

Product Clip

Standard Linear and Logic

SN74HC4851

Analog multiplexer/demultiplexer with injection current effect control

Texas Instruments' (TI) new SN74HC4851, analog multiplexer/demultiplexer (mux/demux) device is pin compatible with the 4051 function. The HC4851 also offers injection current protection, which makes it an ideal solution in harsh environments such as automotive, where voltage spikes in excess of normal logic voltage levels are common. The injection current effect control circuitry eliminates the need for external diode/resistor networks typically used to keep the analog channel signals within the supply voltage range. TI offers the HC4851 in a variety of package options: PDIP, SOIC, TSSOP and TVSOP.



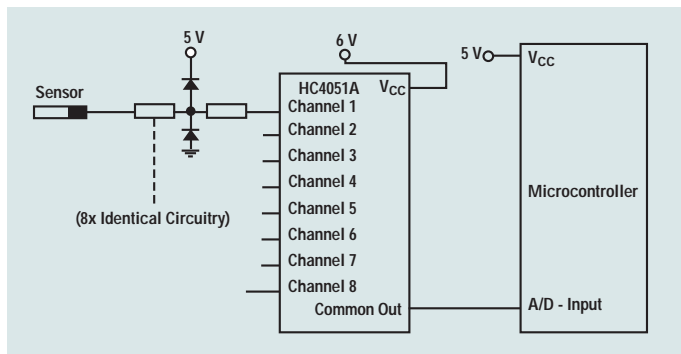
Benefits

- Injection current protection for use in harsh environments such as Automotive
- Injection current cross-coupling <math>< 1 \text{ mV/mA}</math>
- Low crosstalk between switches
- Extended temperature range: -40 to 125°C
- Pin compatible with SN74HC4051, SN74LV4051A and CD4051B
- Direct second source to ST M74HC4851 and ON M74HC4851A

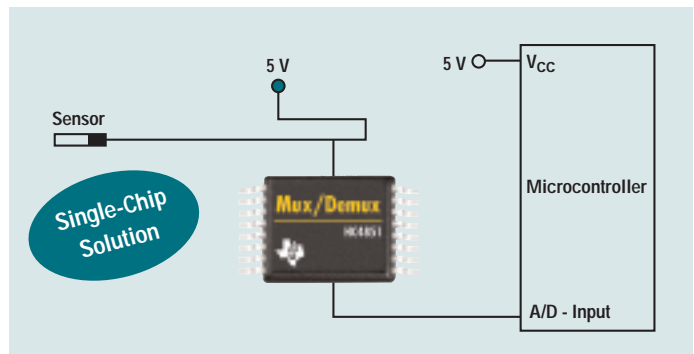
Features

- 2-V to 6-V V_{CC} operation
- $T_{pd} = 8.6 \text{ ns}$ (typ.) at $T_A = 25^\circ\text{C}$, $V_{CC} = 4.5 \text{ V}$
- Latch-up performance exceeds 100 mA per JESD 78, Class II
- ESD protection exceeds JESD 22:
 - 2000-V human-body model (A114-A)
 - 200-V machine model (A115-A)
 - 1000-V charged-device model (C101)

Alternate solution needs external passive components and one extra 6-V regulator to suppress injection current into a standard HC4051 multiplexer.



TI's HC4851 **single-chip solution** eliminates the need for external diodes and resistors.



Ordering Information

T _A	Package†		Orderable Part Number	Top-Side Marking
-40°C to 125°C	PDIP - N	Tube	SN74HC4851N	HC4851N
	SOIC - D	Tube	SN74HC4851D	HC4851
		Tape and reel	SN74HC4851DR	
	TSSOP - PW	Tape and reel	SN74HC4851PWR	HC4851
TVSOP - DGV	Tape and reel	SN74HC4851DGV	HC4851	

†Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package

For more information about the SN74HC4851 or other TI Logic samples, datasheets, application reports and design summaries, visit:

www.ti.com/sc/device/SN74HC4851

www-s.ti.com/sc/techlit/SCLS542

www.ti.com/signalswitches

logic.ti.com

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