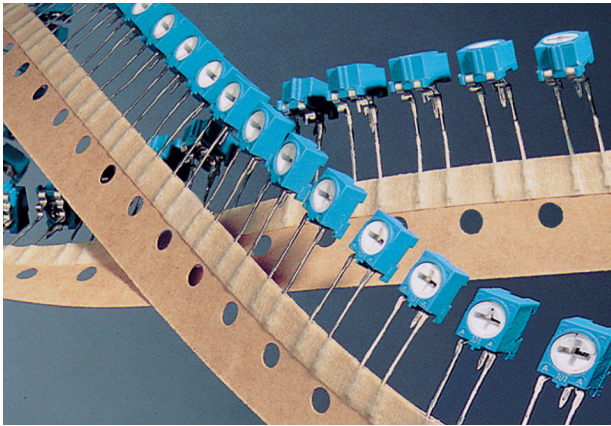


## N-6 6 mm Carbon Potentiometer



### FEATURES

- RoHS compliant materials
- Carbon resistive element
- Plastic substrate
- Over-moulding manufacturing technique
- SMD or through hole
- Embossed Tape (for SMD), Tape on reel, Ammopack and Magazine packaging for automatic insertion and bulk for manual assembly
- Wiper positioned at 50%
- Both sides cross slot easy adjustment
- Accidental rotor movement protected
- Traceability insured through date code marking
- Assembly method:
  - Stand up
  - Lay down

### MECHANICAL SPECIFICATIONS

- Mechanical rotation angle:  $280^\circ \pm 10^\circ$
- Electrical rotation angle:  $245^\circ \pm 25^\circ$
- Torque: 0.2 to 3 Ncm. (0.28 to 4.2 in-oz)
- Stop torque:  $> 7.5$  Ncm. ( 10.5 in-oz)

### ELECTRICAL SPECIFICATIONS

- Range of values \*  
 $100\Omega \leq R_n \leq 1M\Omega$  (1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)
- Tolerance\*:  $100\Omega \leq R_n \leq 1M\Omega$ .....  $\pm 30\%$
- Max. Voltage: 100 VDC
- Nominal Power  $50^\circ\text{C}$  ( $122^\circ\text{F}$ ) (see power rating curve): 0.1W
- Taper: linear
- End resistance:  $\leq 2\%$   $R_n$  (10 $\Omega$  min.)
- Equivalent noise resistance:  $\leq 5\%$   $R_n$
- Operating temperature\*\* :  
 $-25^\circ\text{C} + 70^\circ\text{C}$  ( $-13^\circ\text{F} + 158^\circ\text{F}$ )

\* Others upon request

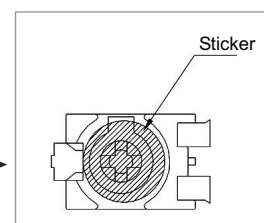
\*\* Up to  $85^\circ\text{C}$  depending on application

### HOW TO ORDER

Series	Mounting method	Terminal style	Packaging	Crimping	Value	RoHS reflowable
N 6	L	3 0	T 1	N	1 0 2	-
	S = Stand up L = Lay down	25 = 2.5 mm. 30 = 3.0 mm. 50 = 5.0 mm. (See note 1)	T0 = Bulk T1 = Reel ..... A = 20 T2 = Reel ..... A = 21.5 T3 = Ammopack.. A = 20 T4 = Ammopack.. A = 21.5 T5 = Magazine T6 = Magazine.... Sealed for vacuum pickup T7 = Embossed Tape T8 = Embossed Tape...Sealed for vacuum pickup (See note 2)	S = SMD N = Not crimped C = Crimped (See note 3)	101 = 100 $\Omega$ ..... 105 = 1M $\Omega$ (See note 4)	- = No (standard) R = Yes (See note 5)

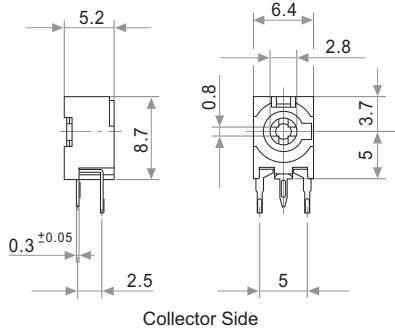
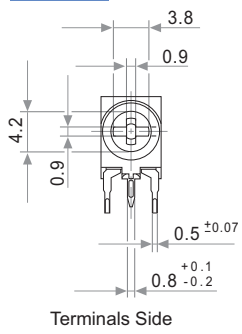
#### NOTES:

- Type "N-6 S" is only available with terminal style "25".  
- Terminal style "50" is only available with bulk packing "T0", "T1", "T3", "T5", "T6", "T7", "T8"
- Delivery for "T2" and "T4" only available in: N-6 S 25 and N-6 L 30  
- "T5", "T6", "T7" and "T8" only available in SMD.  
- "T7", "T8" Embossed Tape 750 Units per Reel. Diameter: 330 mm, aprox. thickness: 30 mm.  
- "T6" and "T8" are sealed for vacuum pickup (sticker at the bottom side)
- Crimped terminals are only available in bulk packing "T0".  
- Type "S" is only available in N-6 L 50 T0, N-6 L 50 T5, N-6 L 50 T6, N-6 L 50 T7, N-6 L 50 T8
- Value: Example: Code: 10 2 = 1 K  
 Number of zeros  
 First two digits of the value.
- Option R: black housing & rotor colour. Range of values:  $1K\Omega \leq R_n \leq 500K\Omega$  (1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)

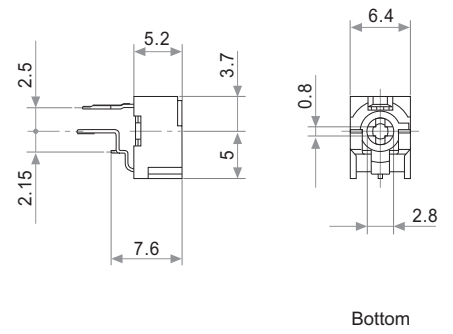
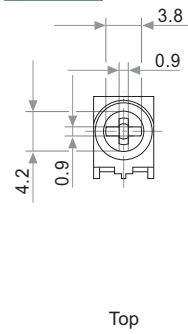


# MOUNTING METHOD

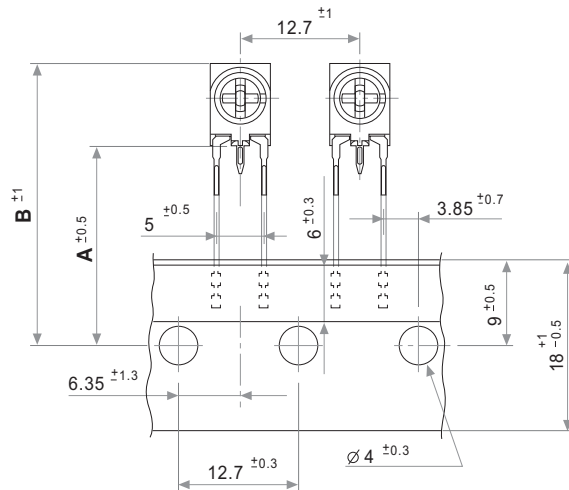
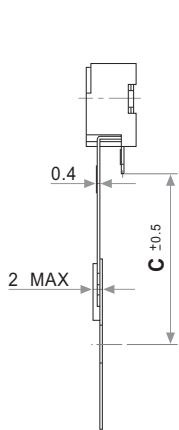
## Type S



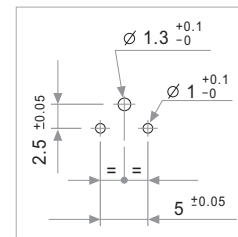
## Type L



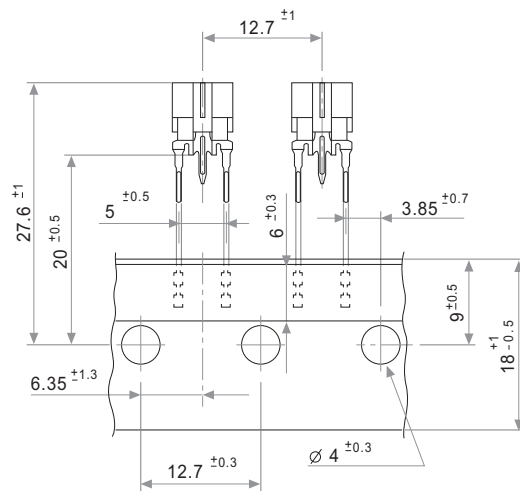
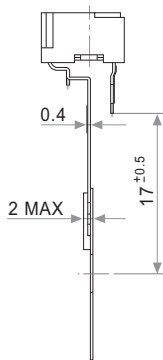
# TAPE



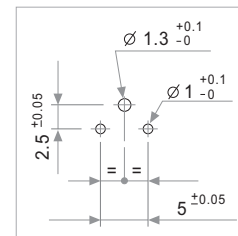
## PCB Hole Layout



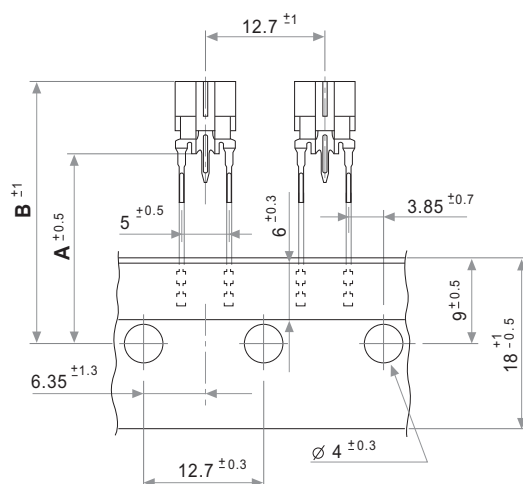
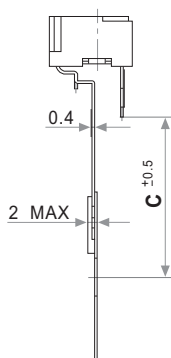
MODEL	A	B	C
N-6 S 25 T1 / T3	20	28.7	17
N-6 S 25 T2 / T4	21.5	30.2	18.5



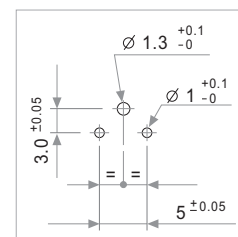
## PCB Hole Layout



## N-6 L 25 T1 / T3

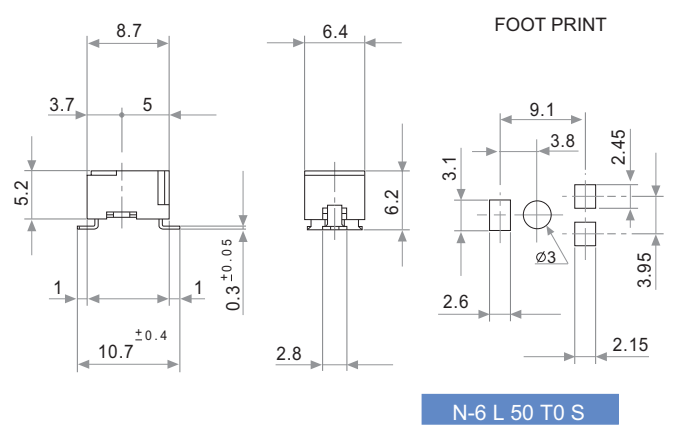
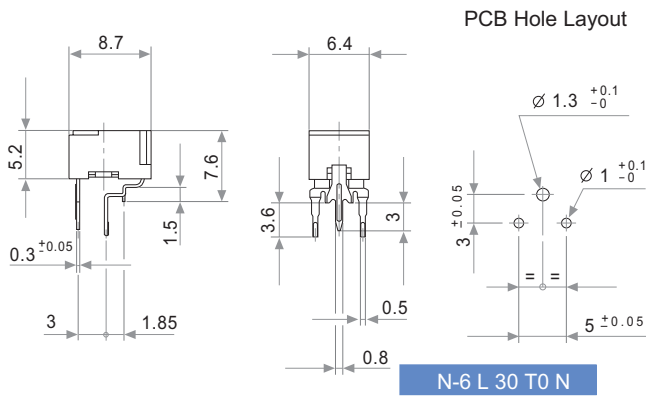
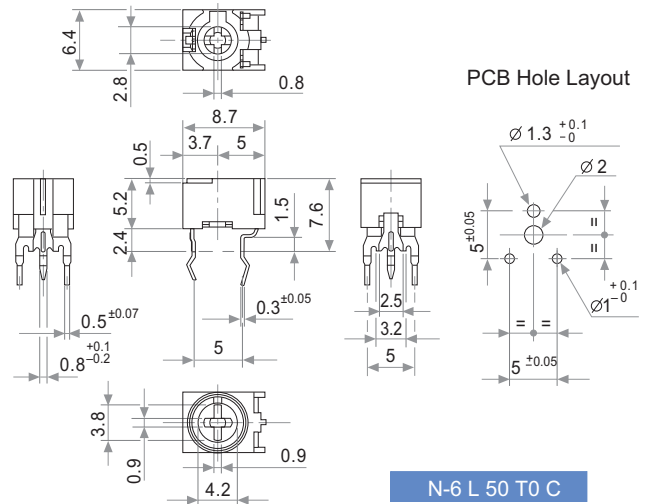
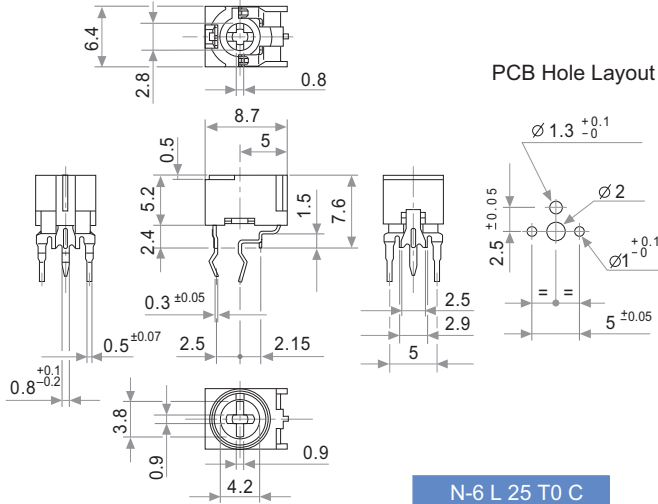


## PCB Hole Layout

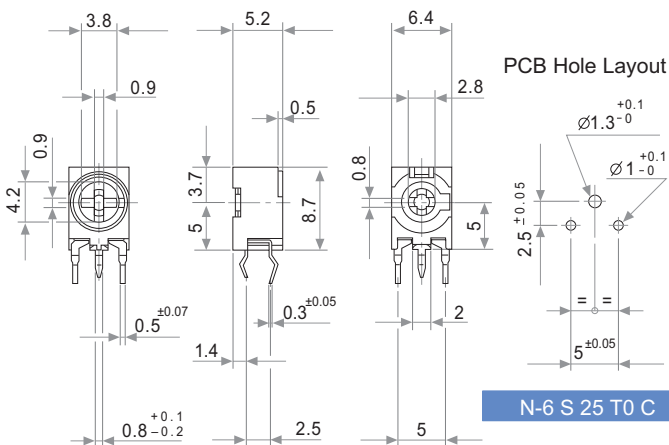


MODEL	A	B	C
N-6 L 30 T1 / T3	20	27.6	17
N-6 L 30 T2 / T4	21.5	29.1	18.5

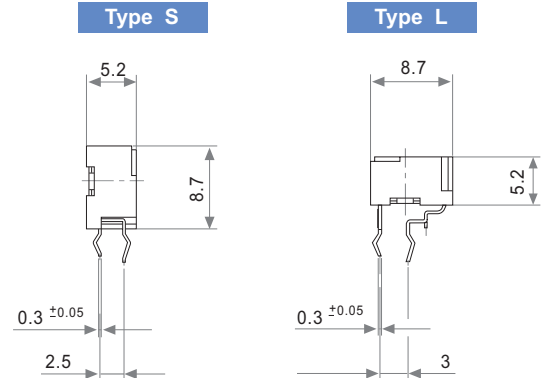
## BULK TYPE L



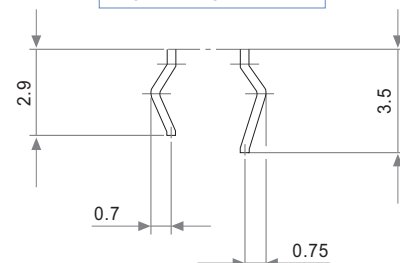
## BULK TYPE S



## CRIMPING DETAIL "C"



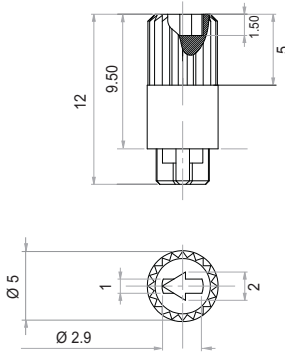
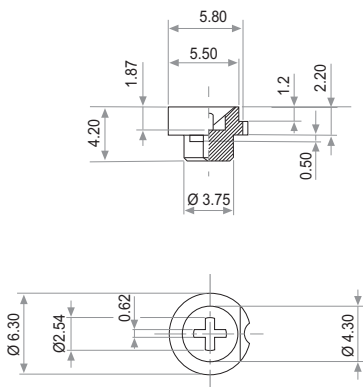
## CRIMPING DETAIL



## KNOB Ref.: 5680

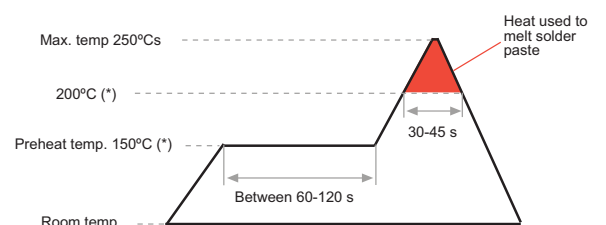
## SHAFT Ref.: 6133

Please order both Knob and Shaft separately. If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.

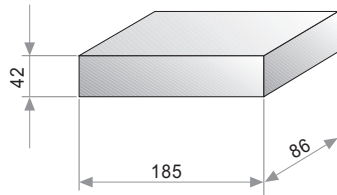


## RoHS RECOMMENDED REFLOW PROFILE

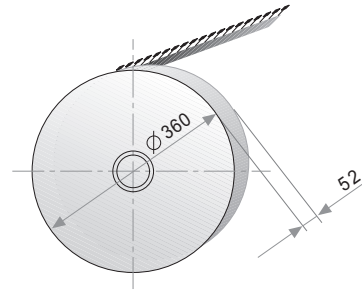
Recommended profile for N6R and N6RE models



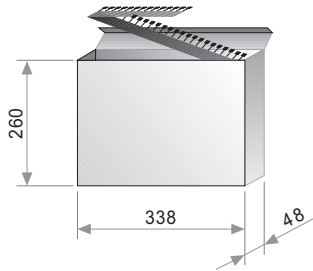
(\* Melting point temp. depends on solder properties)



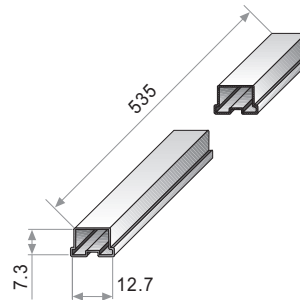
**T0 BULK**  
500 Units per box.



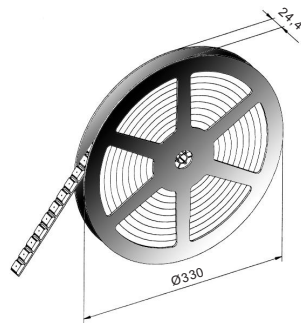
**T1 / T2 TAPE ON REEL**  
Units per Reel according to type:  
S: 1.000  
L: 750



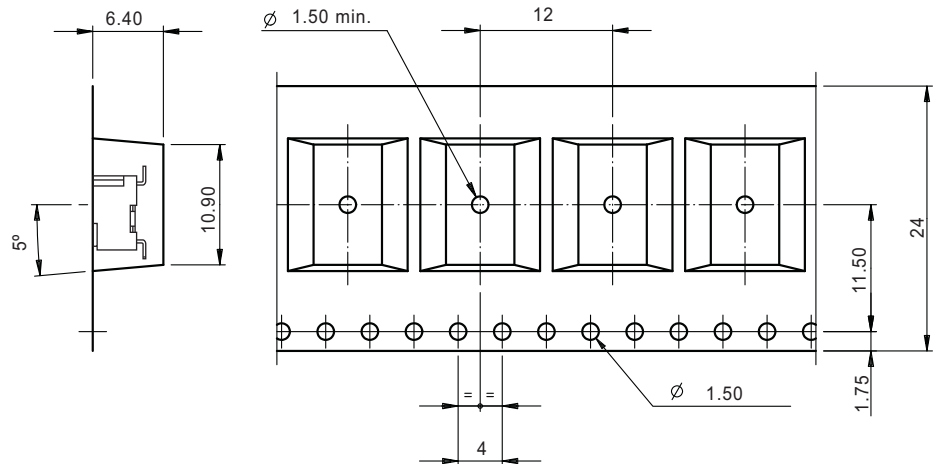
**T3 / T4 AMMOPACK**  
Units per Box according to type.  
S: 1.000  
L: 750



**T5 / T6 MAGAZINE**  
Units per magazine: 80



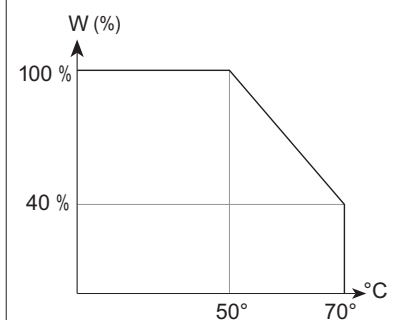
**T7 / T8 EMBOSSED TAPE**  
Units per reel: 750



AVAILABLE COMBINATIONS	TAPE				MAGAZINE		EMB.	BULK	
	T1	T2	T3	T4	T5	T6	T7/T8	SMD	CRIMP
N-6 S 25	●	●	●	●					●
N-6 L 25	●		●						●
N-6 L 30	●	●	●	●					●
N-6 L 50	●		●		●	●	●	●	●

**TESTS** **TYPICAL VARIATIONS** **POWER RATING CURVE**

ELECTRICAL LIFE	1.000 h. @ 50°C: 0.1 W	±10 %
MECHANICAL LIFE (CYCLES)	100 @ 10 CPM ...15 CPM	±3 % (Rn < 1 M Ω)
TEMPERATURE COEFFICIENT	-25°C; +70°C	±300 ppm (1K ≤ Rn ≤ 100K)
THERMAL CYCLING	16 h. @ 85°C; 2h. @ -25°C	±5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %



NOTE: Out of range values may not comply with these results.