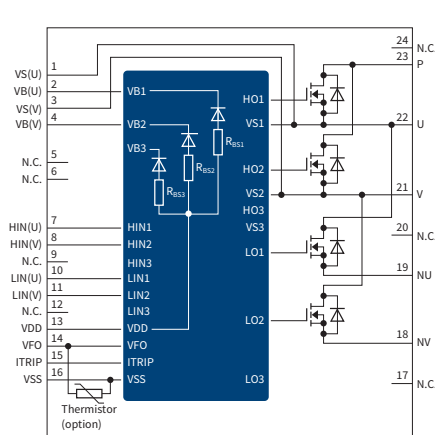
Key features

- › Available from 40 V to 600 V
- › Broad selection of low $R_{DS(ON)}$
- › Half-bridge, 2-phase and 3-phase inverter configurations
- › Integrated gate driver IC and bootstrap functionality options
- › Cost savings from smaller footprint and reduced PCB space
- › Easy implementation of 2 or 3-phase motor drives from CIPOS™ IPM offerings
- › Under-voltage lockout at all channels
- › Over-current protection
- › Cross-conduction prevention

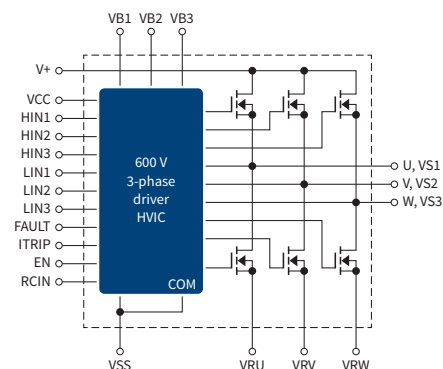
Half-bridge configuration



2-phase configuration



3-phase configuration



Product overview

Product	Package	Voltage [V]	Configuration	Power to motor at 10 kHz [W]	$R_{DS(on)}$ at 25°C max [Ω]	Built in NTC
CIPOS™ Nano IPM						
IRSM005-301MH	QFN 7x8	100	Half-Bridge	165	0.02	No
IRSM005-800MH	QFN 7x8	40	Half-Bridge	165	0.005	No
IRSM807-045MH	QFN 8x9	500	Half-Bridge	130	1.7	No
IRSM807-105MH	QFN 8x9	500	Half-Bridge	205	0.8	No
IRSM808-105MH	QFN 8x9	500	Half-Bridge	205	0.8	No
IRSM808-204MH	QFN 8x9	250	Half-Bridge	205	0.15	No
IRSM836-015MA	QFN 12x12	500	3 Phase Open Source	50	6.0	No
IRSM836-024MA	QFN 12x12	250	3 Phase Open Source	40	2.2	No
IRSM836-025MA	QFN 12x12	500	3 Phase Open Source	55	4.0	No
IRSM836-035MA	QFN 12x12	500	4 Phase Open Source	70	2.2	No
IRSM836-035MB	QFN 12x12	500	3 Phase Common Source	70	2.2	No
IRSM836-044MA	QFN 12x12	250	3 Phase Open Source	60	1.05	No
IRSM836-045MA	QFN 12x12	500	3 Phase Open Source	80	1.7	No
IRSM836-084MA	QFN 12x12	250	3 Phase Open Source	85	0.45	No
CIPOS™ Micro IPM						
IRSM505-015DA	DIP 29x12F	500	3 Phase Open Source	50	6.0	Yes
IRSM505-015PA	SOP 29x12F	500	3 Phase Open Source	50	6.0	Yes
IRSM505-024DA	DIP 29x12F	250	3 Phase Open Source	40	2.2	Yes
IRSM505-024PA	SOP 29x12F	250	3 Phase Open Source	40	2.2	Yes
IRSM505-025DA	DIP 29x12F	500	3 Phase Open Source	60	4.0	Yes
IRSM505-025PA	SOP 29x12F	500	3 Phase Open Source	60	4.0	Yes
IRSM505-035DA	DIP 29x12F	500	3 Phase Open Source	75	2.2	Yes
IRSM505-035PA	SOP 29x12F	500	3 Phase Open Source	75	2.2	Yes
IRSM505-044DA	DIP 29x12F	250	3 Phase Open Source	65	1.05	Yes
IRSM505-044PA	SOP 29x12F	250	3 Phase Open Source	65	1.05	Yes
IRSM505-055DA	DIP 29x12F	500	3 Phase Open Source	85	1.7	Yes
IRSM505-055PA	SOP 29x12F	500	3 Phase Open Source	85	1.7	Yes
IRSM505-065DA	DIP 29x12F	500	3 Phase Open Source	85	1.3	Yes
IRSM505-065PA	SOP 29x12F	500	3 Phase Open Source	85	1.3	Yes
IRSM505-084DA	DIP 29x12F	250	3 Phase Open Source	95	0.45	Yes
IRSM505-084PA	SOP 29x12F	250	3 Phase Open Source	95	0.45	Yes
IRSM515-015DA	DIP 29x12F	500	3 Phase Open Source	50	6.0	No
IRSM515-015PA	SOP 29x12F	500	3 Phase Open Source	50	6.0	No
IRSM515-024DA	DIP 29x12F	250	3 Phase Open Source	40	2.2	No
IRSM515-024PA	SOP 29x12F	250	3 Phase Open Source	40	2.2	No
IRSM515-025DA	DIP 29x12F	500	3 Phase Open Source	60	4.0	No
IRSM515-025PA	SOP 29x12F	500	3 Phase Open Source	60	4.0	No
IRSM515-035DA	DIP 29x12F	500	3 Phase Open Source	75	2.2	No
IRSM515-035PA	SOP 29x12F	500	3 Phase Open Source	75	2.2	No
IRSM515-044DA	DIP 29x12F	250	3 Phase Open Source	65	1.05	No
IRSM515-044PA	SOP 29x12F	250	3 Phase Open Source	65	1.05	No
IRSM515-055DA	DIP 29x12F	500	3 Phase Open Source	85	1.7	No
IRSM515-055PA	SOP 29x12F	500	3 Phase Open Source	85	1.7	No
IRSM515-065DA	DIP 29x12F	500	3 Phase Open Source	85	1.3	No
IRSM515-065PA	SOP 29x12F	500	3 Phase Open Source	85	1.3	No
IRSM515-084DA	DIP 29x12F	250	3 Phase Open Source	95	0.45	No
IRSM515-084PA	SOP 29x12F	250	3 Phase Open Source	95	0.45	No
CIPOS™ Mini IPM						
IM512-L6A	DIP 36x21	600	2 Phase Open Source	400	0.31	Yes
IM513-L6A	DIP 36x21	600	3 Phase Open Source	600	0.31	Yes