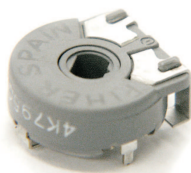
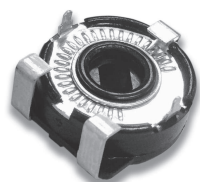


# 15mm potentiometer SMD



## PS-15 & PSX-15

### FEATURES

- Specifically designed for leadfree reflow soldering processes (excellent performance).
- IP54 protection according to IEC 60529.
- Carbon resistive element.
- Full traceability.
- Self extinguishable plastic UL 94V-0 and moisture sensitivity level 1 (PS-15).
- Embossed tape according to IEC 60286-3:2007
- Wiper positioned at initial, 50% or fully clockwise.
- Also upon request:
  - Mechanical detents.
  - Locating pins for accurate PCB positioning.
  - Low torque versions.
  - Log/alog and custom tapers.
  - Shafts and knobs.

### MECHANICAL SPECIFICATIONS

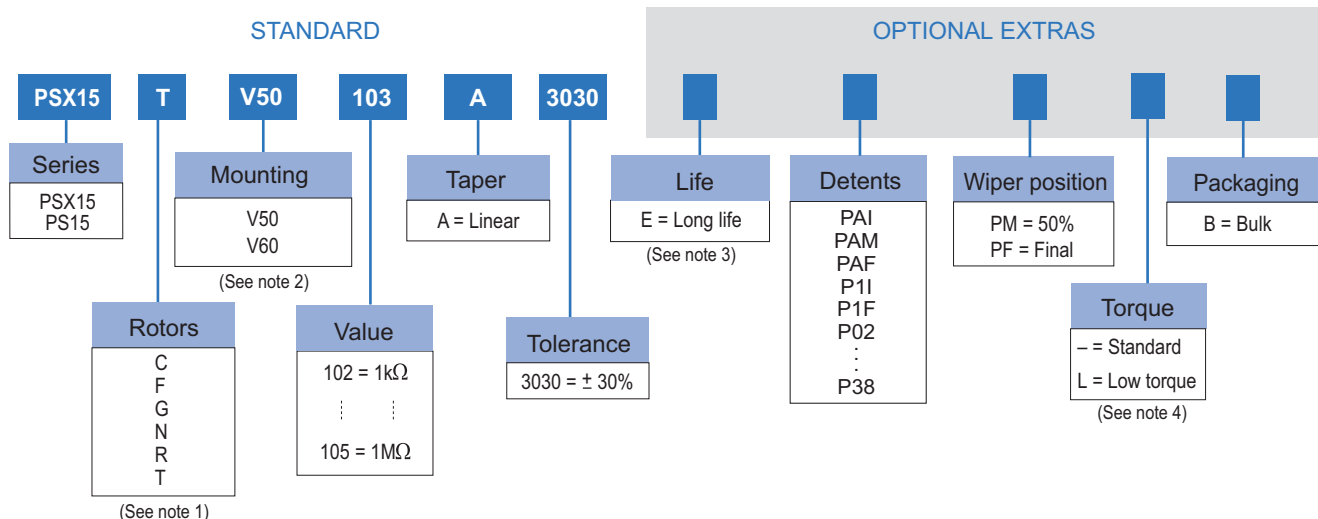
- Mechanical rotation angle:  $265^\circ \pm 5^\circ$
- Electrical rotation angle:  $240^\circ \pm 20^\circ$
- Torque: 0.5 to 2.5 Ncm.  
(0.7 to 3.4 in-oz)
- Stop torque: > 10 Ncm. (>14 in-oz)
- Mechanical life\*: up to 10K cycles

\* Others upon request

### ELECTRICAL SPECIFICATIONS

- Value\*: 1k $\Omega$  to 1M $\Omega$
- Tolerance\*:  $\pm 30\%$
- Taper\*: Linear
- Nominal Power: 0.25W @ 50°C (122°F)
- Operating temperature: PSX-15:  $-25^\circ\text{C} + 70^\circ\text{C}$   
PS-15:  $-40^\circ\text{C} + 85^\circ\text{C}$
- Residual resistance:  $\leq 5 \cdot 10^{-3} R_n$
- Equivalent Noise Resistance:  $\leq 3\% R_n$

### HOW TO ORDER



#### NOTES:

- (1) Rotors C and F not available for PSX-15.
- (2) V50: without locating pins.  
V60: with locating pins.
- (3) "E" option for PSX-15 only. Higher life available upon request for both models to be studied case by case.
- (4) Low Torque:  $\leq 1.5\text{Ncm}$ . No detent option available for low torque models

## HOW TO ORDER CUSTOM DRAWING

PS(X)-15 TV50 + DRAWING NUMBER (Max. 16 digits)

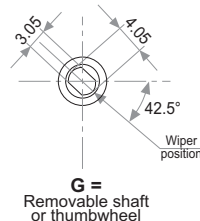
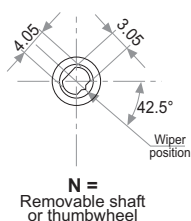
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

## STANDARD OPTIONS

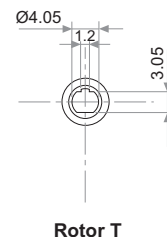
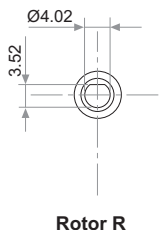
|                       | PSX-15    | PS-15      |
|-----------------------|-----------|------------|
| Detents .....         | None      | None       |
| Rotor colour .....    | Black     | Grey       |
| Housing colour .....  | Black     | Grey       |
| Wiper position .....  | Initial   | Initial    |
| Torque .....          | Standard  | Standard   |
| Packaging .....       | Reel      | Reel       |
| Mechanical Life ..... | 1K cycles | 10K cycles |

## ROTORS (collector side view)

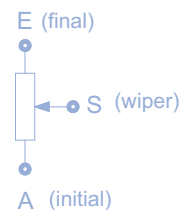
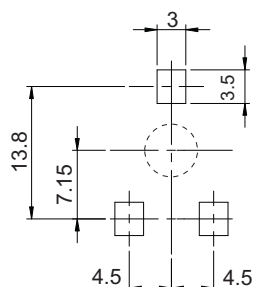
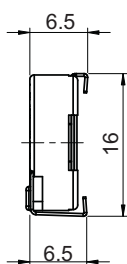
Wipers positioned at initial



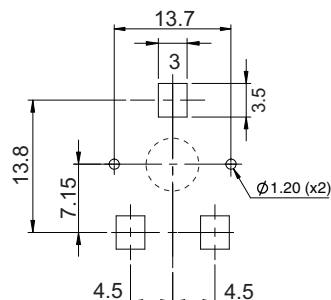
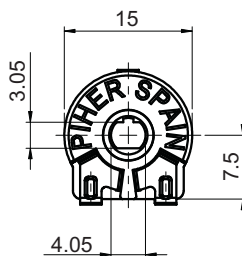
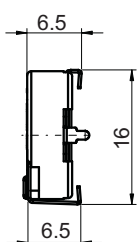
Wipers positioned at 50%



## DIMENSIONS (V50 version)

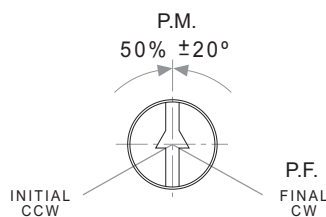


## DIMENSIONS (V60 version - with centering pins)



## POSITIONING

Positioning (Std. Position = CCW)



## PSX-15 RECOMMENDED REFLOW PROFILE



The recommended reflow profile is provided as a guideline. Optimal profile may differ due to oven type, assembly layout or other design or process variables. Customers should verify actual device performance in their specific application and reflow process. Please contact Piher if you require additional support.

## PSX-15 TESTS

## VARIATIONS

|                                  |                           |           |
|----------------------------------|---------------------------|-----------|
| ELECTRICAL LIFE                  | 1000 h. @ 50°C; 0.25 W    | ±10 %     |
| MECHANICAL LIFE*                 | 1k @ 10 CPM ...15 CPM     | ±10 %     |
| TEMPERATURE COEFFICIENT          | -25°C; +70°C              | ±1000 ppm |
| THERMAL CYCLING                  | 16 h. @ 85°C; 2h. @ -25°C | ±5 %      |
| DAMP HEAT                        | 500 h. @ 40°C @ 95% HR    | ±15 %     |
| VIBRATION (for each plane X,Y,Z) | 2 h. @ 10 Hz. ... 55 Hz.  | ±3 %      |

\* Tests at room temperature. Other life cycles upon request.

NOTE: Out of range values may not comply these results. Please confirm with the factory all the information before designing in.

## PS-15 RECOMMENDED REFLOW PROFILE



The recommended reflow profile is provided as a guideline. Optimal profile may differ due to oven type, assembly layout or other design or process variables. Customers should verify actual device performance in their specific application and reflow process. Please contact Piher if you require additional support.

## PS-15 TESTS

## VARIATIONS

|                                  |                           |           |
|----------------------------------|---------------------------|-----------|
| ELECTRICAL LIFE                  | 1000 h. @ 50°C; 0.25 W    | ±10 %     |
| MECHANICAL LIFE                  | 10k @ 10 CPM ...15 CPM    | ±10 %     |
| TEMPERATURE COEFFICIENT          | -40°C; +85°C              | ±1500 ppm |
|                                  | -25°C; +70°C              | ±1000 ppm |
| THERMAL CYCLING                  | 16 h. @ 90°C; 2h. @ -40°C | ±5 %      |
| DAMP HEAT                        | 500 h. @ 40°C @ 95% HR    | ±15 %     |
| VIBRATION (for each plane X,Y,Z) | 2 h. @ 10 Hz. ... 55 Hz.  | ±3 %      |

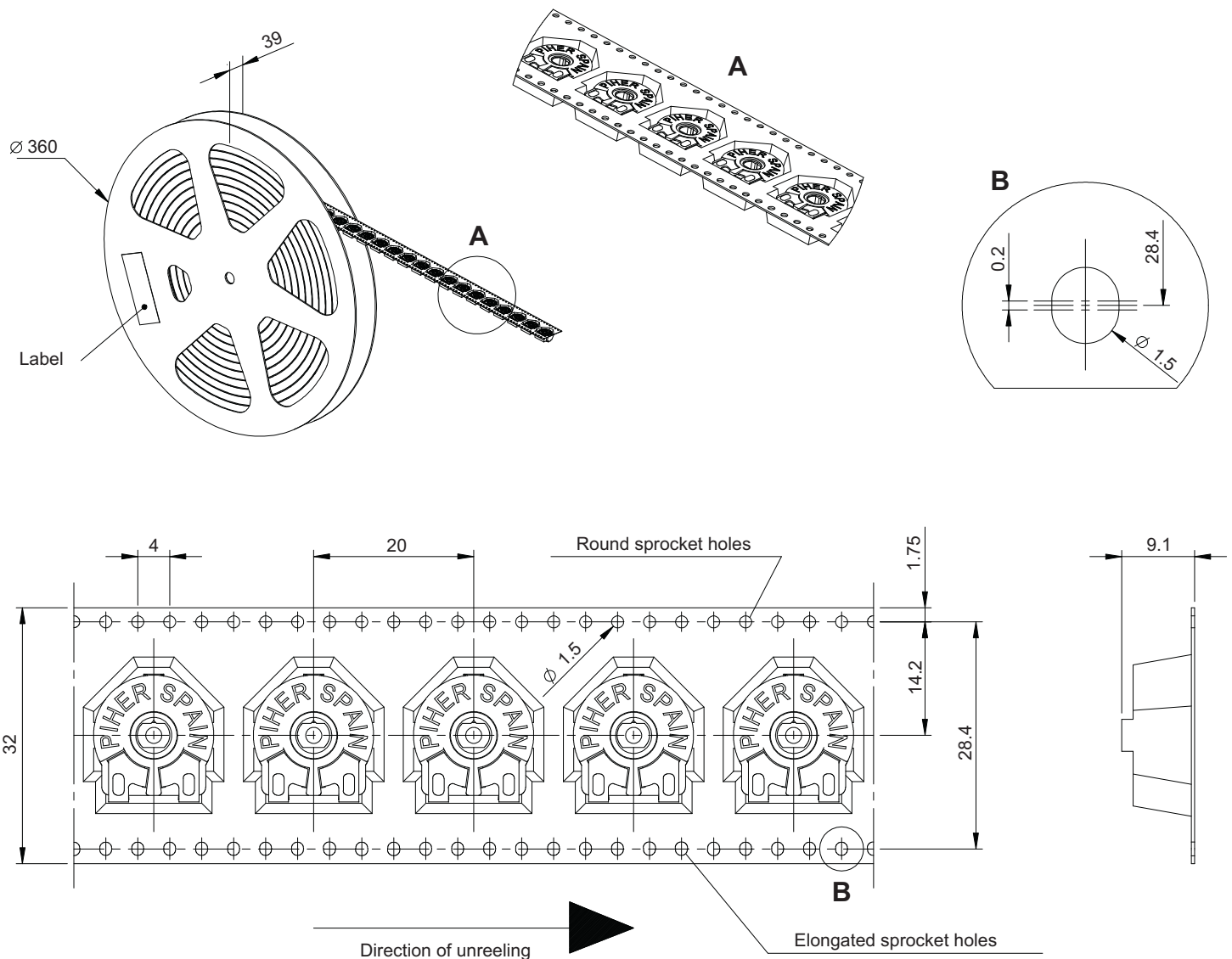
\* Tests at room temperature. Other life cycles upon request.

NOTE: Out of range values may not comply these results. Please confirm with the factory all the information before designing in.

## PACKAGING

BULK: 500pcs per box (80 x 85 x 185 mm.).

EMBOSSED TAPE: 400pcs per reel.

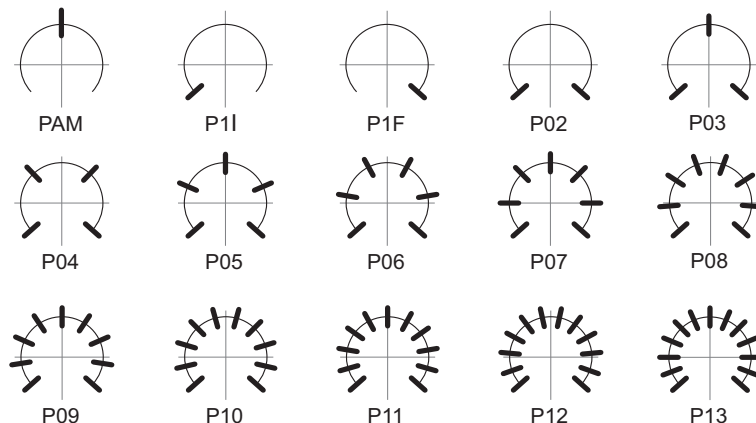


## DETENT CONFIGURATIONS EXAMPLES

This innovative PT's with detents family has been specifically developed to allow the integration of otherwise large and expensive external mechanisms into the body of the potentiometer thus allowing a high range of configurations: special tapers, torque, tolerances, linearity, cut track, etc.

This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

Detent number and positions can be made or fitted to the customer needs or preferences.



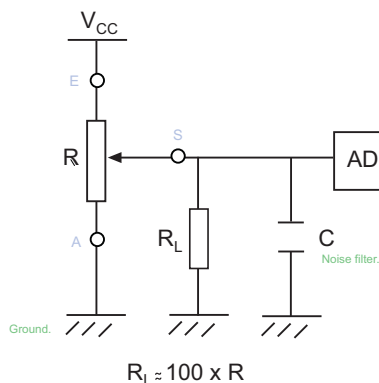
### NOTES FOR DETENTED VERSIONS:

- (1) Some configurations may have a longer leadtime.
- (2) Standard mechanical life is 500 cycles.
- (3) Long life versions are available under request and have the following characteristics at T<sup>a</sup>:
  - Potentiometers with 1 to 3 detents: up to 10K cycles
  - Potentiometers with 4 and more detents: up to 5K cycles
- (4) Detent torque can vary from 1.2 to 2.5 times the standard potentiometer torque.
- (5) Please consult your nearest Piher supplier if unique non-overlapping values at each detent position or LOG/ALOG tapers are required.
- (6) Different output voltage values can be matched at each detent position (under request).

— Relative detent positions along the total mechanical travel. Unless otherwise specified the detents are evenly spaced (using the end points as reference)

## RECOMMENDED CONNECTIONS

Piher potentiometer's recommended connection circuit for a position sensor or control application.  
(voltage divider circuit electronic design).



### Disclaimer

The product information in this catalogue is for reference purposes. Please consult for the most up to date and accurate design information.

Piher Sensors & Controls S.A., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Piher"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product described herein.

Piher disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Piher's terms and conditions of sale, including but not limited to the warranty expressed therein, which apply to these products.

No licence, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Piher.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Piher products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Piher for any damages arising or resulting from such use or sale. Please contact authorised Piher personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

All Piher products can be adapted to meet customer's requirements.  
Please always use the latest updated datasheets published at our website [www.piher.net](http://www.piher.net).

Information contained in and/or attached to this catalogue may be subject to export control regulations of the European Community, USA, or other countries. Each recipient of this document is responsible to ensure that usage and/or transfer of any information contained in this document complies with all relevant export control regulations. If you are in any doubt about the export control restrictions that apply to this information, please contact the sender immediately. For any Piher Exports, Note: All products / technologies are EAR99 Classified commodities. Exports from the United States are in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited.





**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331