

Standard Force Sensor

TPE-600 SERIES DATA SHEET



CONTENTS

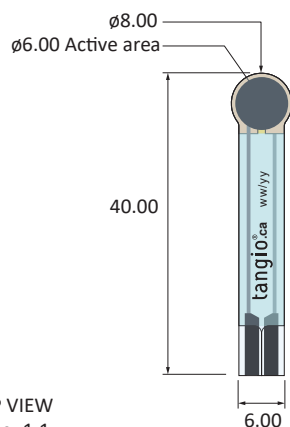
Force Sensing Resistor

TPE-601	Page 3
TPE-603	Page 4
TPE-610	Page 5
Contacts	Page 6



Standard Force Sensor

TPE-601



TOP VIEW
Scale: 1:1

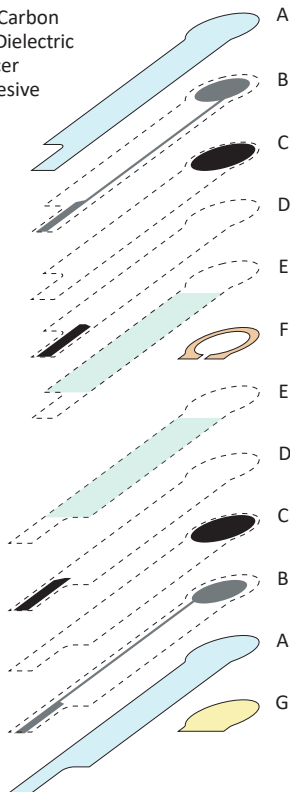
Mechanical data

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

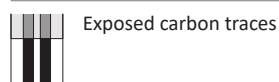
Interconnect options and part numbers

STACKED VIEW

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



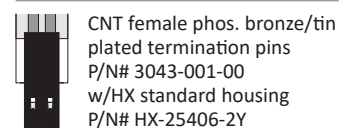
TPE-601A



TPE-601B



TPE-601C



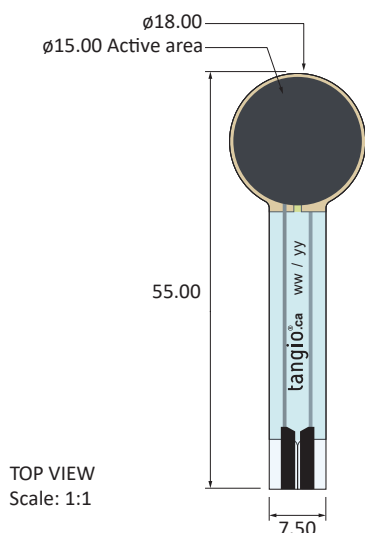
Device characteristics

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



TOP VIEW
Scale: 1:1

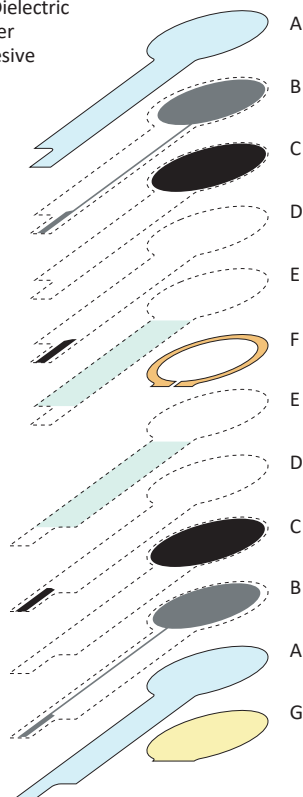
Mechanical data

Active area	ø15.00mm	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



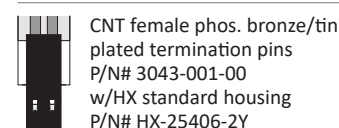
TPE-603A



TPE-603B



TPE-603C



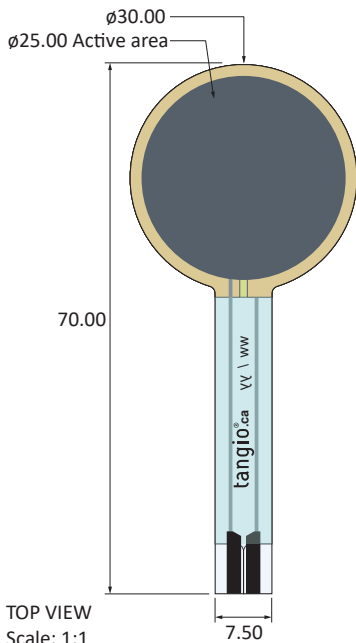
Device characteristics

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

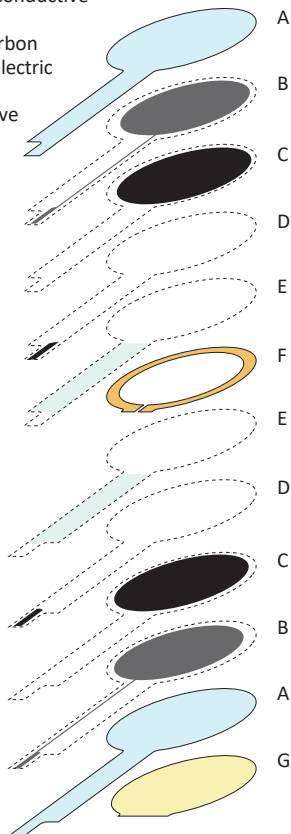
TPE-610



TOP VIEW
Scale: 1:1

STACKED VIEW

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

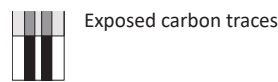


Mechanical data

Active area	ø25.00mm	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

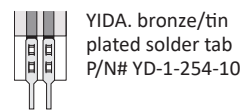
Interconnect options and part numbers

TPE-610A



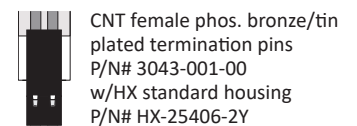
Exposed carbon traces

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
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.

CONTACT

Tangio Printed Electronics

100-55 Gostick Place
North Vancouver, BC
Canada
V7M 3N2

+1.800.567.9835 - Toll free (US & Canada)

+1.604.988.1125 - Direct dial

www.tangio.ca

General

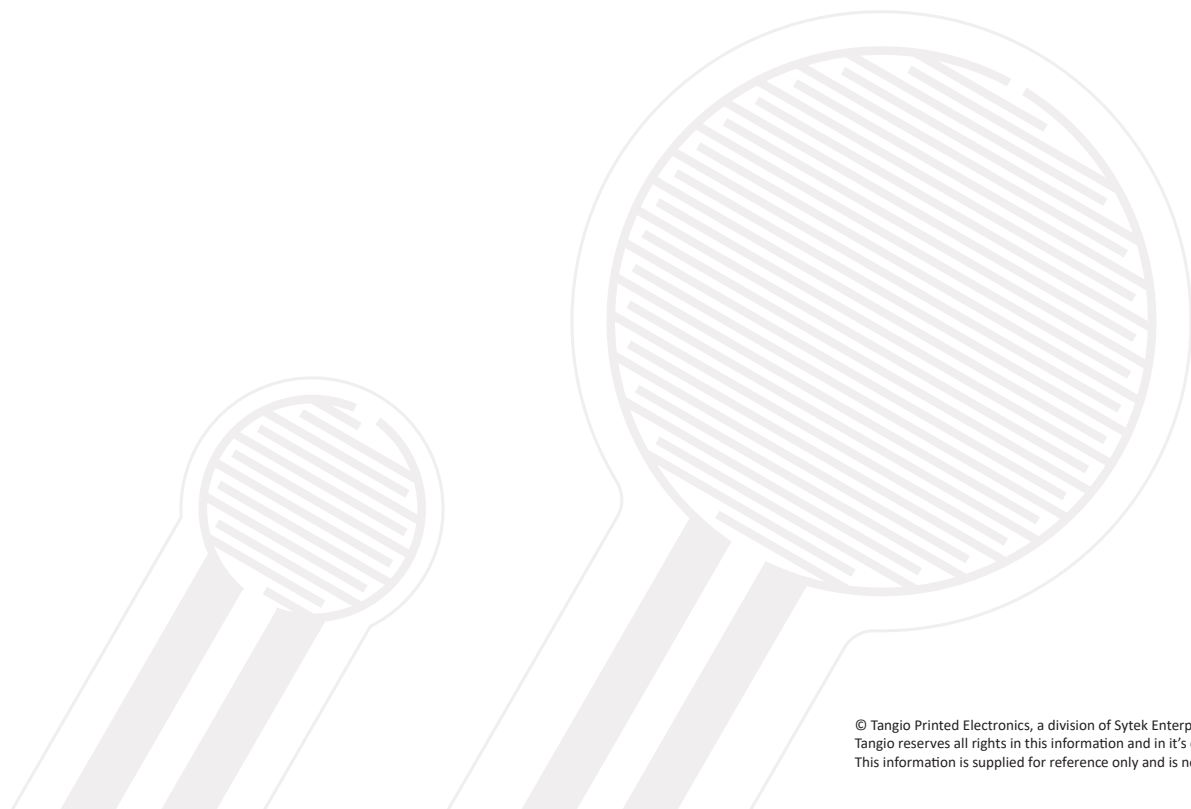
info@tangio.ca

Regional

americas@tangio.ca - The Americas

emea@tangio.ca - Europe, Middle East & Africa

apac@tangio.ca - Asia Pacific



© Tangio Printed Electronics, a division of Sytek Enterprises Inc.
Tangio reserves all rights in this information and in its commercial use.
This information is supplied for reference only and is not warranted.