

# PHAP33 series

Tact switches

*Distinctive features and specifications*

- ☐ Wide range of case formats
- ☐ SMT and through-hole models
- ☐ Normally closed models available

| <div><div>Models</div><div>Performances</div></div> | PHAP3381<br>PHAP3382<br>PHAP3383<br>PHAP3384<br>PHAP3390<br>PHAP3391 | PHAP3371<br>PHAP3372<br>PHAP3373<br>PHAP3374<br>PHAP3378 | PHAP3355<br>PHAP3361<br>PHAP3362<br>PHAP3363<br>PHAP3365<br>PHAP3366 | PHAP3301<br>PHAP3302<br>PHAP3303<br>PHAP3305<br>PHAP3306<br>PHAP3307<br>PHAP3308<br>PHAP3368 | PHAP3350<br>PHAP3351<br>PHAP3352<br>PHAP3353 | PHAP3320<br>PHAP3321 |
|-----------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------|----------------------|
| Current/voltage rating                              | 50mA 12VDC                                                           |                                                          |                                                                      |                                                                                              |                                              |                      |
| Contact resistance                                  | 100 mΩ max.                                                          |                                                          |                                                                      |                                                                                              |                                              |                      |
| Insulation resistance                               | 100 MΩ min.                                                          |                                                          |                                                                      |                                                                                              |                                              |                      |
| Dielectric strength                                 | 250 VAC min. (1 minute)                                              |                                                          |                                                                      |                                                                                              |                                              |                      |
| Electrical life (cycles)                            | 70.000                                                               | 75.000                                                   | 30.000                                                               | 100.000                                                                                      | 100.000                                      | 100.000              |
| Operating force                                     | 1,6N ± 0,5N                                                          | 1,6N +0,5/-0,3N                                          | 1,8N ± 0,5N                                                          | 1,6N ± 0,5N                                                                                  | 2N ± 0,3N                                    | 1,6N ± 0,5N          |
| Travel                                              | 0,20/ 0,25 mm                                                        | 0,25 mm                                                  | 0,25 mm                                                              | 0,25 mm                                                                                      | 0,50 mm                                      | 0,30 mm              |
| Operating temperature                               | -20°C to +70°C                                                       |                                                          |                                                                      |                                                                                              |                                              |                      |
| Storage temperature                                 | -30°C to +80°C                                                       |                                                          |                                                                      |                                                                                              |                                              |                      |
| Vibrations                                          | 10-500 Hz / 10 g                                                     |                                                          |                                                                      |                                                                                              |                                              |                      |
| IR reflow soldering                                 | 240°C for 20 seconds max.                                            |                                                          |                                                                      | -                                                                                            |                                              |                      |
| Wave soldering                                      | 255°C for 5 seconds max.                                             |                                                          |                                                                      |                                                                                              |                                              |                      |
| Manual soldering                                    | 300°C for 3 seconds max.                                             |                                                          |                                                                      |                                                                                              |                                              |                      |

**Dimensions :** First dimensions are in mm while inches are shown as bracketted numbers.



**Packaging unit :** 1.000 pieces and multiples, except for tape and reel packaging (see following pages).

# PHAP33 series

## SMT tact switches

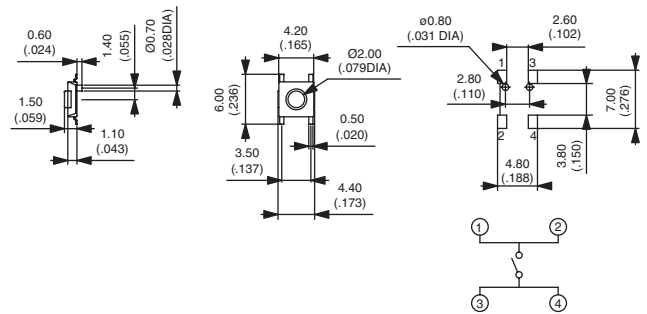
Microminiature and ultra-low profile - 4,2 x 4,2 mm case

- Ultra-compact size for board space saving : 4,2 x 4,2 mm case, 1,5 mm button height from PCB
- Reflow solderable
- With or without positioning pins
- For tape and reel packaging, add "R" at the end of model number.

### With positioning pins



Model number  
**PHAP3390**

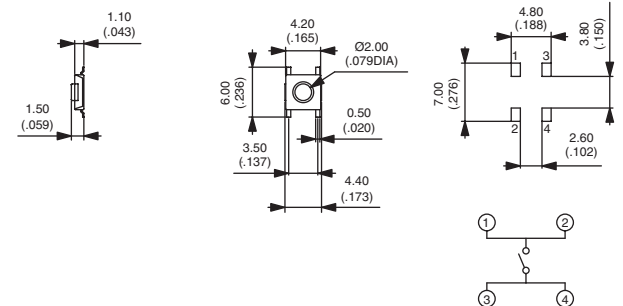


Operating force : 2,6N ± 0,5N - Travel : 0,20 mm

### Without positioning pins



Model number  
**PHAP3391**



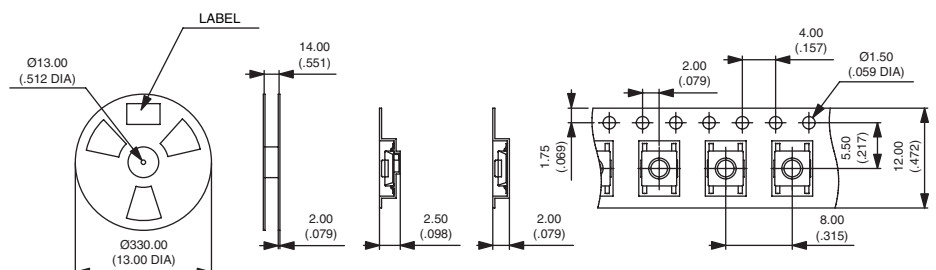
Operating force : 2,6N ± 0,5N - Travel : 0,20 mm

### PACKAGING

To order a product with tape and reel packaging, add "R" at the end of its model number.

Example : PHAP3390R.

Quantity per reel : 3.400 pieces



# PHAP33 series

SMT tact switches

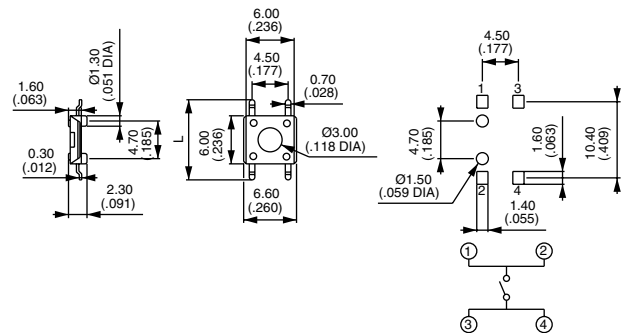
Ultra-low profile - 6 x 6 mm case

- Ultra-compact size for board space saving : 6 x 6 mm case, 1,6 mm button height from PCB
- Reflow solderable
- Types for iron soldering (L = 10 mm)
- With positioning pins
- With or without grounding tab for protection against electrostatic discharges
- For tape and reel packaging, add "R" at the end of model number.

## Without grounding tab



| Model No | Dim. «L» |
|----------|----------|
| PHAP3381 | 8 mm     |
| PHAP3382 | 10 mm    |

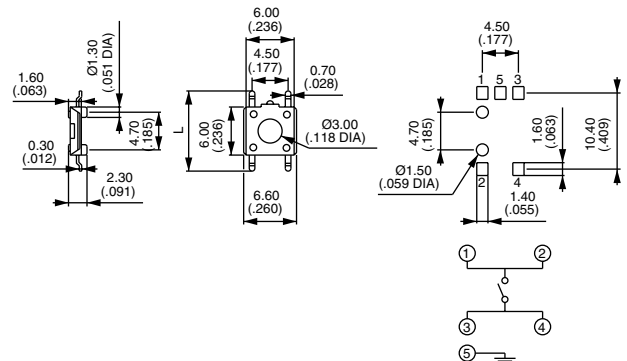


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

## With grounding tab



| Model No | Dim. «L» |
|----------|----------|
| PHAP3383 | 8 mm     |
| PHAP3384 | 10 mm    |



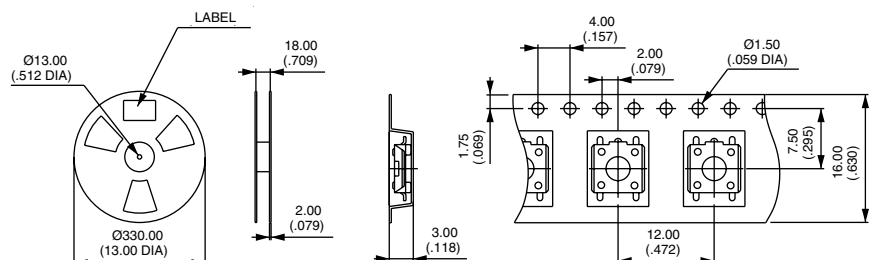
Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

## PACKAGING

To order a product with tape and reel packaging, add "R" at the end of its model number.

Example : PHAP3383R.

Quantity per reel : 2.200 pieces



# PHAP33 series

## SMT tact switches

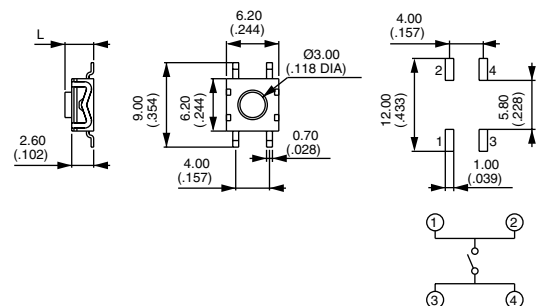
Low profile - 6,2 x 6,2 mm case

- Ultra-compact size for board space saving : 6,2 x 6,2 mm case, 2,6 to 3,4 mm button height from PCB
- Reflow solderable
- With or without grounding tab for protection against electrostatic discharges
- Models with external terminals type G or internal terminals type J
- For tape and reel packaging, add "R" at the end of model number.

### External terminals type G (gullwing)



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3371  | 2,6 mm   |
| PHAP3371A | 3,4 mm   |

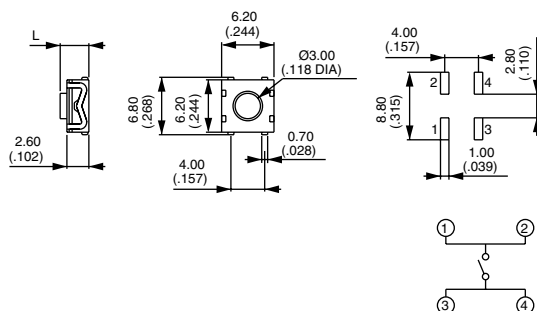


Operating force : 1,6N + 0,5N/-0,3N - Travel : 0,25 mm

### Internal terminals type J - tape and reel packaging



| Model No   | Dim. «L» |
|------------|----------|
| PHAP3372R  | 2,6 mm   |
| PHAP3372AR | 3,4 mm   |



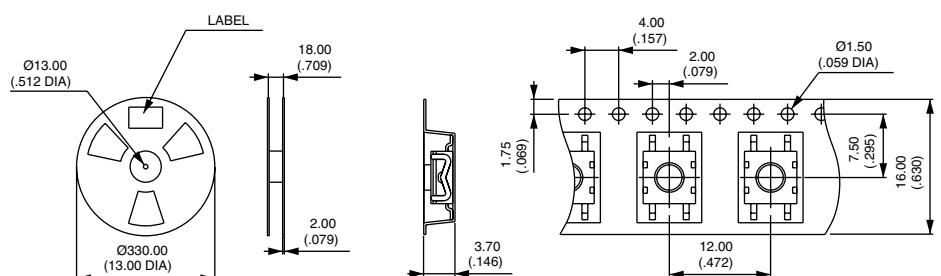
Operating force : 1,6N + 0,5N/-0,3N - Travel : 0,25 mm

### PACKAGING

To order a product with tape and reel packaging, add "R" at the end of its model number.

Example : PHAP3371R.

Quantity per reel : 1.600 pieces



# PHAP33 series

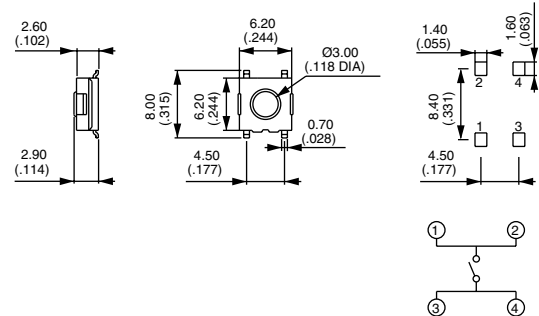
SMT tact switches

Low profile - 6,2 x 6,2 mm case

## Button height from PCB : 2,9 mm



| Model No |
|----------|
| PHAP3373 |

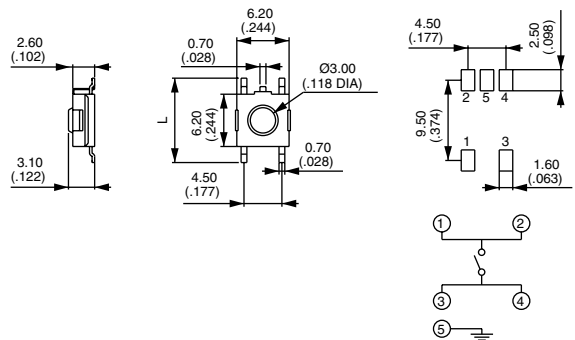


Operating force : 1,6N + 0,5N/-0,3N - Travel : 0,25 mm

## Button height from PCB : 3,1 mm - with grounding tab



| Model No | Dim. «L» |
|----------|----------|
| PHAP3374 | 8 mm     |

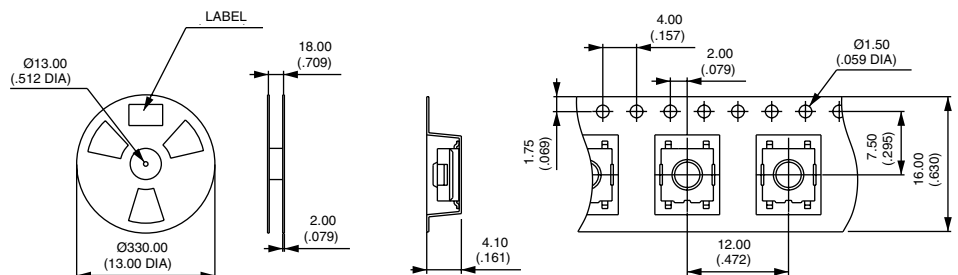


Operating force : 1,6N + 0,5N/-0,3N - Travel : 0,25 mm

## PACKAGING

To order a product with tape and reel packaging, add "R" at the end of its model number.  
Example : PHAP3373R.

Quantity per reel : 1.700 pieces



# PHAP33 series

## SMT tact switches

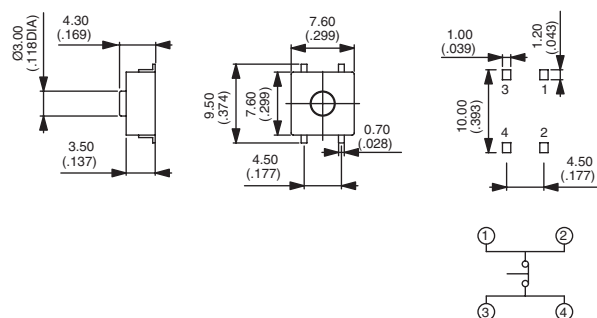
Normally closed - 7,6 x 7,6 mm case

- Compact size for board space saving : 7,6 x 7,6 mm case, 4,3 mm button height from PCB
- Reflow solderable
- Standard PCB layout

### Normally closed



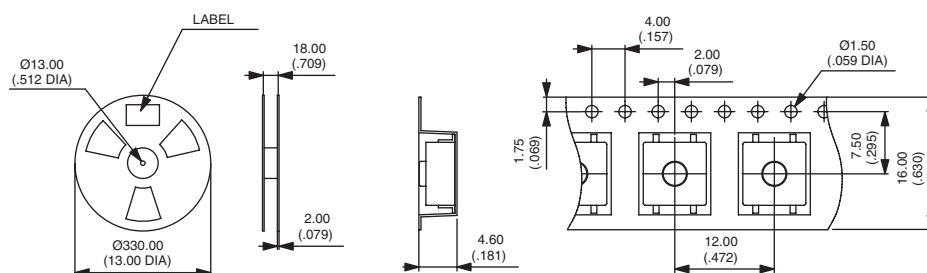
|           |
|-----------|
| Model No  |
| PHAP3378R |



Operating force : 1,6N  $\pm$  0,5N - Travel : 0,25 mm

### PACKAGING

Quantity per reel : 1.000 pieces



# PHAP33 series

SMT tact switches

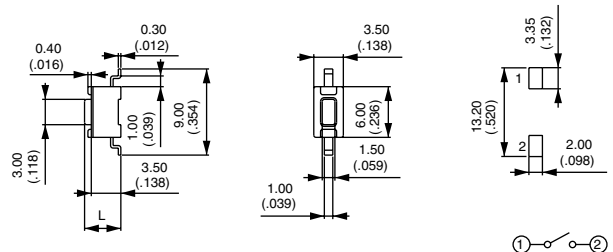
Microminiature - 6 x 3,5 mm case

- Ultra-compact size for board space saving : 6 x 3,5 mm case, 4,3 or 5 mm button height from PCB
- Right angle version available

## Vertical mounting



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3361  | 4,3 mm   |
| PHAP3361A | 5,0 mm   |

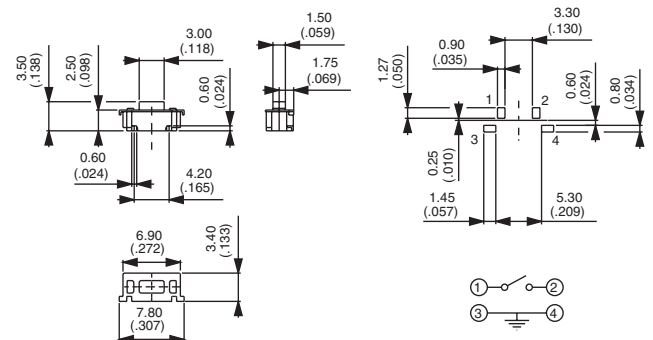


For tape and reel packaging, add "R" at the end of model number.  
Operating force : 1,8N  $\pm$  0,5N - Travel : 0,25 mm

## Horizontal mounting



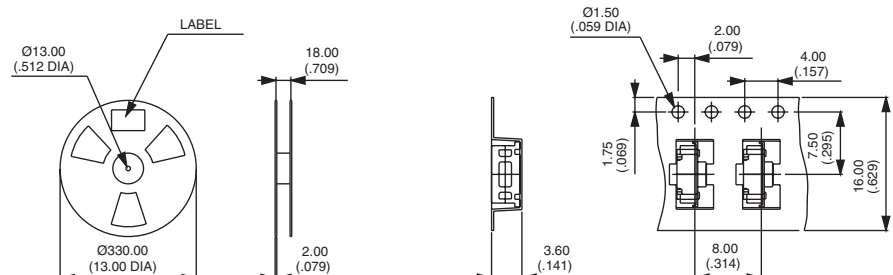
| Model No  |
|-----------|
| PHAP3355R |



Operating force : 1,8N  $\pm$  0,5N - Travel : 0,25 mm

## PACKAGING

Quantity per reel :  
PHAP3361R : 1.800 pieces  
PHAP3361AR : 1.800 pieces  
PHAP3355R : 2.000 pieces



# PHAP33 series

## SMT tact switches

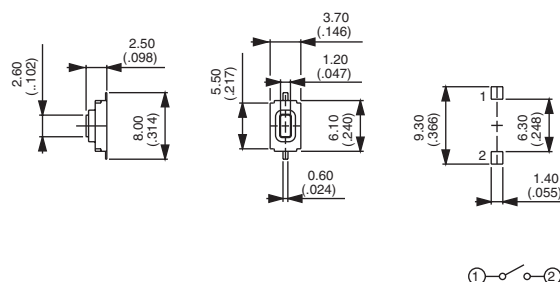
Microminiature - Low profile - 6,1 x 3,7 mm case

- Ultra-compact size for board space saving : 6,1 x 3,7 mm case, 2,5 mm button height from PCB
- Available with flat or bent terminals

### Flat terminals



|                  |
|------------------|
| Model No         |
| <b>PHAP3365R</b> |

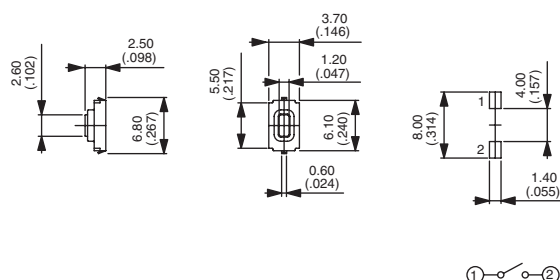


Operating force : 1,8N  $\pm$  0,5N - Travel : 0,25 mm

### Bent terminals



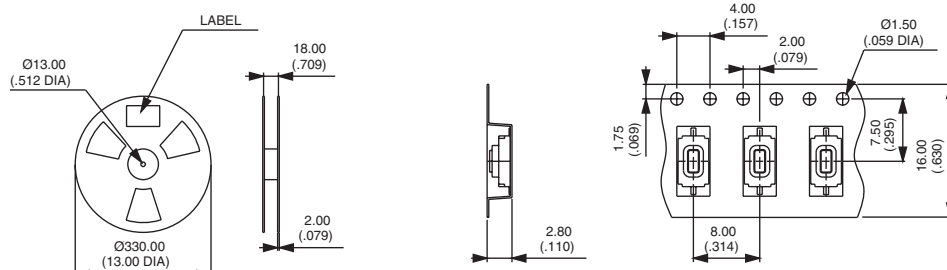
|                  |
|------------------|
| Model No         |
| <b>PHAP3366R</b> |



Operating force : 1,8N  $\pm$  0,5N - Travel : 0,25 mm

### PACKAGING

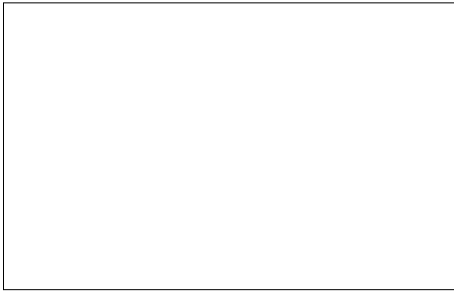
Quantity per reel : 3.000 pieces



# PHAP33 series

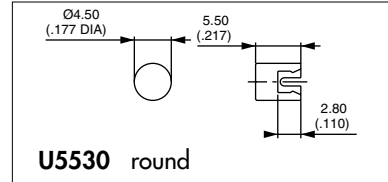
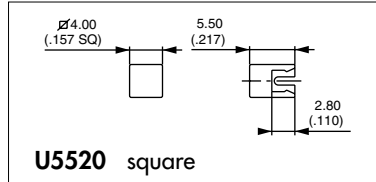
SMT tact switches

6 x 6 mm case



- 4,3 to 13 mm button height from PCB
- Excellent tactile feedback (snap dome)
- Standard PCB layout
- Caps for model with square actuator

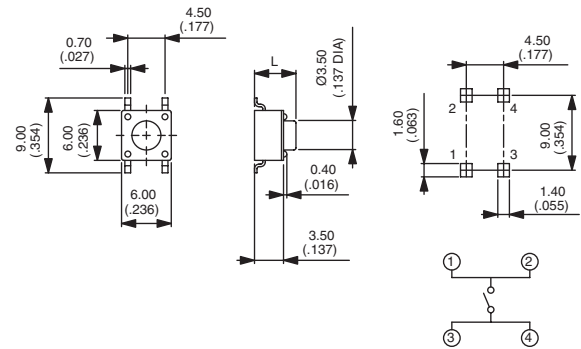
Cap colours : 1 : blue - 2 : black - 3 : green  
5 : yellow - 6 : red - 7 : ivory



## Round actuator



| Model No  | Dim. «L» | Actuator colour |
|-----------|----------|-----------------|
| PHAP3368  | 4,3 mm   | black/white     |
| PHAP3368A | 5,0 mm   | black/white     |
| PHAP3368B | 9,5 mm   | black           |
| PHAP3368C | 8,0 mm   | white           |
| PHAP3368D | 13,0 mm  | black           |
| PHAP3368E | 7,3 mm   | ivory           |
| PHAP3368F | 8,5 mm   | grey            |

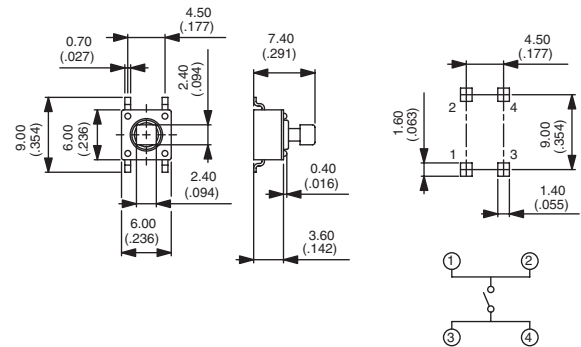


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

## Square actuator



| Model No  |
|-----------|
| PHAP3368T |

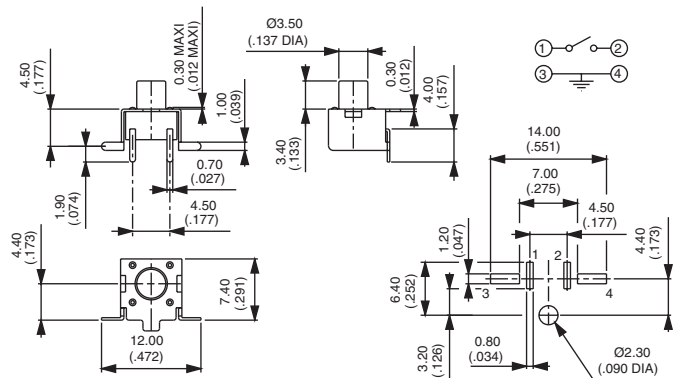


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

## Edge of PCB mounting



| Model No    |
|-------------|
| PHAP3305ASR |



Operating force : 1,6N ± 0,5N - Travel : 0,25 mm  
Quantity per reel : 650 pieces

# PHAP33 series

## Through-hole tact switches

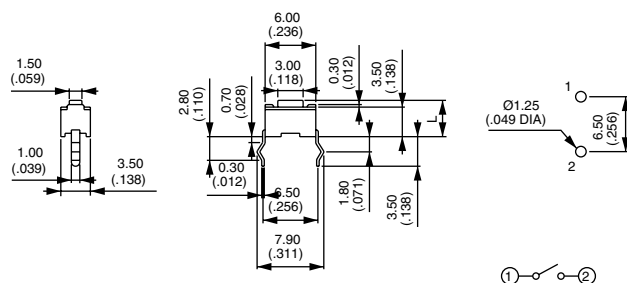
Microminiature - 6 x 3,5 mm case

- Ultra-compact size for board space saving : 6 x 3,5 mm case, 4,3 or 5 mm button height from PCB
- Crimped terminals for direct mounting onto PCB
- Moulded-in terminals for wave soldering

### Straight terminals



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3362  | 4,3 mm   |
| PHAP3362A | 5,0 mm   |

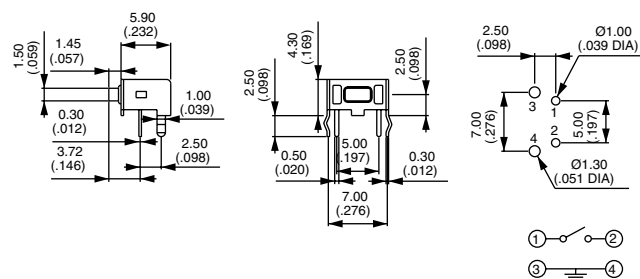


Operating force : 1,8N ± 0,5N - Travel : 0,25 mm

### Horizontal mounting



| Model No |
|----------|
| PHAP3363 |

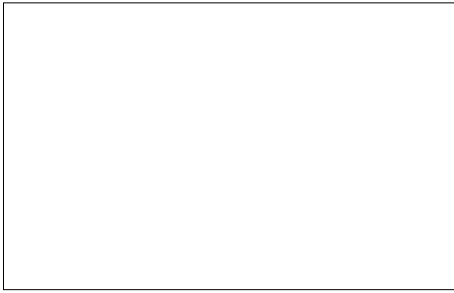


Operating force : 1,8N ± 0,5N - Travel : 0,25 mm

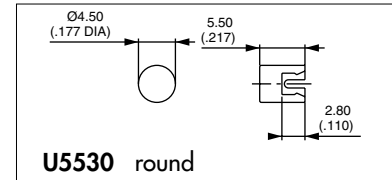
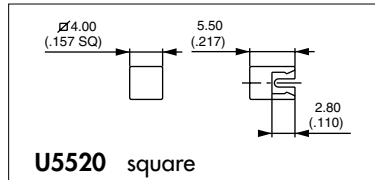
# PHAP33 series

## Through-hole tact switches

*6 x 6 mm case*



- 4,3 to 13 mm button height from PCB
- Excellent tactile feedback (snap dome)
- Crimped terminals for direct mounting onto PCB
- With or without grounding tab for protection ag. electrostatic discharges
- Moulded-in terminals for wave soldering
- Caps for model with square actuator (L = 2,4 mm) :

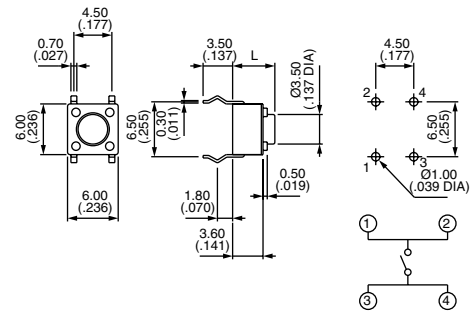


**Cap colours :** 1 : blue - 2 : black - 3 : green -  
5 : yellow - 6 : red - 7 : ivory

## Straight terminals



| Model No         | Dim. «L» | Actuator colour |
|------------------|----------|-----------------|
| <b>PHAP3301</b>  | 4,3 mm   | black           |
| <b>PHAP3301A</b> | 5,0 mm   | black           |
| <b>PHAP3301B</b> | 9,5 mm   | black           |
| <b>PHAP3301C</b> | 8,0 mm   | white           |
| <b>PHAP3301D</b> | 13,0 mm  | black           |
| <b>PHAP3301E</b> | 7,3 mm   | ivory           |
| <b>PHAP3301F</b> | 8,5 mm   | grey            |

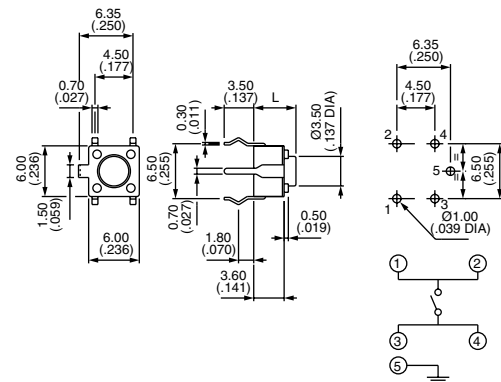


Operating force : 1,6N  $\pm$  0,5N - Travel : 0,25 mm

### Straight terminals - with grounding tab



| Model No         | Dim. «L» | Actuator colour |
|------------------|----------|-----------------|
| <b>PHAP3302</b>  | 4,3 mm   | black           |
| <b>PHAP3302A</b> | 5,0 mm   | black           |
| <b>PHAP3302B</b> | 9,5 mm   | black           |
| <b>PHAP3302C</b> | 8,0 mm   | white           |
| <b>PHAP3302D</b> | 13,0 mm  | black           |
| <b>PHAP3302E</b> | 7,3 mm   | ivory           |

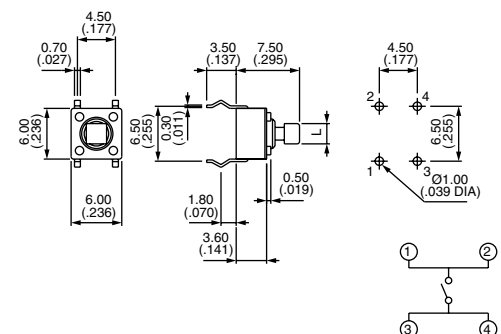


Operating force : 1,6N  $\pm$  0,5N - Travel : 0,25 mm

### Straight terminals - square actuator



| Model No         | Dim. «L» | Actuator colour |
|------------------|----------|-----------------|
| <b>PHAP3303</b>  | 2,4mm    | blue            |
| <b>PHAP3303A</b> | 2,8 mm   | black           |



Operating force : 1,6N  $\pm$  0,5N - Travel : 0,25 mm

# PHAP33 series

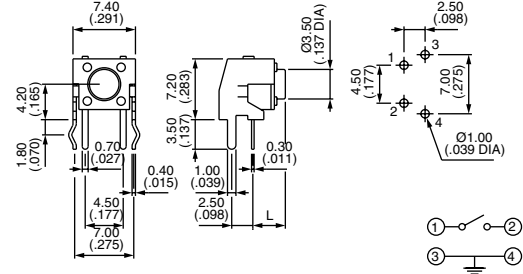
## Through-hole tact switches

6 x 6 mm case

### Horizontal mounting



| Model No  | Dim. «L» | Actuator colour |
|-----------|----------|-----------------|
| PHAP3305  | 3,15 mm  | black           |
| PHAP3305A | 3,85 mm  | black           |
| PHAP3305B | 8,35 mm  | black           |
| PHAP3305C | 6,85 mm  | white           |
| PHAP3305D | 11,85 mm | black           |
| PHAP3305E | 6,15 mm  | ivory           |
| PHAP3305T | 6,15 mm  | blue 2.4 x 2.4  |

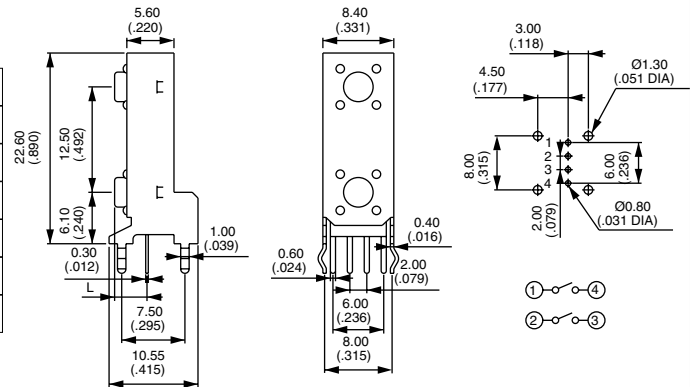


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

### Horizontal mounting of 2 tact switches



| Model No  | Dim. «L» | Actuator colour |
|-----------|----------|-----------------|
| PHAP3306  | 3,15 mm  | black           |
| PHAP3306A | 3,85 mm  | black           |
| PHAP3306B | 8,35 mm  | black           |
| PHAP3306C | 6,85 mm  | white           |
| PHAP3306D | 11,85 mm | black           |
| PHAP3306E | 6,15 mm  | ivory           |

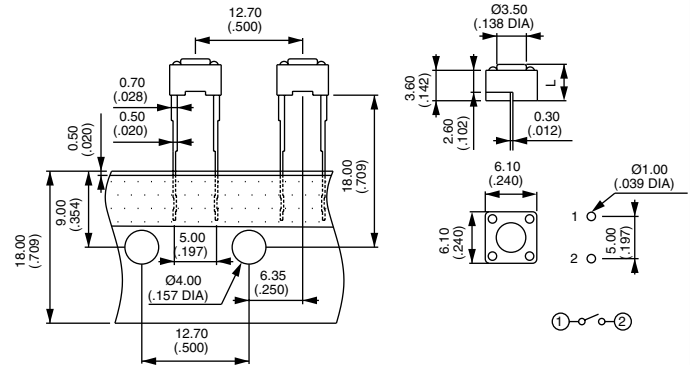


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

### Long straight terminals + tape



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3307  | 4,3 mm   |
| PHAP3307A | 5,0 mm   |
| PHAP3307G | 7,0 mm   |

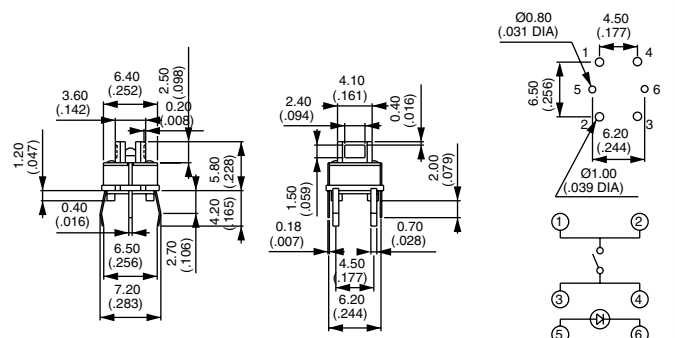


Operating force : 1,6N ± 0,5N - Travel : 0,25 mm  
Quantity per tape : 1.000 pieces

### Straight terminals + LED



| Model No  | LED colour | LED If | LED Vf |
|-----------|------------|--------|--------|
| PHAP3308  | -          | -      | -      |
| PHAP3308R | red        | 15mA   | 2,1V   |
| PHAP3308G | green      | 30mA   | 2,2V   |
| PHAP3308Y | yellow     | 30mA   | 2V     |



Operating force : 1,6N ± 0,5N - Travel : 0,25 mm

# PHAP33 series

## Through-hole tact switches

Sealed - 7,2 x 7,2 mm or 10 x 10 mm case

- Dust and splash proof
- Crimped terminals for direct mounting onto PCB
- With or without grounding tab for protection against electrostatic discharges
- Moulded-in terminals for wave soldering

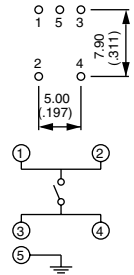
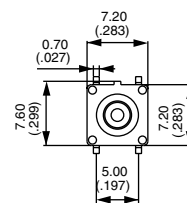
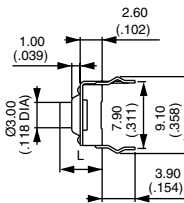
### 7,2 x 7,2 mm case - straight terminals - grounding or not



| Grounding | Dim. «L» |
|-----------|----------|
| PHAP3350  | 5,0 mm   |
| PHAP3350A | 9,0 mm   |
| PHAP3350B | 13,0 mm  |

| Non grounding | Dim. «L» |
|---------------|----------|
| PHAP3351      | 5,0 mm   |
| PHAP3351A     | 9,0 mm   |
| PHAP3351B     | 13,0 mm  |

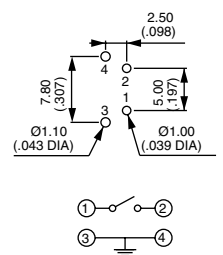
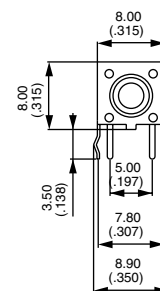
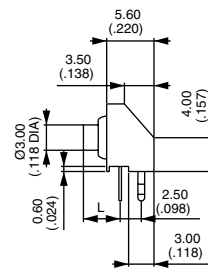


Operating force : 2N ± 0,3N - Travel : 0,50 mm

### 7,2 x 7,2 mm case - right angle terminals



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3352  | 4,35 mm  |
| PHAP3352A | 8,35 mm  |
| PHAP3352B | 12,35 mm |

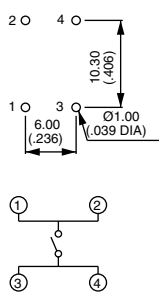
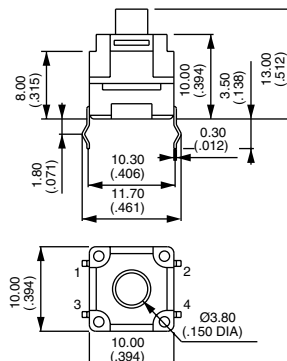
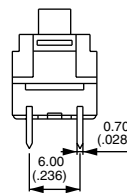


Operating force : 2N ± 0,3N - Travel : 0,50 mm

### 10 x 10 mm case - straight terminals



| Model No |
|----------|
| PHAP3353 |



Operating force : 1,6N ± 0,5N - Travel : 0,50 mm

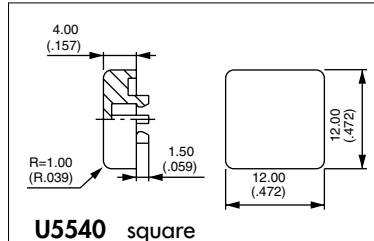
# PHAP33 series

## Through-hole tact switches

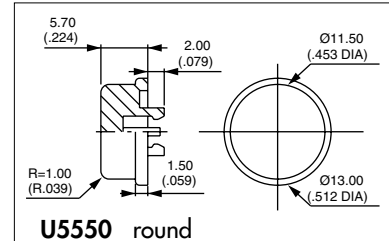
12 x 12 mm case

- 4,3 to 12 mm button height from PCB
- Excellent tactile feedback (snap-dome)
- Crimped terminals for direct mounting onto PCB
- Moulded-in terminals for wave soldering
- Caps for model PHAP3321 :

Cap colours : 1 : blue - 2 : black - 3 : green  
5 : yellow - 6 : red - 7 : ivory

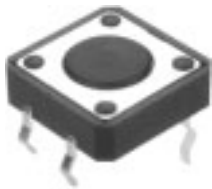


U5540 square

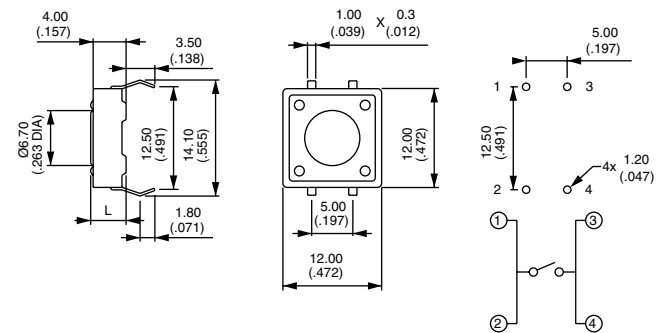


U5550 round

### Straight terminals - short actuator



| Model No  | Dim. «L» |
|-----------|----------|
| PHAP3320  | 4,3 mm   |
| PHAP3320A | 7,5 mm   |

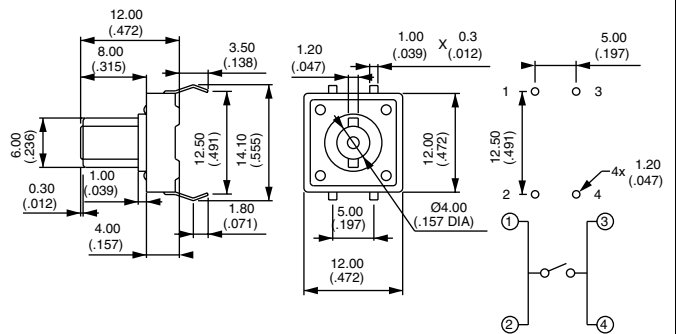


Operating force : 1,6N ± 0,5N - Travel : 0,30 mm

### Straight terminals - long keyed actuator



| Model No  |
|-----------|
| PHAP3320B |

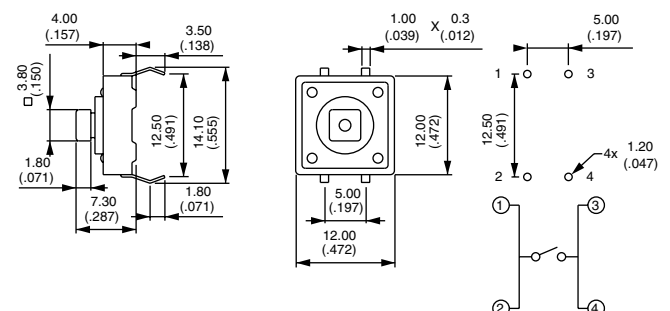


Operating force : 1,6N ± 0,5N - Travel : 0,30 mm

### Straight terminals - square actuator



| Model No |
|----------|
| PHAP3321 |



Operating force : 1,6N ± 0,5N - Travel : 0,30 mm