

FSR X™

Force Sensing Resistors®



Global human machine interface (HMI) leader, Interlink Electronics—the originator of the Force Sensing Resistor* (FSR)—expands its signature line of sensors with the FSR X.

The improved design of the FSR X offers a greatly expanded dynamic sensing range that extends from 0.3N to 50N, providing enhanced precision and broadening the scope of the FSR X's potential applications.

The FSR X 400 series comprises a full range of models in various sizes, shapes, and configurations, all of which can be utilized for custom sensing solutions.

FEATURES

- Improved sensing range extends from 0.3N to 50N
- Ultrathin form factor
- Able to withstand extreme temperatures and conditions
- Tested to 10 million actuations
- Simple and easy to integrate
- Customizable to a wide range of applications
- Cost effective

APPLICATIONS

- Industrial
- Robotics
- Medical
- Automotive
- Computing
- IoT
- Wearable Technology

*Force Sensing Resistors are robust polymer thick film (PTF) devices that exhibit a decrease in resistance when increased force is applied to the surface of the sensor.

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Device Characteristics

Sensor Resistance Output	Analog
Actuation Force	0.3N (min)
Force Sensing Range	0.3N – 50N
Force Repeatability Single Part	+/-2%
Force Repeatability Part to Part	+/-6% (Single Batch)
No-Load Resistance	>10 M Ω
Hysteresis	+5% (RF+ – RF-)/RF+
Long Term Drift @ 5kg, 10 days	<4% log ₁₀ (time)
Operating Temperature Performance	
Cold: -25°C after 1 hour	+2% resistance change
Hot: +85°C after 1 hour	+9% resistance change
Storage Temperature Performance	
Cold: -40°C after 120 hours	+1% resistance change
Hot: +85°C after 120 hours	+3% resistance change
Tap Durability	
Tested to 10 Million actuations @1kg, 4Hz	-13% resistance change
Thermal Shock @85°C to -40°C, 20 Cycles	+13% resistance change
Standing Load Durability	
2.5kg for 24 hours	-5% resistance change
UL	All materials UL grade 94 V-1 or better
RoHS	Compliant

NOTES

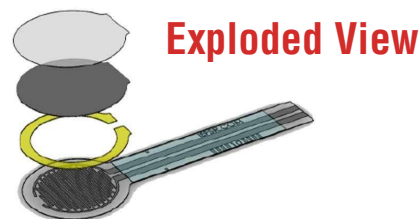
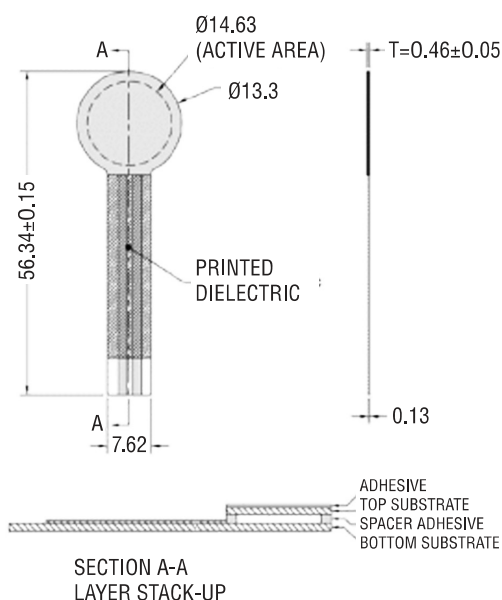
- Specifications are derived from measurements obtained at 2,500 grams force, unless otherwise stated. Measurements are dependent on actuation interface, mechanism and measurement electronics.
- The test was performed using FSR X™ 402 design.
- Additional information is available upon request.

Sensor Mechanical Data:

Active Area: Ø14.68mm

Nominal Thickness: 0.46mm

Switch Travel: 0.15mm



Exploded View

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