

# Standard Force Sensor

## TPE-600 SERIES DATA SHEET



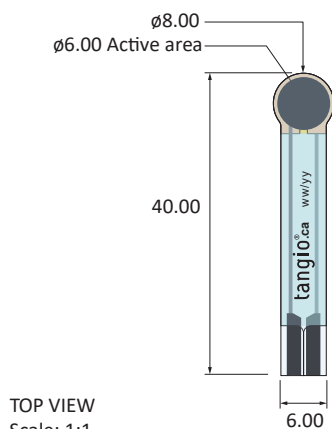
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## Standard Force Sensor

## TPE-601



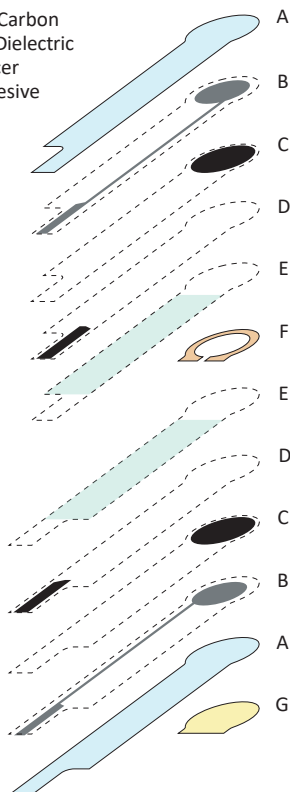
## Mechanical data

Active area	ø6.00mm	Trace width	0.25mm
Assembly thickness	0.25mm	Trace pitch	0.25mm
Mode	Thru	Spacer height	0.05mm
Overall diameter	8.00mm	Tail length	32.25mm
Sensor overall length	40.00mm	Tail width	6.00mm

## Interconnect options and part numbers

### STACKED VIEW

- A PET
- B Silver Conductive
- C FSR
- D Tail Carbon
- E Tail Dielectric
- F Spacer
- G Adhesive



### TPE-601A



Exposed carbon traces

### TPE-601B



YIDA. bronze/tin  
plated solder tab  
P/N# YD-1-254-10

### TPE-601C



CNT female phos. bronze/tin  
plated termination pins  
P/N# 3043-001-00  
w/HX standard housing  
P/N# HX-25406-2Y

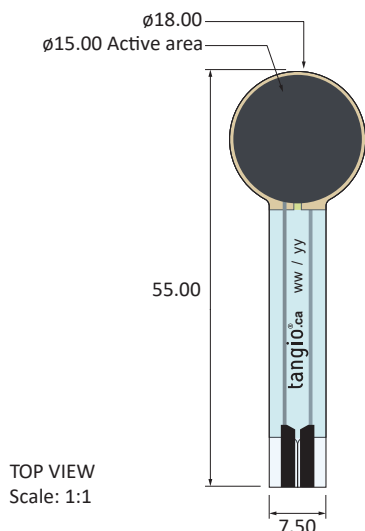
## Device characteristics

Characteristic	Description	Value	Notes
Actuation force	Force to reach 10MΩ	< 15g	Average of 100 samples
Force range	linear region of log/log	Up to 5kg	Higher forces can be achieved with custom sensor and actuation methods
Long term drift	1kg for 48hrs	1%	Per log time
Single part repeatability	100 actuations of 1kg	4%	1 standard deviation/mean
Part to part repeatability	100 sensors same batch	10%	1 standard deviation/mean
Low temp. storage	-20°C for 250hrs	2%	Avg. change in resistance of 5 sensors
High temp. storage	+85°C for 250hrs	20%	Avg. change in resistance of 5 sensors
High humidity storage	+85°C/85%RH for 250hrs	20%	Avg. change in resistance of 5 sensors
Lifecycle durability (10M)	1kg force at 3Hz	TBD	Avg. change in resistance of 4 sensors
Hysteresis	100 actuations of 1kg	10%	Avg. change in resistance of 100 samples
Operational temp. range	100 cycles at 0.5kg	-20 to +60°C	

Note: All values typical, and quoted at 10N applied force unless otherwise stated. Force dependent on actuation interface, mechanics, and measurement electronics.

## Standard Force Sensor

## TPE-603



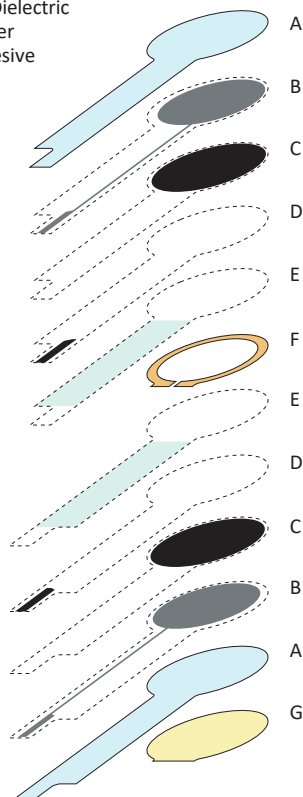
## Mechanical data

Active area	15.00mm	Trace width	0.25mm
Assembly thickness	0.375mm	Trace pitch	0.25mm
Mode	Thru	Spacer height	0.127mm
Overall diameter	18.00mm	Tail length	37.20mm
Sensor overall length	55.00mm	Tail width	7.50mm

## Interconnect options and part numbers

### STACKED VIEW

- A PET
- B Silver Conductive
- C FSR
- D Tail Carbon
- E Tail Dielectric
- F Spacer
- G Adhesive



### TPE-603A



Exposed carbon traces

### TPE-603B



YIDA. bronze/tin  
plated solder tab  
P/N# YD-1-254-10

### TPE-603C



CNT female phos. bronze/tin  
plated termination pins  
P/N# 3043-001-00  
w/HX standard housing  
P/N# HX-25406-2Y

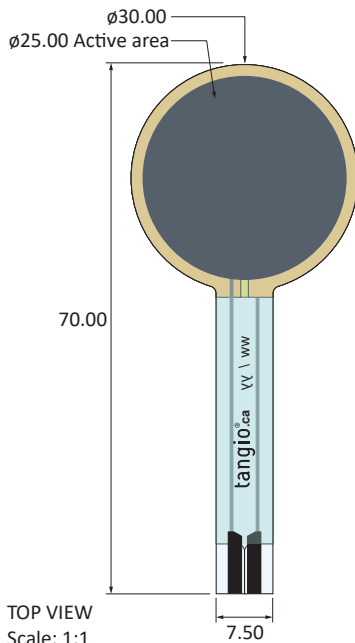
## Device characteristics

Characteristic	Description	Value	Notes
Actuation force	Force to reach 10MΩ	< 15g	Average of 100 samples
Force range	linear region of log/log	Up to 5kg	Higher forces can be achieved with custom sensor and actuation methods
Long term drift	1kg for 48hrs	1%	Per log time
Single part repeatability	100 actuations of 1kg	4%	1 standard deviation/mean
Part to part repeatability	100 sensors same batch	10%	1 standard deviation/mean
Low temp. storage	-20°C for 250hrs	2%	Avg. change in resistance of 5 sensors
High temp. storage	+85°C for 250hrs	20%	Avg. change in resistance of 5 sensors
High humidity storage	+85°C/85%RH for 250hrs	20%	Avg. change in resistance of 5 sensors
Lifecycle durability (10M)	1kg force at 3Hz	TBD	Avg. change in resistance of 4 sensors
Hysteresis	100 actuations of 1kg	10%	Avg. change in resistance of 100 samples
Operational temp. range	100 cycles at 0.5kg	-20 to +60°C	

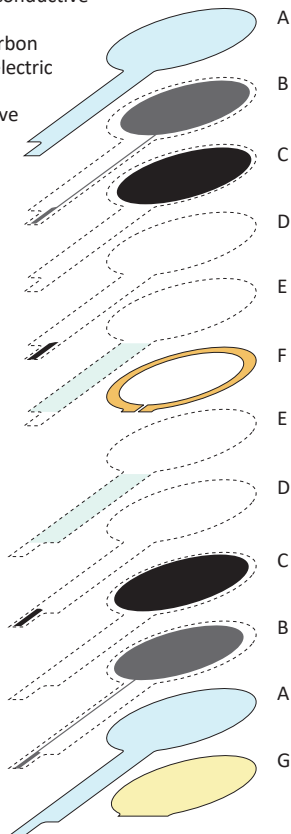
Note: All values typical, and quoted at 10N applied force unless otherwise stated. Force dependent on actuation interface, mechanics, and measurement electronics.

## Standard Force Sensor

## TPE-610



STACKED VIEW  
A PET  
B Silver Conductive  
C FSR  
D Tail Carbon  
E Tail Dielectric  
F Spacer  
G Adhesive



## Mechanical data

Active area	25.00mm	Trace width	0.25mm
Assembly thickness	0.425mm	Trace pitch	0.25mm
Mode	Thru	Spacer height	0.127mm
Overall diameter	30.00mm	Tail length	39.72mm
Sensor overall length	70.00mm	Tail width	7.50mm

## Interconnect options and part numbers

### TPE-610A



Exposed carbon traces

### TPE-610B



YIDA. bronze/tin  
plated solder tab  
P/N# YD-1-254-10

### TPE-610C



CNT female phos. bronze/tin  
plated termination pins  
P/N# 3043-001-00  
w/HX standard housing  
P/N# HX-25406-2Y

## Device characteristics

Characteristic	Description	Value	Notes
Actuation force	Force to reach 10MΩ	< 15g	Average of 100 samples
Force range	linear region of log/log	Up to 5kg	Higher forces can be achieved with custom sensor and actuation methods
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High humidity storage	+85°C/85%RH for 250hrs	20%	Avg. change in resistance of 5 sensors
Lifecycle durability (10M)	1kg force at 3Hz	TBD	Avg. change in resistance of 4 sensors
Hysteresis	100 actuations of 1kg	10%	Avg. change in resistance of 100 samples
Operational temp. range	100 cycles at 0.5kg	-20 to +60°C	

Note: All values typical, and quoted at 10N applied force unless otherwise stated. Force dependent on actuation interface, mechanics, and measurement electronics.

## CONTACT

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