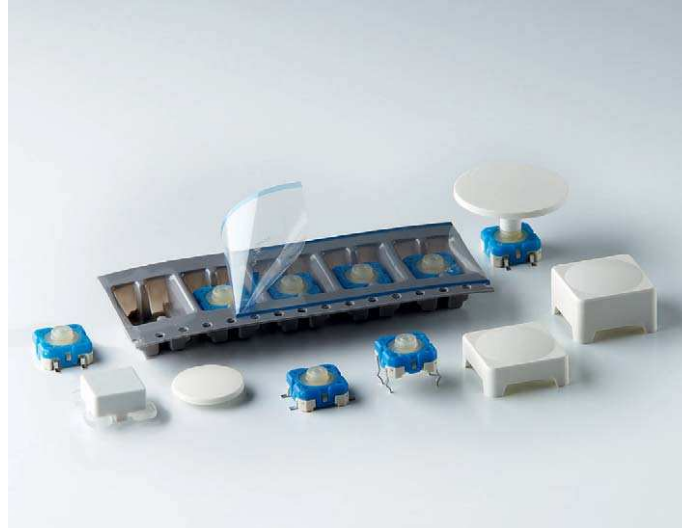


# PCB KEY SWITCHES

RACON - TACTILE SWITCHES



## RACON

Tactile switches

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RACON tactile switches distinct key click, excellent switching reliability. For use under an overlay or with RK 90 keycaps. Print and SMD versions available (suitable for automatic assembly). All products are RoHS compliant.

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4

RACON

# PCB KEY SWITCHES

## RACON - TACTILE SWITCHES

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## RACON 8 Tactile switches

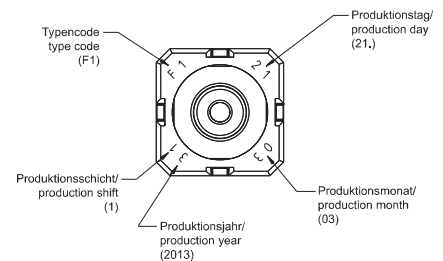
→ RACON 8 tactile switches offer an extremely high switching reliability while needing very little space. They can be arranged as single keys, in rows or key blocks.

When arranged under an overlay, RACON key switches should be combined with plungers.

The features at a glance:

- Suitable for the most common soldering methods
  - Wave soldering bath for THT versions
  - Reflow soldering for SMT version
  - Vapour phase soldering for SMT versions
  - Manual soldering
- SMT version suitable for processing with an automatic SMT assembly machine
- IMDS listed

You can download actual product information from our internet site [www.rafi.de](http://www.rafi.de) / Catalogues and Downloads



### Technical Data

#### → Dimensions

Length of housing	8.4 mm
Width of housing	8.4 mm
Height of housing	see order block

#### → Mechanical design

Mounting	soldering
Terminals	see order block
Contact system	snap-action contact
Contact arrangement	1 NO
Contact materials	Au
Illumination	no

#### → Mechanical characteristics

Switching travel	0.34 <sup>±0.1</sup> mm
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#### → Electrical characteristics

Rated voltage min.	0.02 V
Rated voltage max.	35 V
Rated current min.	0.01 mA
Rated current max.	100 mA
Rated power max. (ohmic load)	1 W
Contact resistance when new max.	100 mΩ
Insulation resistance	10 <sup>9</sup> Ω




#### → Other specifications

Ambient temp. operating min.	-40 °C
Ambient temp. operating max.	+90 °C
Resistance to environment	DIN EN 60068-2 -14,-30,-33 and -78
Operating life	1,000,000
Solderability / Solder heat resistance	see order block
Flammability of materials	UL 94 HB
Packing	see order block
Produkt type	see order block
ROHS compliant	yes
REACH compliant	yes

# PCB KEY SWITCHES

## RACON 8 - TACTILE SWITCHES

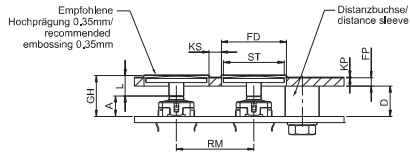
### Accessories RACON 8 - Tactile switch

→ Description	Photo	Order no.	Additional accessories see page
Spacer, round, length 6.25 mm, red		5.30.759.034/0000	2 - 265, 4 - 97, 5 - 32
Plunger round		5.46.167.311/0209	4 - 49
RK 90 - Keycap body, for lenses 9 x 9 mm		5.55.103.265/1013	4 - 110

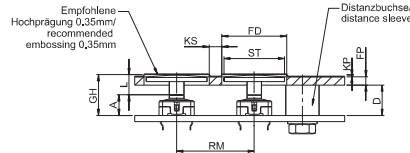
For other plungers, refer to the chapter „RACON special accessories“; for keycaps, refer to the chapter „RK 90“

## RACON 8, Typical system assembly with plunger under overlay

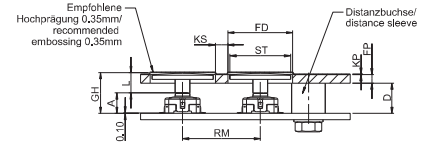
THT terminal outward



THT terminal inward



SMT gullwing terminal



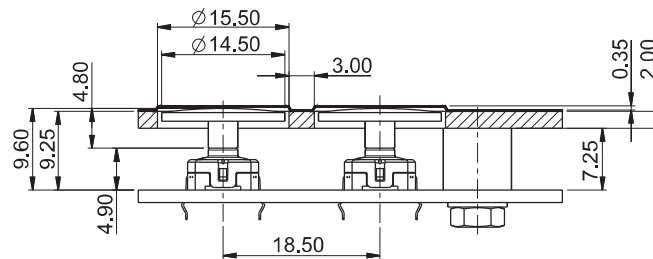
### Variable Declaration

### THT terminal inward and outward

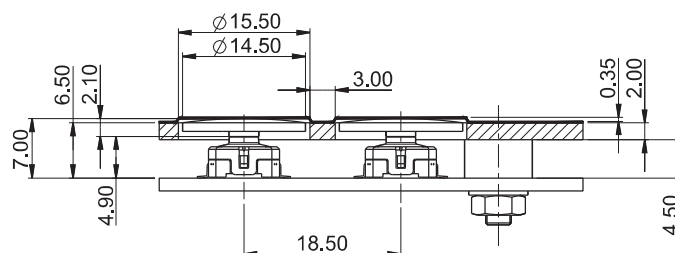
### SMT terminal

A	Height of key switch	$A = 4.90 \pm 0.1 \text{ mm}$	
D	Length of spacer $D = GH - KP - FP$		
FD	Front panel cut-out $FD = ST + 1 \text{ mm}$		
FP	Front panel thickness		
GH	Overall height	$GH = A + L$	$GH = A + L + 0.1 \text{ mm}$
KP	Thickness of overlay + embossing		
KS	Glue webs for overlay, min. 3 mm		
L	Length of plunger	$L = GH - A$	$L = GH - A - 0.1 \text{ mm}$
RM	Key grid		
ST	Diameter of plunger		

## RACON 8, Standard system assembly



## RACON 8, Lowest system assembly

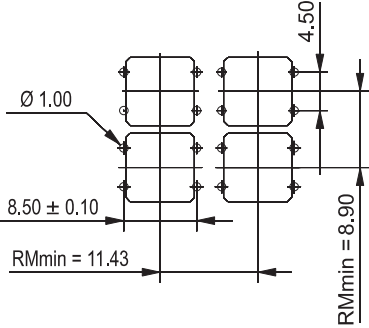


# PCB KEY SWITCHES

RACON 8 - TACTILE SWITCHES

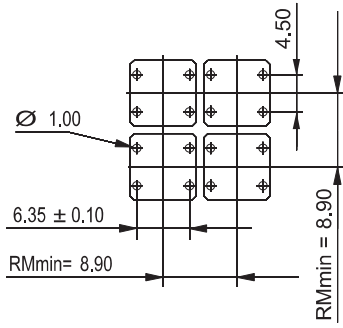
## RACON 8, PCB hole pattern, smallest grid

THT terminal outward



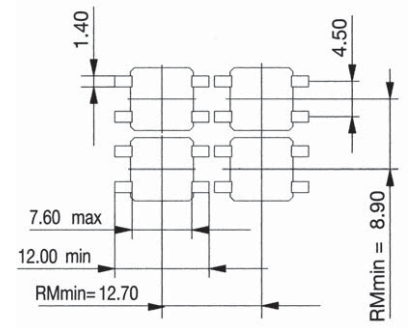
view on component side

THT terminal inward



view on component side

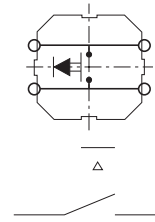
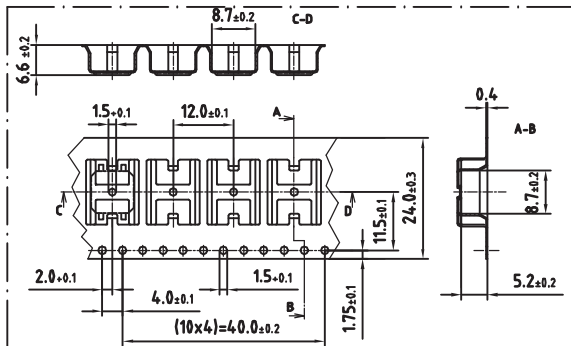
SMT gullwing terminal



view on component side

## RACON 8, SMT terminal, tape and reel

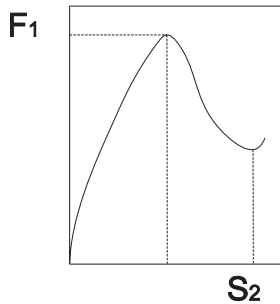
## Circuit diagram RACON 8



Switching symbols acc. to IEC 60 617 form X (twice interrupting)

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## Typical force travel diagram

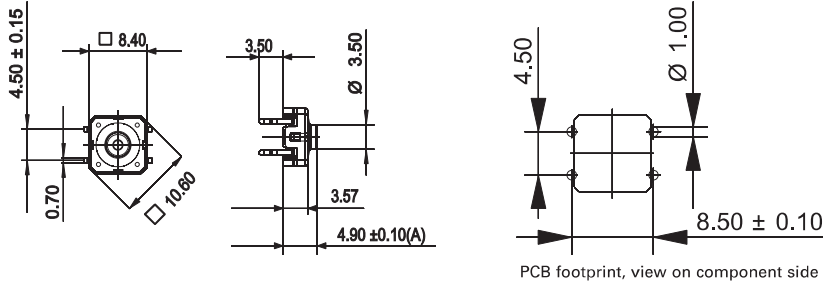


Operating force F1 and switching travel S2 see order block

RACON

## RACON 8 Tactile switch, THT outward

Technical data see page 4 - 33

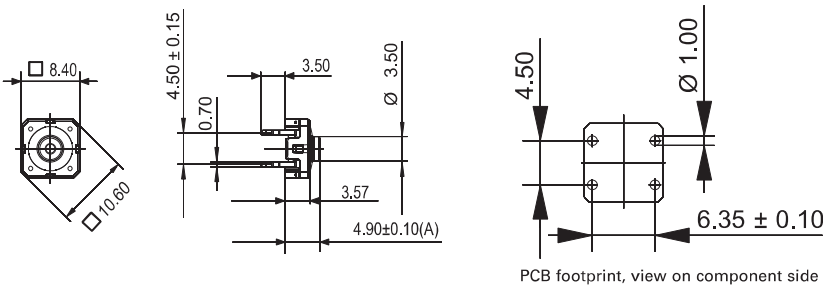


→ Produkt type	Terminals	Operating force	Solderability / Solder heat resistance	Packing	Order no.
A1	THT outward	3,3 <sup>±0.6</sup> N	DIN EN 60068-2-20	tubes à 60 pieces	1.14.100.501/0000

For keycaps refer to chapter „RK 90“; plungers see „RACON special accessories“

## RACON 8 Tactile switch, THT inward

Technical data see page 4 - 33



→ Produkt type	Terminals	Operating force	Solderability / Solder heat resistance	Packing	Order no.
B1	THT inward	3,3 <sup>±0.6</sup> N	DIN EN 60068-2-20	tubes à 60 pieces	1.14.100.502/0000

For keycaps refer to chapter „RK 90“; plungers see „RACON special accessories“

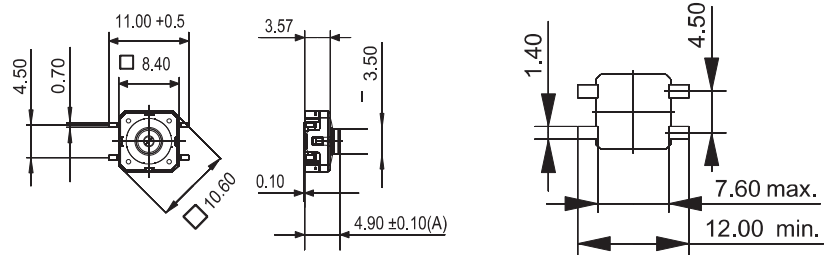
# PCB KEY SWITCHES

RACON 8 - TACTILE SWITCHES



## RACON 8 Tactile switch, SMT gullwing (Z) terminals

Technical data see page 4 - 33



PCB footprint, view on component side

→ Produkt type	Operating force	Switching travel	Operating life	Packing	Solderability / Solder heat resistance	Order no.
C1	3.3 <sup>±0.6</sup> N	0.34 <sup>±0.1</sup> mm	1,000,000	tape and reel à 1000 pieces	DIN EN 60068-2-58	1.14.100.503/0000
C2	4.8 <sup>±0.8</sup> N	0.42 <sup>±0.1</sup> mm	1,000,000	tape and reel à 1000 pieces	DIN EN 60068-2-58	1.14.100.603/0000
C4	6.0 <sup>±1.0</sup> N	0.47 <sup>±0.1</sup> mm	50,000	tape and reel à 1000 pieces	DIN EN 60068-2-58	1.14.100.803/0000

For keycaps refer to chapter „RK 90“; plungers see „RACON special accessories“.