

# FSR X<sup>m</sup>

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.

# FSR X™

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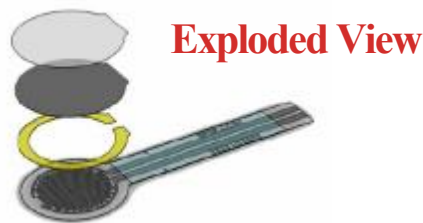
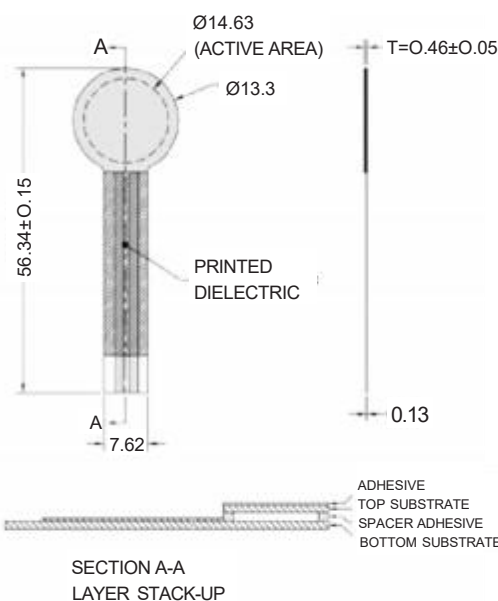


## Device Characteristics

<b>Sensor Resistance Output</b> .....	<b>Analog</b>
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 $\Omega$
Hysteresis .....	+5% (RF+ – RF-)/RF+
Long Term Drift @ 5kg, 10 days .....	<4% log <sub>10</sub> (time)
<b>Operating Temperature Performance</b>	
Cold: -25°C after 1 hour .....	+2% resistance change
Hot: +85°C after 1 hour.....	+9% resistance change
<b>Storage Temperature Performance</b>	
Cold: -40°C after 120 hours.....	+1% resistance change
Hot: +85°C after 120 hours .....	+3% resistance change
<b>Tap Durability</b>	
Tested to 10 Million actuations @1kg, 4Hz.....	-13% resistance change
Thermal Shock @85°C to -40°C, 20 Cycles.....	+13% resistance change
<b>Standing Load Durability</b>	
2.5kg for 24 hours .....	-5% resistance change
UL .....	All materials UL grade 94 V-1 or better
RoHS.....	Compliant

## Sensor Mechanical Data:

Active Area: Ø14.68mm  
 Nominal Thickness: 0.46mm  
 Switch Travel: 0.15mm



## Contact Us

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### 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.