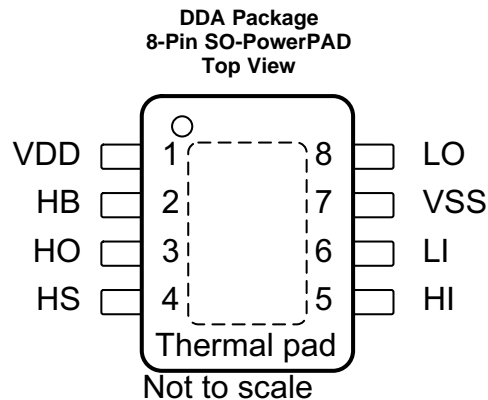


5 Pin Configuration and Functions



Pin Functions

PIN		TYPE	DESCRIPTION
NO.	NAME		
2	HB	P	High-side bootstrap supply. The bootstrap diode is on-chip but the external bootstrap capacitor is required. Connect positive side of the bootstrap capacitor to this pin. Typical range of HB bypass capacitor is 0.022 μ F to 0.1 μ F. The capacitor value is dependant on the gate charge of the high-side MOSFET and must also be selected based on speed and ripple criteria.
5	HI	I	High-side input. ⁽¹⁾
3	HO	O	High-side output. Connect to the gate of the high-side power MOSFET.
4	HS	P	High-side source connection. Connect to source of high-side power MOSFET. Connect the negative side of bootstrap capacitor to this pin.
6	LI	I	Low-side input. ⁽¹⁾
8	LO	O	Low-side output. Connect to the gate of the low-side power MOSFET.
1	VDD	P	Positive supply to the lower-gate driver. De-couple this pin to V _{SS} (GND). Typical decoupling capacitor range is 0.22 μ F to 4.7 μ F (See ⁽²⁾).
7	VSS	—	Negative supply terminal for the device that is generally grounded.
Pad	Thermal pad ⁽³⁾	—	Electrically referenced to V _{SS} (GND). Connect to a large thermal mass trace or GND plane to dramatically improve thermal performance.

(1) HI or LI input is assumed to connect to a low impedance source signal. The source output impedance is assumed less than 100 Ω . If the source impedance is greater than 100 Ω , add a bypassing capacitor, each, between HI and VSS and between LI and VSS. The added capacitor value depends on the noise levels presented on the pins, typically from 1 nF to 10 nF should be effective to eliminate the possible noise effect. When noise is present on two pins, HI or LI, the effect is to cause HO and LO malfunctions to have wrong logic outputs.

(2) For cold temperature applications TI recommends the upper capacitance range. Follow the for PCB layout.

(3) The thermal pad is not directly connected to any leads of the package; however, it is electrically and thermally connected to the substrate which is the ground of the device.