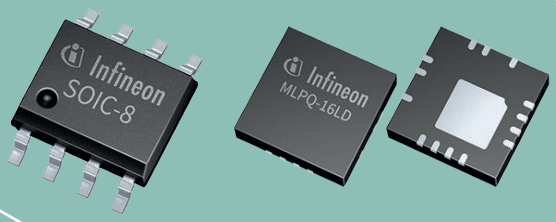


Product Brief

IRS200x 200 V IC family

Now including IRS2007 half-bridge driver IC

The new 200 V half-bridge and high- and low-side driver IC family is tailored for low-voltage (24 V, 36 V, and 48 V) and mid-voltage (60 V, 80 V and 100 V) motor drive applications.

The IRS200x family utilizes our advanced high-voltage IC process to realize a compact, efficient and robust monolithic construction.

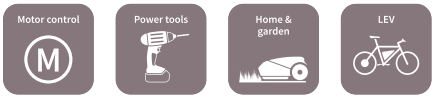
The IRS200x family consists of four devices with a typical output sink current of 600 mA and typical output source current of 290 mA. The 200 V devices are 3.3 V, 5 V, and 15 V logic compatible. Undervoltage Lockout (UVLO) protection is a standard feature provided across the family. Additionally, the family has V_S operational logic of -8 V. The IRS2007 and IRS2008 include integrated dead-time and shoot-through protection. The 200 V devices feature low quiescent currents. IRS2008 also features a shutdown input pin.

The 200 V devices are offered in eight-pin SOIC or fourteen-pin 4 x 4 mm MLPQ packages with various logic input options and standard pin-out configurations for high design flexibility and fast time to market. All devices are MSL2 qualified.

Applications

- Battery operated power tools
- Battery operated garden tools
- Micro inverter drives
- Light Electric Vehicles (LEV)
  – e-bikes, e-scooters, e-toys
- Drones, robotic vacuums
- Wireless charging

Product features	Benefits
› 290 mA/600 mA typical sink/source current › 70 ns/35 ns typical turn-on rise and turn-off fall time › Less than 60 ns delay matching time	› High-power efficiency
› VCC Undervoltage Lockout (UVLO) protection with additional VBS UVLO for IRS2008 and IRS2005 › Dead-time and cross-conduction prevention logic	› Fast and reliable switching › Protection under abnormal operation
› Fully operational to +200 V off set voltage › Tolerate to negative transient voltage, dV/dt immune	› Increased device reliability, operational headroom
› Low quiescent current	› Low-cost bootstrap power supply › BOM savings
› Various input options › Standard pin-out and packages	› Easy-to-use, straight-forward design › Fast time to market

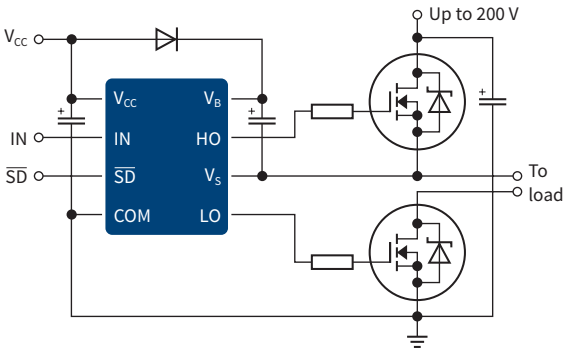


www.infineon.com/200VHVIC

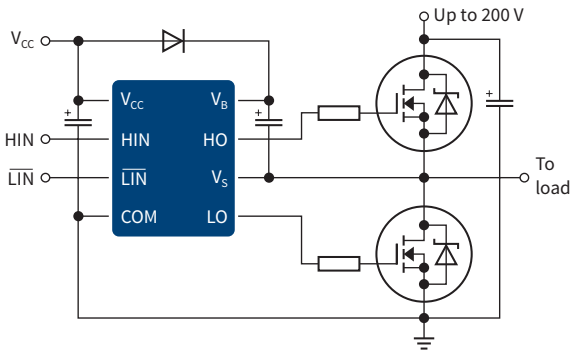
IRS200x 200 V IC family

Now including IRS2007 half-bridge driver IC

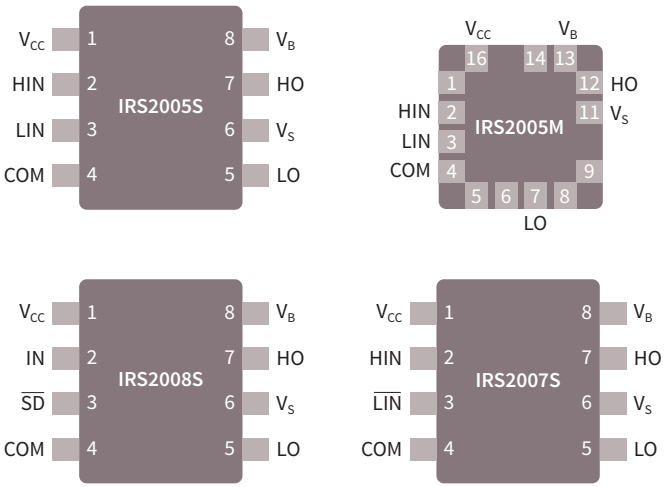
Typical connection diagram (IRS2008)



Typical connection diagram (IRS2007)



Pin configurations



Product portfolio

Part number	Voltage class [V]	Channels	Source/sink current (typ) [mA]	Deadtime (typ) [ns]	Typ. propagation delay [ns]		Control inputs	U_{VLO} (typ) [V]	Package	MSL
					on	off				
IRS2008S	200	2	290/600	520	680	150	IN, $\overline{SD}$	+8.9/-8.2	8-lead SOIC	2
IRS2007S	200	2	290/600	520	160	150	HIN, $\overline{LIN}$	+8.9/-8.2	8-lead SOIC	2
IRS2005S	200	2	290/600		160	150	HIN, LIN	+8.9/-8.2	8-lead SOIC	2
IRS2005M	200	2	290/600		160	150	HIN, LIN	+8.9/-8.2	14-lead 4 x 4 MLPQ	2

› IRS2005 replaces IRS2001
› IRS2008 can replace IRS2004
› IRS2007 can replace IRS2003

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