

Product Brief

IR7xxxS 700 V HVIC family

Rugged, reliable high-side & low-side and half-bridge drivers

The IR7xxxS family of HVICs is optimized for 700 V IGBTs or MOSFETs in applications such as solar, power supply, uninterruptible power supplies (UPS), welding and industrial power drives. The devices offer a higher breakdown voltage for enhanced reliability and performance.

IR7xxxS utilize our advanced High-Voltage Junction Isolation (HVJI) IC technology and latch immune CMOS technology to realize a rugged monolithic structure in compact 8-lead SOIC packages.

The 700 V HVIC family consists of three devices with full driver capability ranging from a typical output source and sink current of 60/130 mA to 1900/2300 mA. The devices are 3.3 V, 5 V, and 15 V logic compatible. VCC and VBS Undervoltage Lockout (UVLO) protection is a standard feature provided across the family. IR7304S & IR7184S provide integrated deadtime and shoot-through protection. IR7184S also features a shutdown input pin.

Compared to discrete optocoupler or transformer-based solutions, the IR7xxxS HVICs offer a simple, small and cost effective solution that significantly reduces a system's component count and board space while providing high performance and reliability.

The 700 V HVICs come in standard pin out configurations with various logic input options for high design flexibility and fast time to market.

Applications

- > Appliance motor drives
- > Servo drives
- > Micro inverter drives
- > General purpose three phase inverters
- > Lighting
- > Induction cookers/heating

Product features

- > 60/130 mA to 1900/2300 mA typ source/sink current
- > 40/20 ns to 200/100 ns typ turn-on rise and turn-off fall time
- > Less than 50 ns delay matching time
- > VCC & VBS Undervoltage Lockout (UVLO) protection
- > Deadtime & cross-conduction prevention logic (IR7304S & IR7184S)
- > Fully operational to +700 V offset voltage
- > Tolerate to negative transient voltage, dV/dt immune
- > Low quiescent currents (IR7304 & IR7106)
- > Various input options
- > Standard pin-out and packages

Benefits

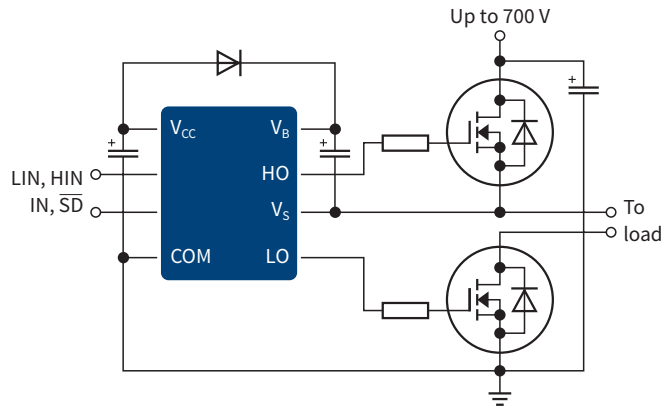
- > High power efficiency
- > Fast & reliable switching
- > Protection under abnormal operation
- > Increased device reliability & robustness
- > Low-cost bootstrap power supply
- > BOM savings
- > Easy-to-use, straightforward design
- > Fast time to market



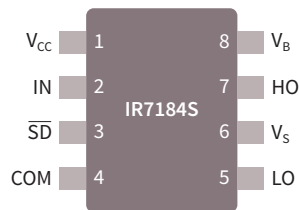
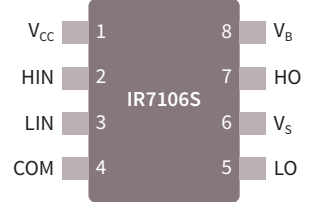
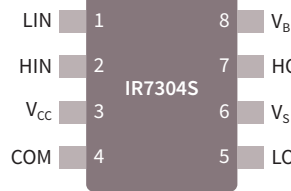
IR7xxxS family

Rugged, reliable 700 V High-Voltage ICs (HVIC)

Typical connection diagram



Pin configurations



Product portfolio

Part number	Voltage class [V]	Channels	Source/sink current (typ) [mA]	Typ. propagation delay [ns]		Control inputs	UVLO (typ) [V]	Package	MSL
				On	Off				
IR7304S	700	2	60/130	220	220	LIN, HIN	8.2-8.9	8-lead SOIC	2
IR7106S	700	2	200/350	220	200	LIN, HIN	8.2-8.9	8-lead SOIC	2
IR7184S	700	2	1900/2300	680	270	IN, SD	8.2-8.9	8-lead SOIC	2

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