

potentiometer 6mm SMD



PS6

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*: $1K\Omega \leq R_n \leq 5M\Omega$ (Decad. 1.0 - 2.0 - 2.2 - 2.5 -4.7 -5.0)
- Std. tolerance*: $1K\Omega \leq R_n \leq 500K\Omega$ $\pm 30\%$
 $500K\Omega < R_n \leq 1.5M\Omega$ $+ 50\% / - 30\%$
- Taper*: Linear
- Nominal Power: 0.1W @ 50°C (122°F)
- Operating temperature: $-40^\circ\text{C} + 85^\circ\text{C}$
- Residual resistance: $\leq 5 \cdot 10^{-3} R_n$

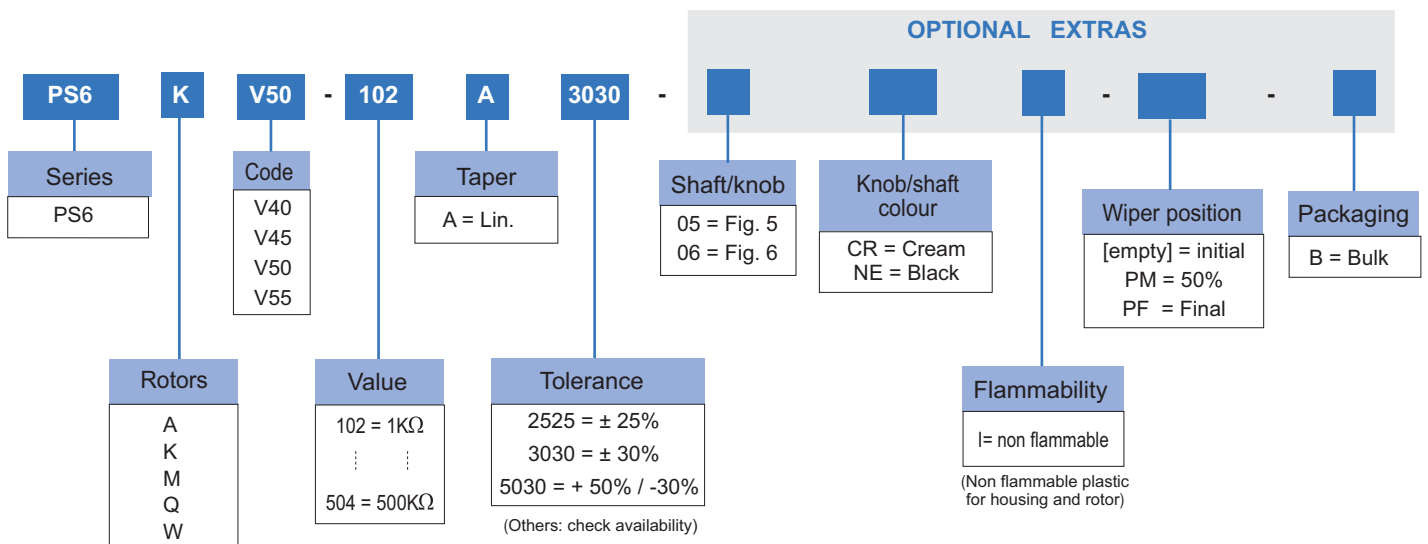
* Others upon request

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.

PS6WV40-502A2525-06AZ-PF: 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.

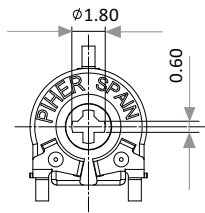
STANDARD OPTIONS

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

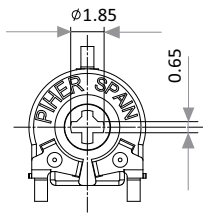
ROTORS

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

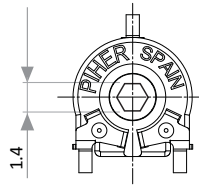
K= Cross slot through hole



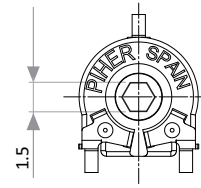
Q= Cross slot through hole
Available in cream color only



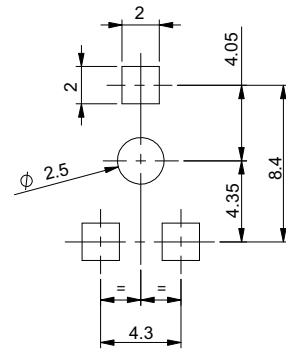
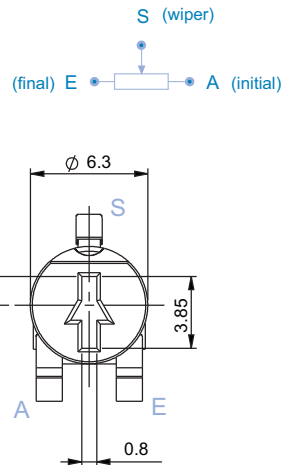
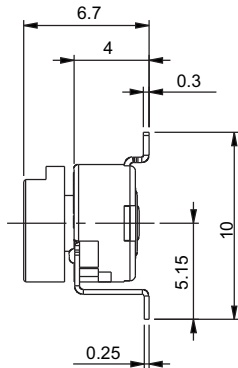
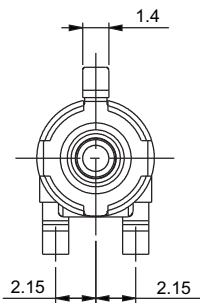
M= Hexagonal through hole



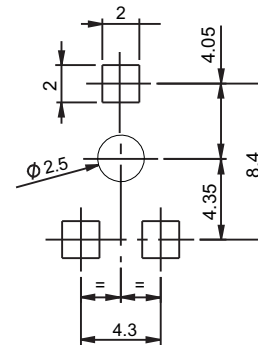
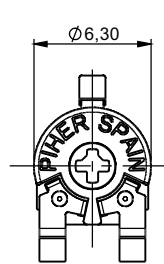
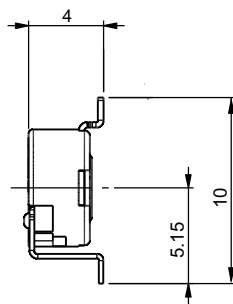
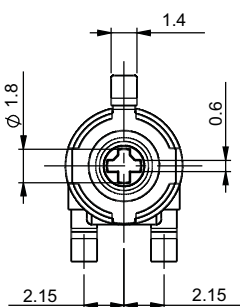
A= Hexagonal through hole
Available in cream color only



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

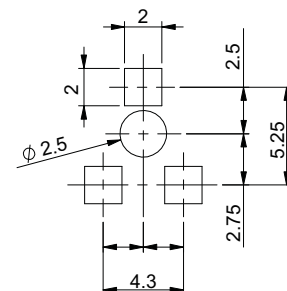
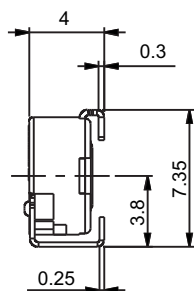
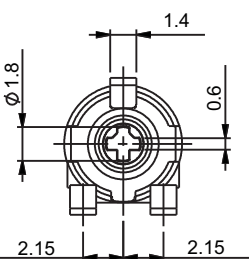


DIMENSIONS - V40



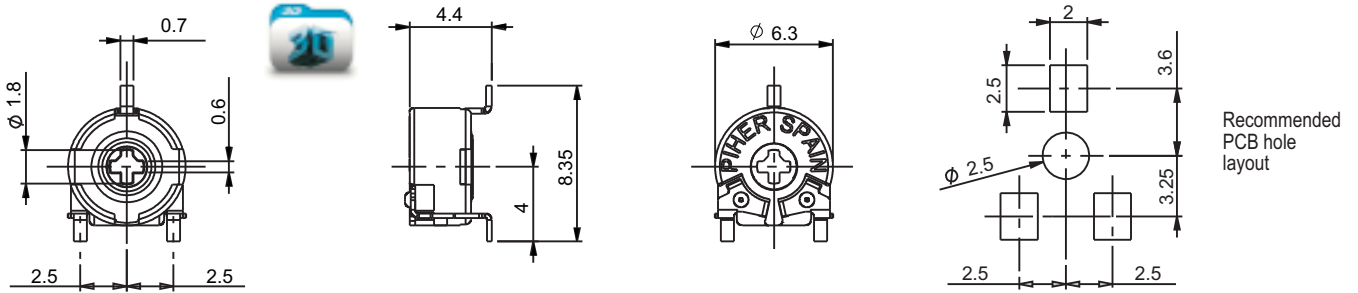
Recommended PCB hole layout

DIMENSIONS - V45

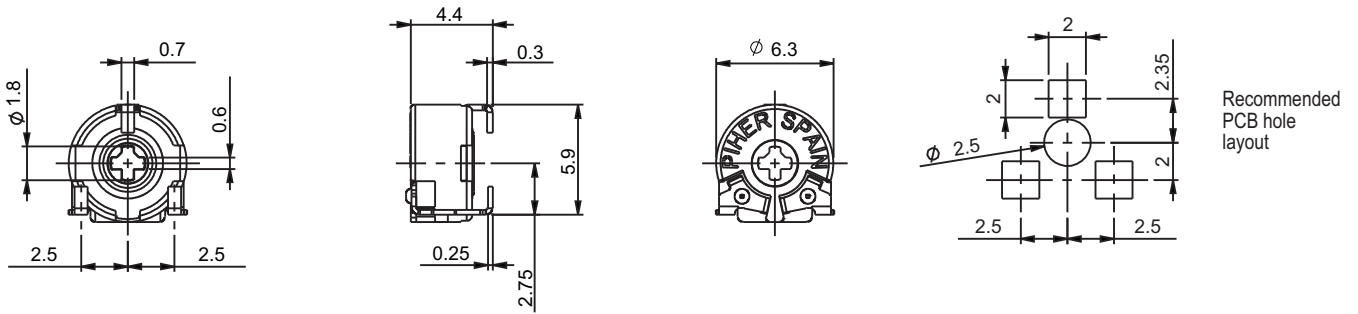


Recommended PCB hole layout

DIMENSIONS - V50

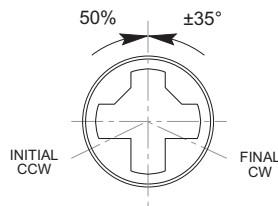


DIMENSIONS - V55

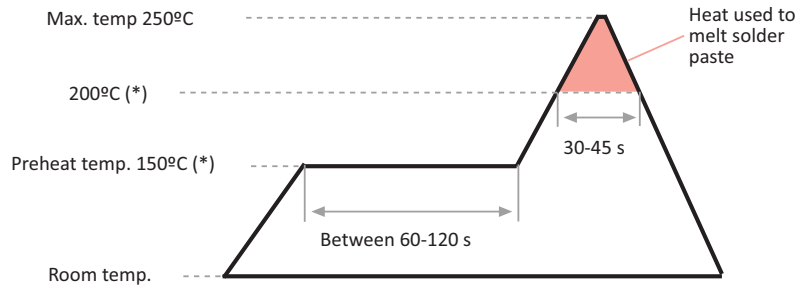


POSITIONING

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

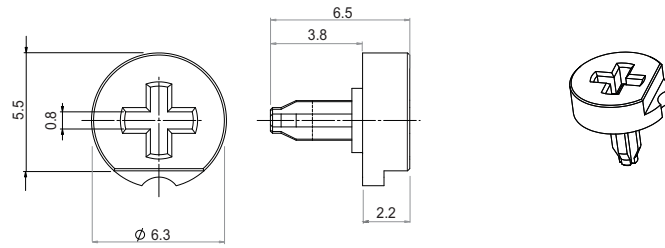
TESTS		VARIATIONS
ELECTRICAL LIFE	1.000 h. @ 50°C; 0.10 W	$\pm 10\%$
MECHANICAL LIFE (CYCLES)*	1000 @ 10 CPM ...15 CPM	$\pm 10\%$
TEMPERATURE COEFFICIENT	-40°C; +85°C	± 1500 ppm
THERMAL CYCLING	16 h. @ 90°C; 2h. @ -40°C	$\pm 5\%$
DAMP HEAT	500 h. @ 40°C @ 95% HR	$\pm 15\%$
VIBRATION (for each plane X,Y,Z)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

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

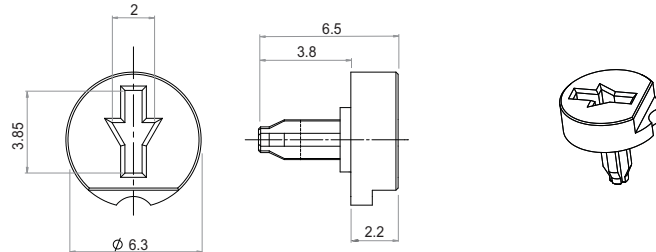
NOTE: Out of range values may not comply these results. Please confirm with the factory all the information before designing in.

SHAFT / KNOB

Knob ref.: 6148 / Fig. 5



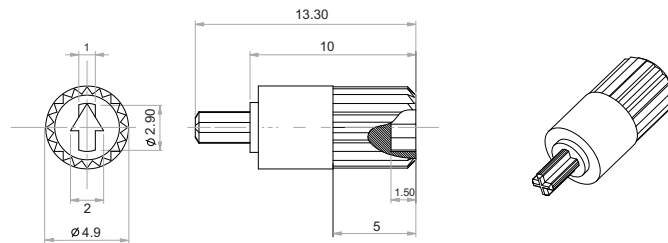
Knob ref.: 6160 / Fig. 6



Shaft ref.: 6144

Color: black, others check availability.

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

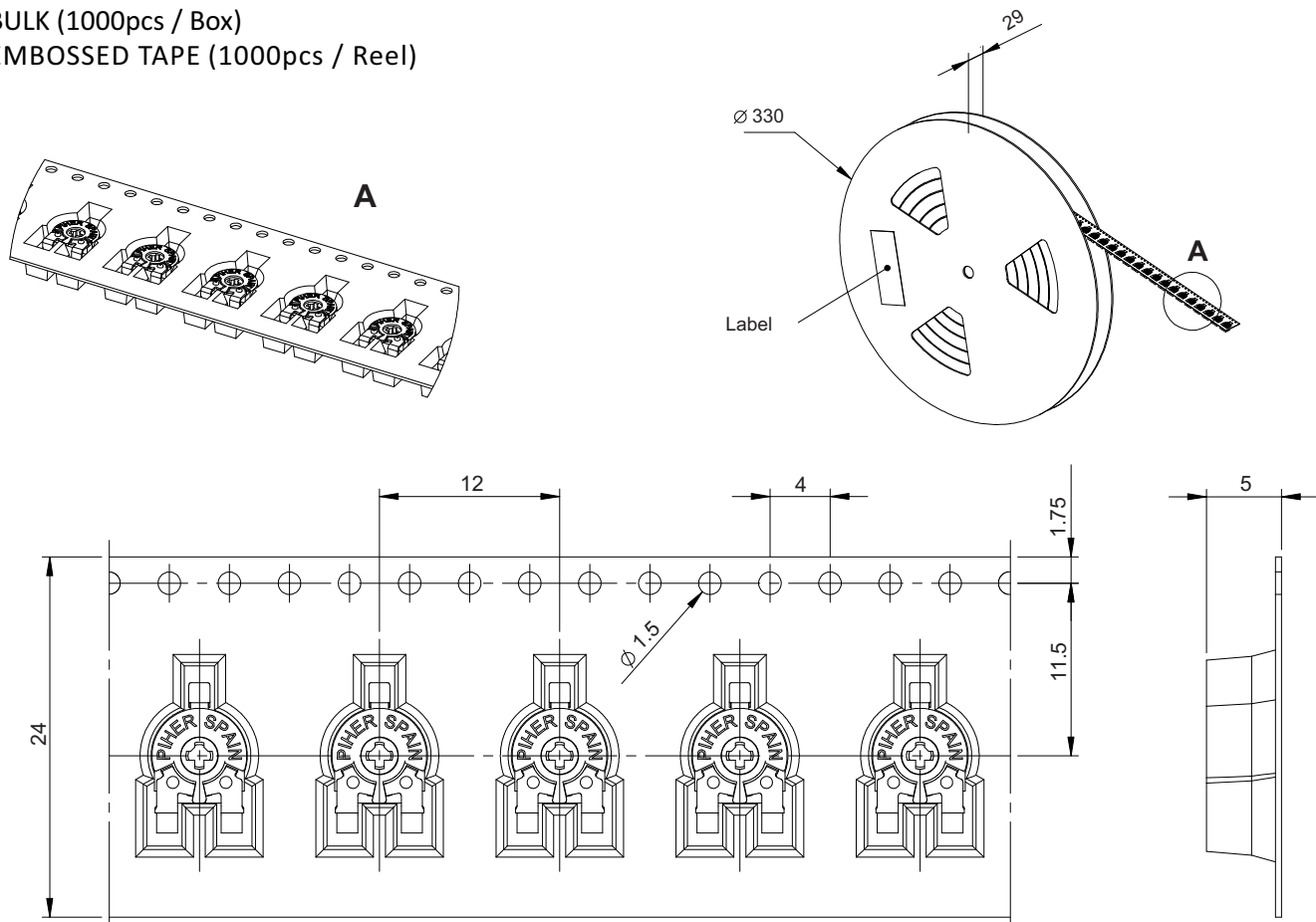


PACKAGING

V40 and V45 models

BULK (1000pcs / Box)

EMBOSED TAPE (1000pcs / Reel)

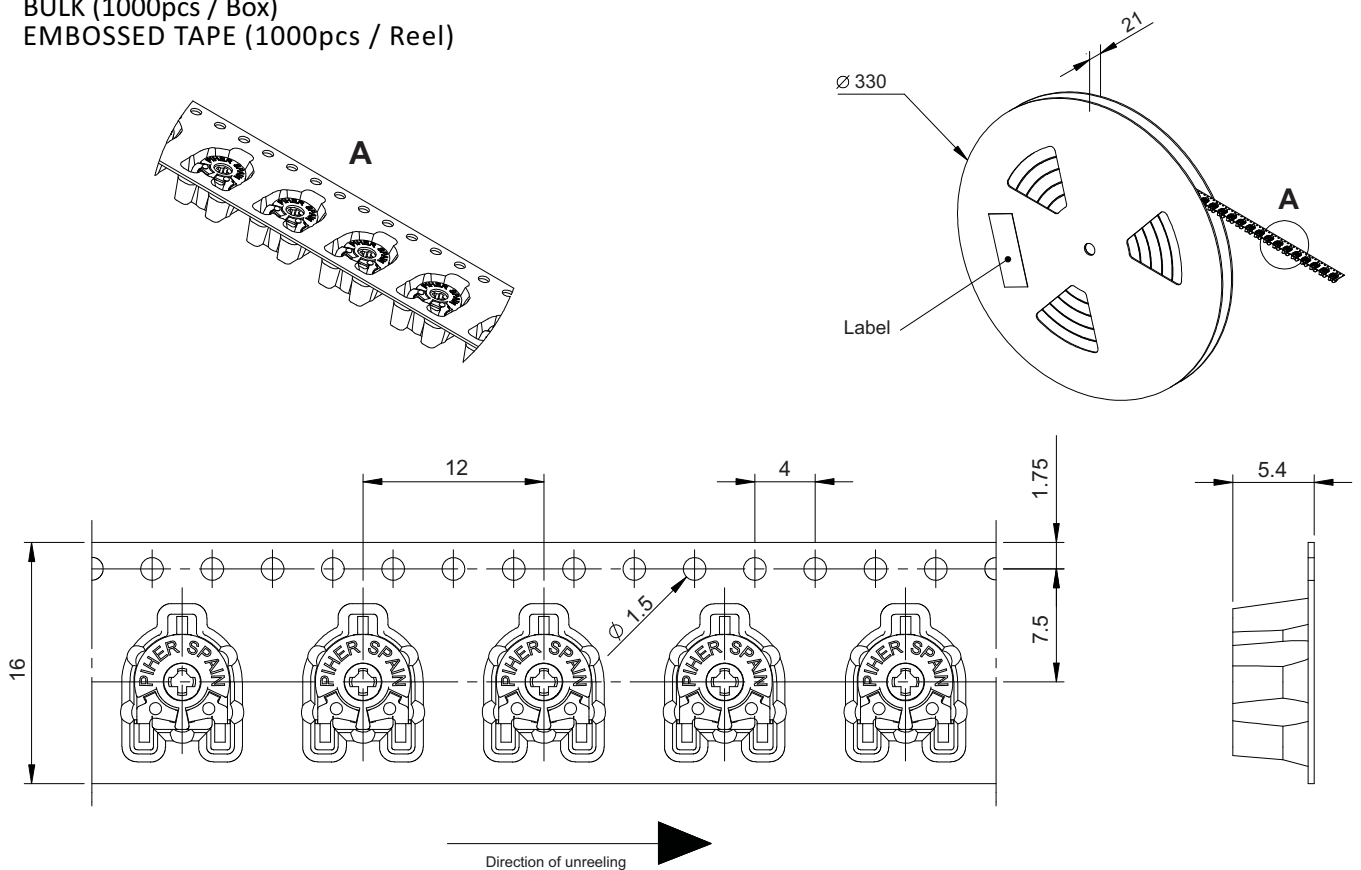


PACKAGING

V50 and V55 models

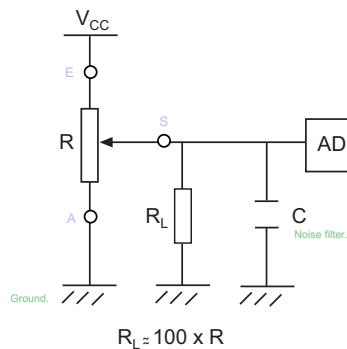
BULK (1000pcs / Box)

EMBOSSED TAPE (1000pcs / Reel)



RECOMMENDED CONNECTIONS

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



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