

**P S 6**

## MAIN FEATURES

- Specifically designed for leadfree reflow soldering processes (excellent performance).
- Carbon resistive element.
- IP54 protection according to IEC 60529.
- Moisture sensitivity level 1.
- Embossed tape according to IEC 60286-3:2007.
- Wiper positioned at initial, 50% or fully clockwise.
- Full traceability.
- Also upon request:
  - Long life model for low cost control potentiometer applications.
  - Shaft - knob.
  - Self extinguishable plastic UL 94V-0.



## MECHANICAL SPECIFICATIONS

- Mechanical rotation angle:  $235^{\circ} \pm 5^{\circ}$
- Electrical rotation angle:  $200^{\circ} \pm 20^{\circ}$
- Torque: 0.2 to 2 Ncm.  
(0.3 to 2.7 in-oz)
- Stop torque:  $> 4$  Ncm. ( $> 7$  in-oz)

## ELECTRICAL SPECIFICATIONS

- Range of values\*:  
 $1\text{K}\Omega \leq R_n \leq 5\text{M}\Omega$  (Decad. 1.0 - 2.0 - 2.2 - 2.5 -4.7 -5.0)
- Std. tolerance\*:  
 $1\text{K}\Omega \leq R_n \leq 500\text{K}\Omega$  .....  $\pm 30\%$   
 $500\text{K}\Omega < R_n \leq 1.5\text{M}\Omega$  .....  $+ 50\% / - 30\%$
- Taper\*: Linear
- Nominal Power: 0.1W @ 50°C (122°F)
- Operating temperature: -40°C + 85°C
- Residual resistance:  $\leq 5.10^{-3} R_n$

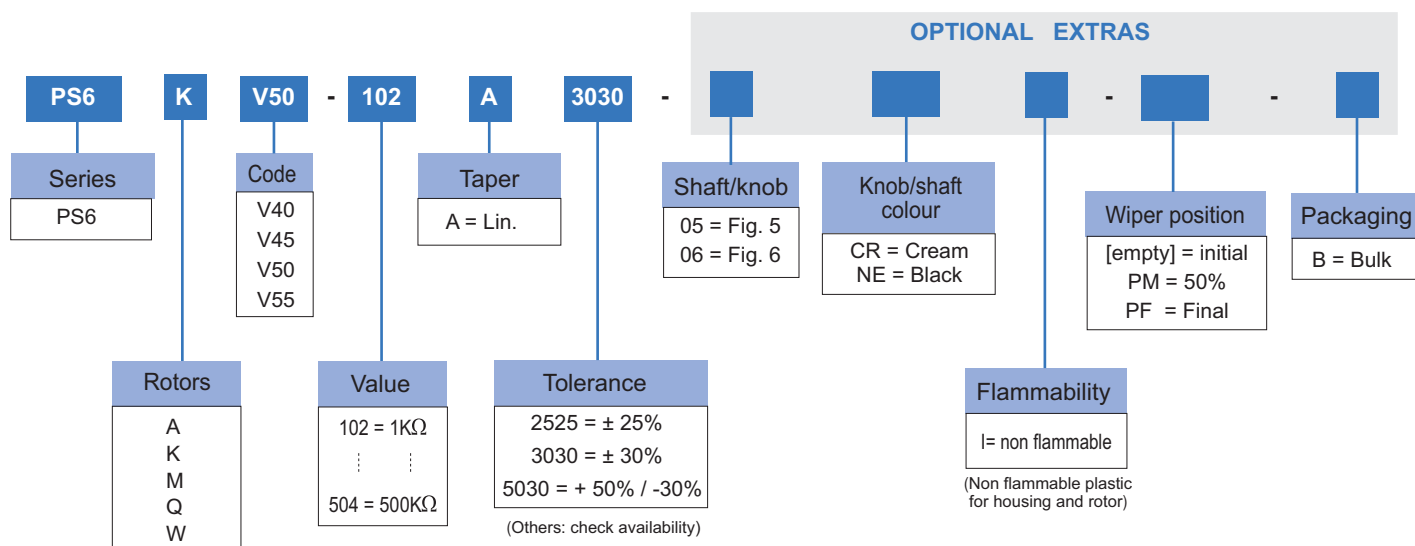
\* Others upon request

## HOW TO ORDER

Part number examples:

**PS6KV50-103A3030:** PS6 model with K rotor, V50 mounting type, 10K ohm resistive value, linear taper and 30% tolerance.

**PS6WW40-502A2525-06AZ-PS6:** PS6 model with inserted knob fig. 6, 5K ohm resistive value, linear taper, 25% tolerance, color of the knob: blue; wiper positioned at the end of the travel.



All Piher products can be adapted to meet customer's requirements.

PIHER

## HOW TO ORDER CUSTOM DRAWING

PS6KV50 + DRAWING NUMBER (Max. 16 characters)

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

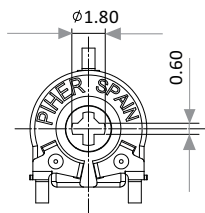
## STANDARD OPTIONS

Rotor colour ..... Grey  
 Housing colour ..... Grey  
 Wiper position ..... Initial  
 Packaging ..... Reel  
 Life ..... 1000 cycles  
 Detents ..... None

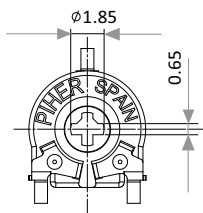
## ROTORS

Note: wipers are shown positioned at 50%. W model has an factory-inserted knob.

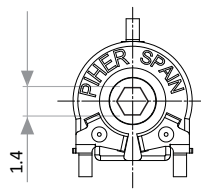
**K= Cross slot through hole**



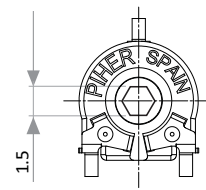
**Q= Cross slot through hole**  
 Available in cream color only



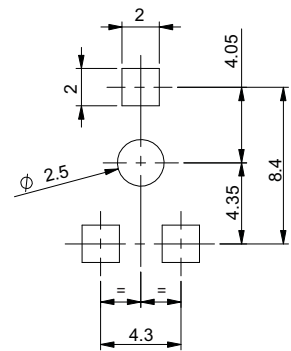
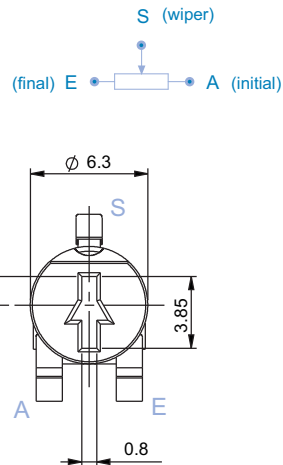
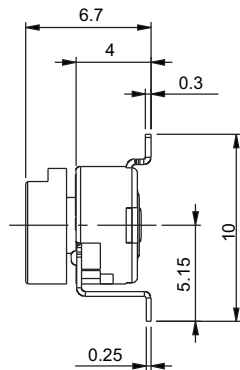
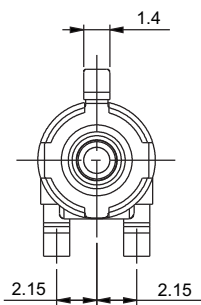
**M= Hexagonal through hole**



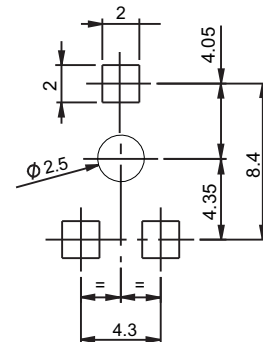
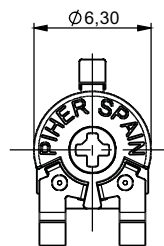
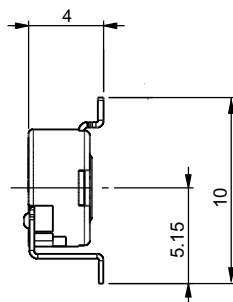
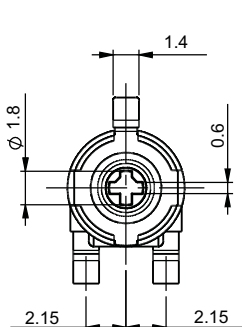
**A= Hexagonal through hole**  
 Available in cream color only



**W = with inserted shaft or knob.** Default color of the knob: cream.  
 Drawing example, W V40 with knob ref 6:

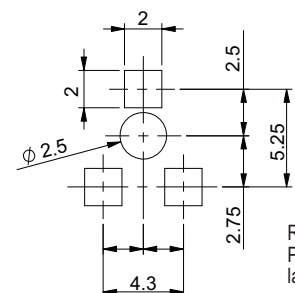
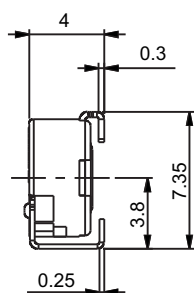
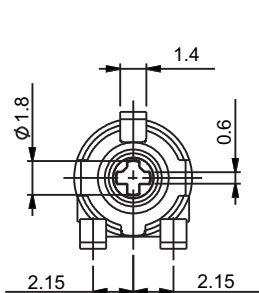


## DIMENSIONS - V40



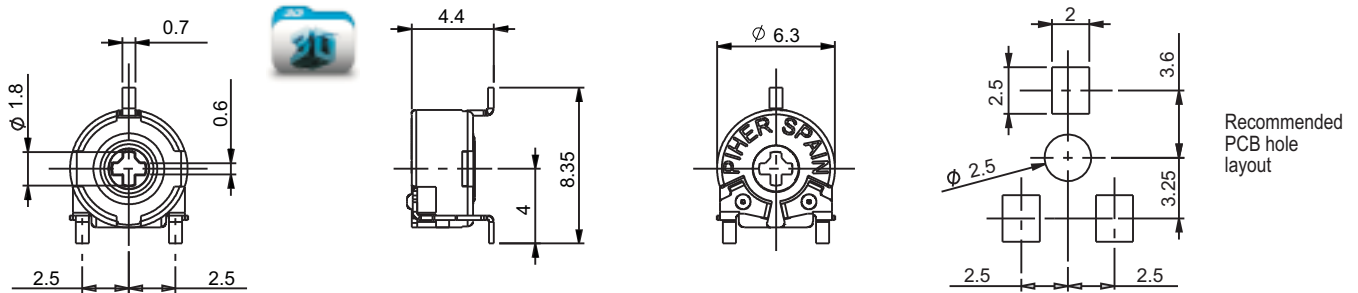
Recommended  
PCB hole  
layout

## DIMENSIONS - V45

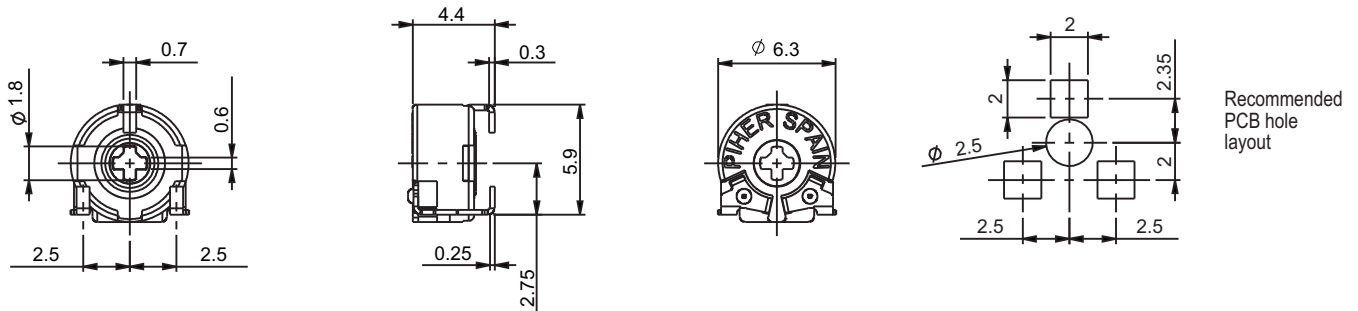


Recommended  
PCB hole  
layout

## DIMENSIONS - V50

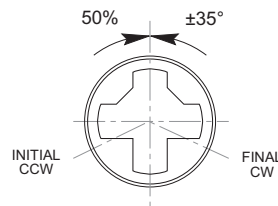


## DIMENSIONS - V55

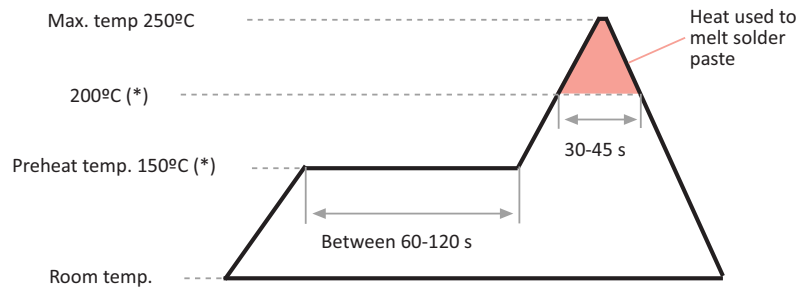


## POSITIONING

Std. Position = CCW



## PS-6 RECOMMENDED REFLOW PROFILE



(\*) Melting point temp. depends on solder properties

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.

## TESTS

## VARIATIONS

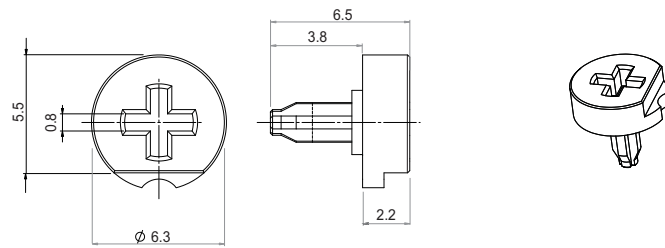
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.10 W	±10%
MECHANICAL LIFE (CYCLES)*	1000 @ 10 CPM ...15 CPM	±10 %
TEMPERATURE COEFFICIENT	-40°C; +85°C	±1500 ppm
THERMAL CYCLING	16 h. @ 90°C; 2h. @ -40°C	±5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±15 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±3 %

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

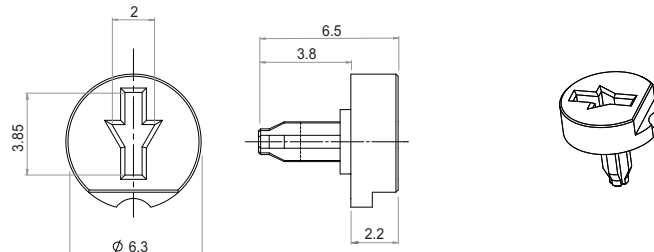
NOTE: Out of range values may not comply these results. Please confirm with the factory all the information before designing in.

## SHAFT / KNOB

Knob ref.: 6148 / Fig. 5



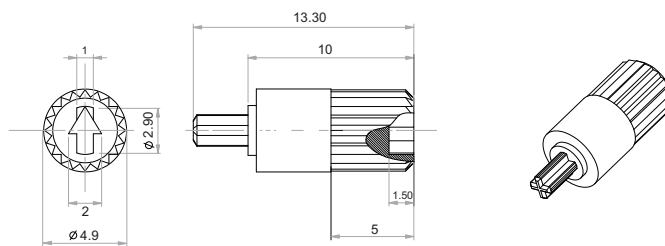
Knob ref.: 6160 / Fig. 6



Shaft ref.: 6144

Color: black, others check availability.

Please order this shaft separately as this is not provided-factory assembled to the potentiometer.

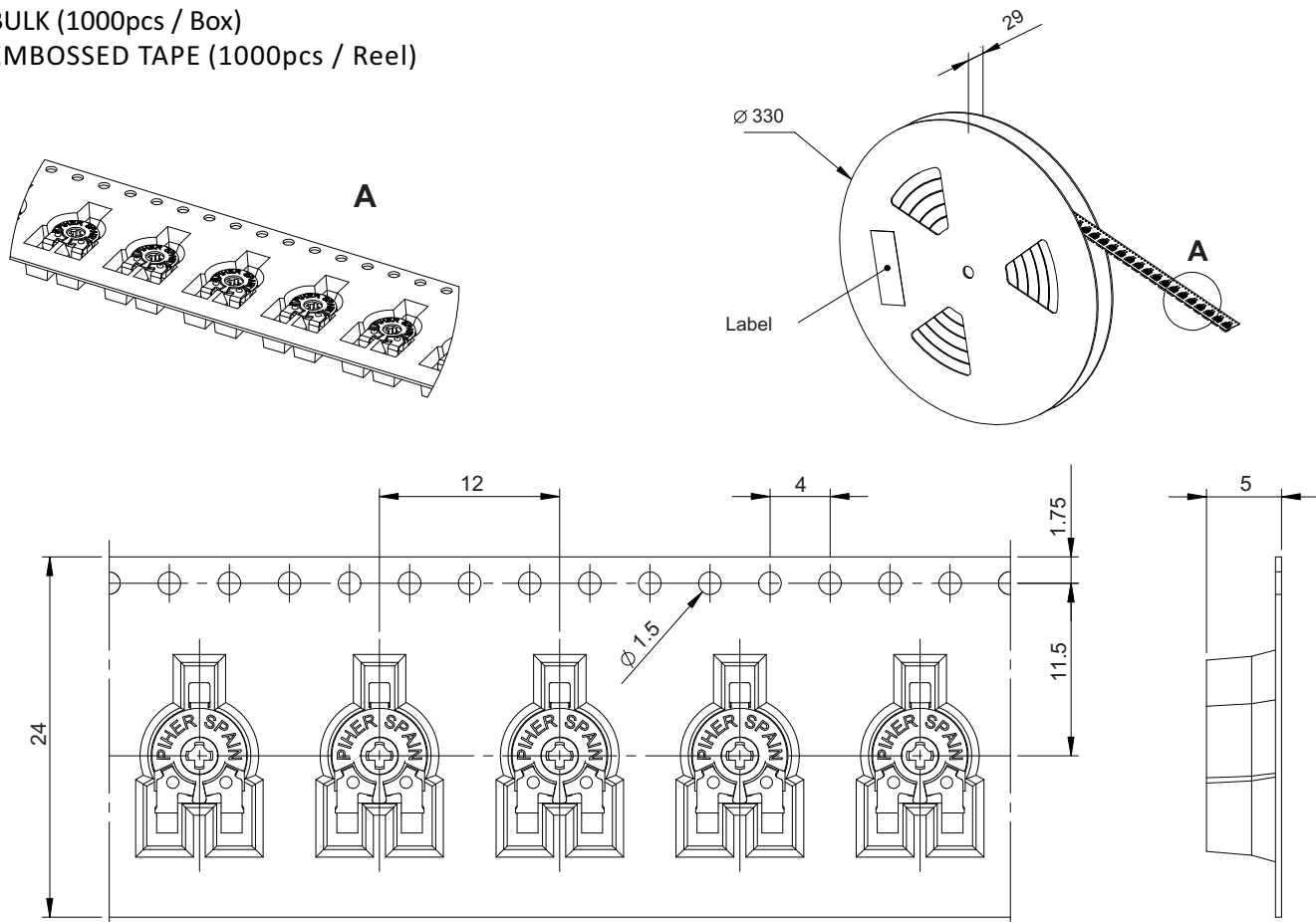


## PACKAGING

V40 and V45 models

BULK (1000pcs / Box)

EMBOSSED TAPE (1000pcs / Reel)

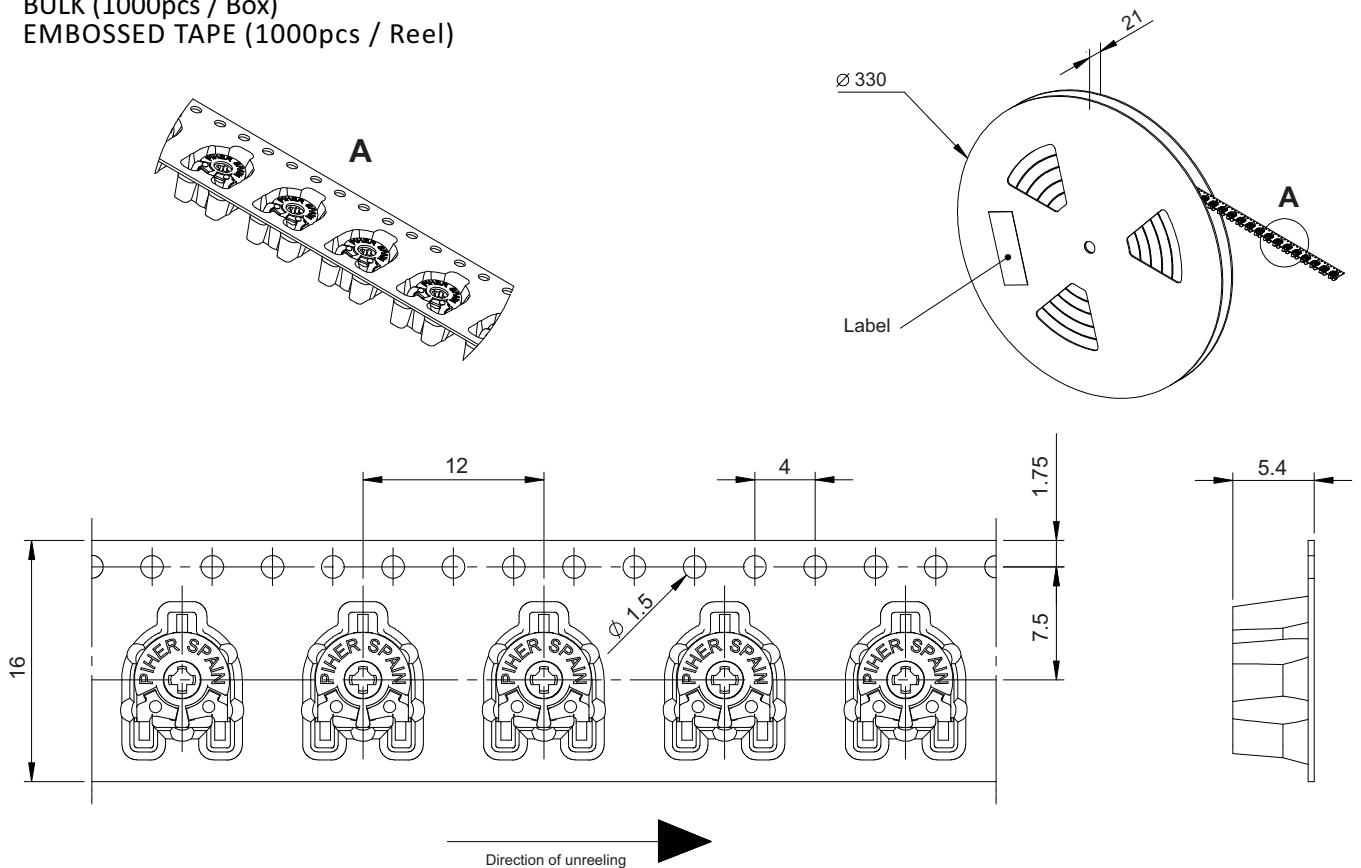


## PACKAGING

### V50 and V55 models

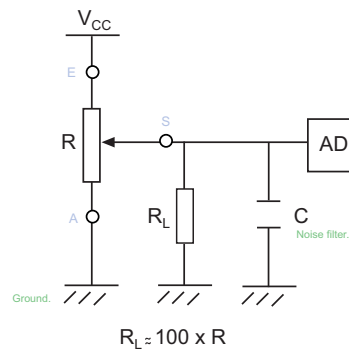
BULK (1000pcs / Box)

EMBOSSED TAPE (1000pcs / Reel)



## 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.

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