• Sensors & Interfaces • Software • Support

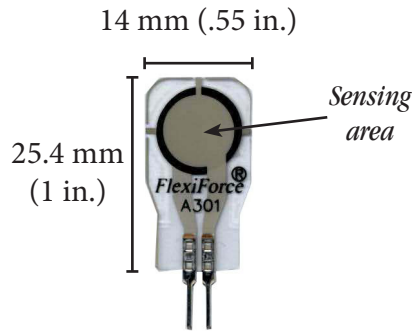
FlexiForce®

Standard Force & Load Sensors Model # A301

Physical Properties

Thickness	0.208 mm (0.008 in.)
Length	25.4 mm (1 in.)
Width	14 mm (0.55 in.)
Sensing Area	9.53 mm diameter (0.375 in.)
Connector	2-pin Male Square Pin
Substrate	Polyester (ex: Mylar)
Pin Spacing	2.54 mm (0.1 in.)

✓ROHS Compliant



Actual size of sensor

Standard Force Ranges (as tested with circuit shown below)

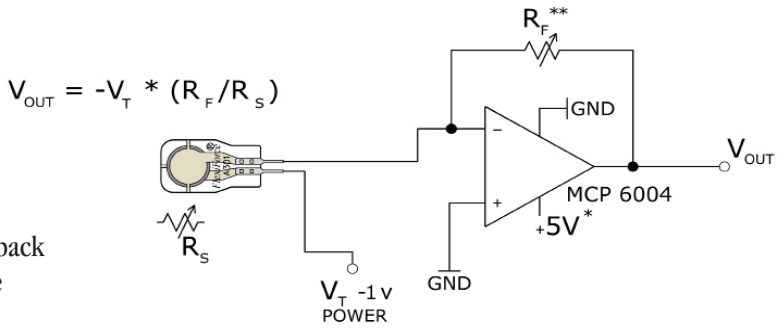
Force Range:

Low: 0 - 1 lb. (4.4 N)
Medium: 0 - 25 lb. (110 N)
High: 0 - 100 lb. (440 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

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