

CAPACITIVE SLIDER 411-05

DATASHEET AND APPLICATION NOTES

APPLICATIONS

Automotive control systems, wearables, consumer and home devices, soft touch buttons

ADVANTAGES

Flexible, manufacturable across complex shapes and simple curvatures, wide manufacturing temperature range

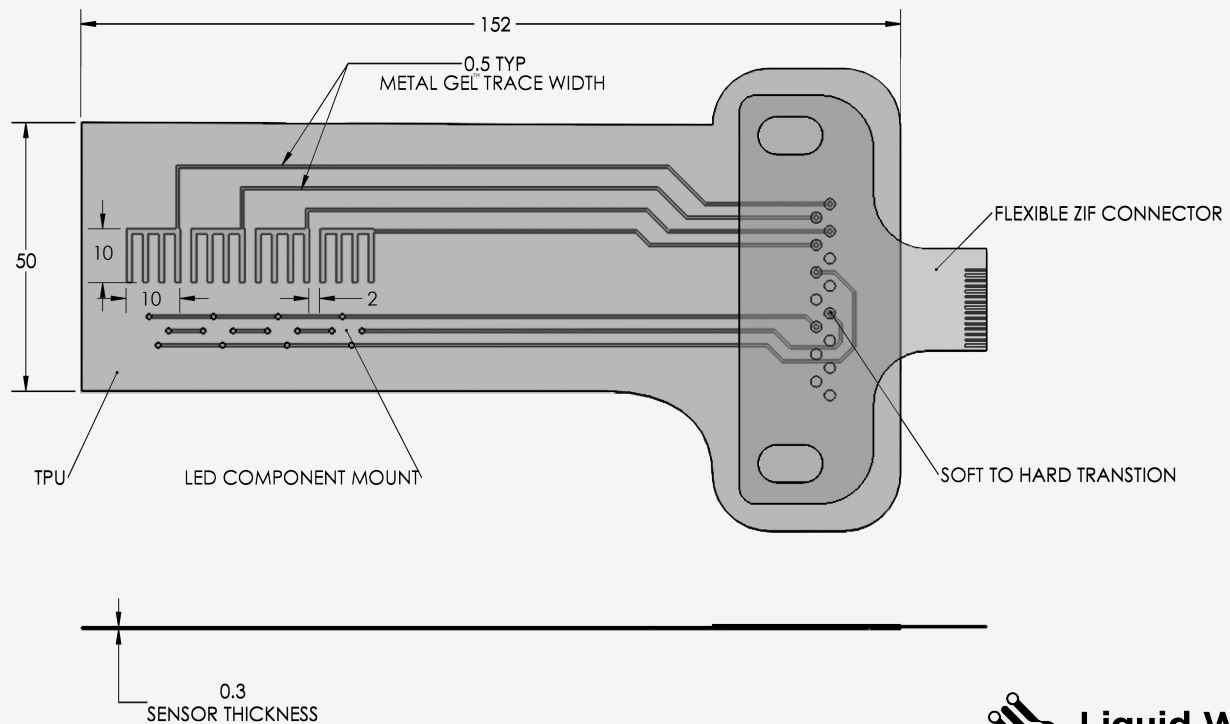
KEY FEATURES

Customizable design, adherable to wide range of fabrics (knits, wovens, and non-wovens)

CAPACITIVE SLIDING CONTROL SPECIFICATIONS	
Contact surface material	Euro Jersey fabric
Methodology	Capacitive
Operating temp range	-15° C to 50° C

PRINCIPLE OF OPERATION

The capacitive slider page consists of four patterned metal gel electrode geometries (buttons) and four LEDs with both power and communications handled by Metal Gel™ traces. The buttons each serve as one leg of a capacitive plate and are sensed by an internal IC individually.

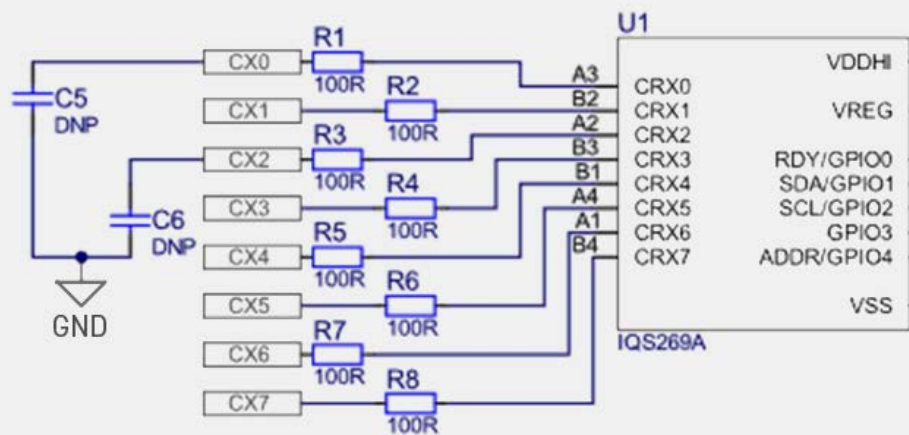


ALL MEASUREMENTS IN MILLIMETERS



PRINCIPLE OF OPERATION CONT.

The IC does a comparative measurement of the self-capacitance of an electrode vs the capacitance of an internal reference as an interaction event occurs. An interaction event is an electric field distortion caused by a person acting as another capacitive element in a system, an interaction that is highly affected by the distance of the person to the capacitive electrodes.



The number of charge/discharge cycles is counted over a set time period on each channel to see if changes have occurred in the capacitance of the system at each electrode. This implementation uses the IQS269A IC from Azoteq, though there are many design options. The analog capacitive signal is turned into a digital I2C signal and is used to light up the four LED indicators when a touch event is detected at an electrode.

