

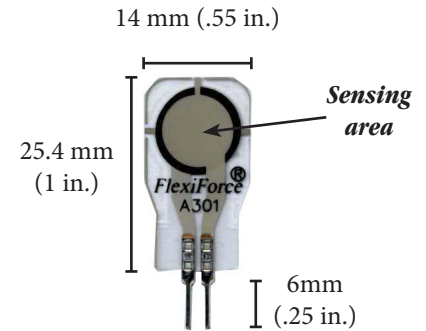
# FlexiForce®

## Standard Force & Load Sensors Model # A301

### Physical Properties

Thickness	0.203 mm (0.008 in.)
Length	25.4 mm (1 in.)*
Width	14 mm (0.55 in.)
Sensing Area	9.53 mm (0.375 in.) diameter
Connector	2-pin Male Square Pin
Substrate	Polyester (ex: Mylar)
Pin Spacing	2.54 mm (0.1 in.)

✓ ROHS Compliant



Actual size of sensor

\* Length does not include pins, please add approximately 6mm (.25 in.) for pin length for a total length of approximately 32mm (1.25 in.).

### Standard Force Ranges (as tested with circuit shown below)

#### Force Range:

Low: 0 - 1 lb. (4.4 N)

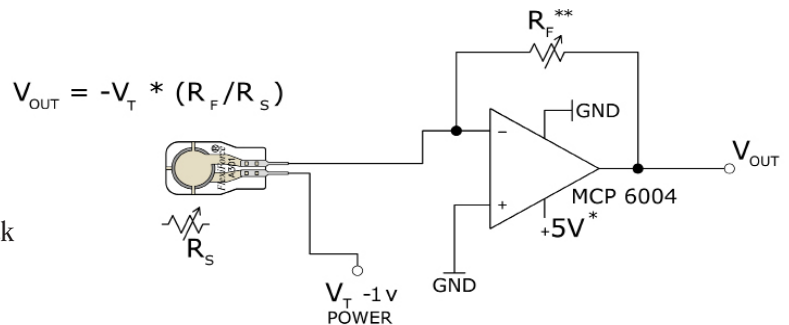
Medium: 0 - 25 lb. (111 N)

High: 0 - 100 lb. (445 N)

#### Force Range Adjustments:

In order to measure higher forces, apply a lower drive voltage (-0.5 V, -0.10 V, etc.) and reduce the resistance of the feedback resistor (1kΩ min.) To measure lower forces, apply a higher drive voltage and increase the resistance of the feedback resistor.

#### Recommended Circuit



- \* Supply Voltages should be constant
- \*\* Reference Resistance  $R_F$  is 1kΩ to 100kΩ
- Sensor Resistance  $R_S$  at no load is >5MΩ
- Max recommended current is 2.5mA

### Typical Performance

Linearity (Error)	< ±3%
Repeatability	< ±2.5% of full scale
Hysteresis	< 4.5 % of full scale
Drift	< 5% per logarithmic time scale
Response Time	< 5 μsec

Operating Temperature -40°F - 140°F (-40°C - 60°C)\*

\*Force reading change per degree of temperature change = ±0.2%/°F (0.36%/°C)

### Evaluation Conditions

Line drawn from 0 to 50% load

Conditioned sensor, 80% of full force applied

Conditioned sensor, 80% of full force applied

Constant load

Impact load, output recorded on oscilloscope

Time required for the sensor to respond to an input force