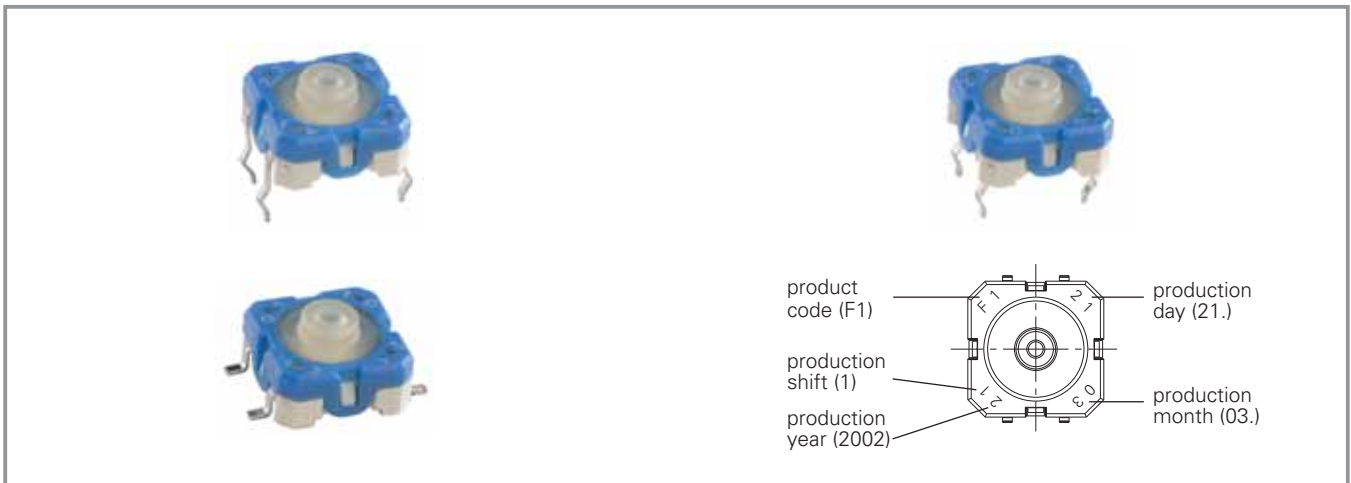


RACON 8 - Short-travel keyswitch



General Data

RACON 8 short-travel keyswitches 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 keyswitches 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 / Catalogues and Downloads

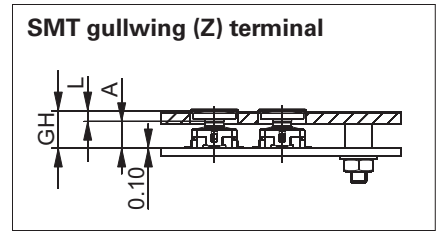
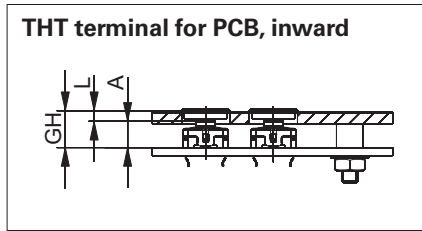
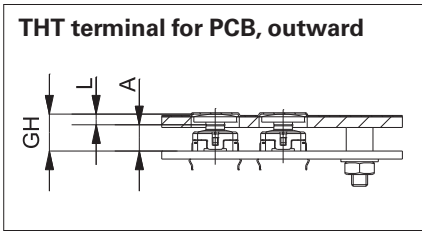
4

Technical Data

Dimensions		Rated current min.	0.01 mA
Length of housing	8.4 mm	Rated current max.	100 mA
Width of housing	8.4 mm	Rated power max.	1 W
Height of housing	see order block	(ohmic load)	
		Contact resistance when new max.	100 mΩ
		Insulation resistance	10 ⁹ Ω
Mechanical design		Other specifications	
Mounting	soldering	Ambient temp. operating min.	-40 °C
Terminals	see order block	Ambient temp. operating max.	+90 °C
Contact system	snap-action contact	Resistance to environment	DIN EN 60068-2 -14, -30,-33 and -78
Contact arrangement	1 NO	Operating life	1,000,000
Contact materials	Au	Solderability / Solder heat resistance	see order block
Illumination	no	Flammability of materials	UL 94 HB
Mechanical characteristics		Packing	see order block
Operating force	3.3±0.6 N	Produkt code	see order block
Switching travel	0.34±0.1 mm		
Electrical characteristics			
Rated voltage min.	0.02 V		
Rated voltage max.	35 V		

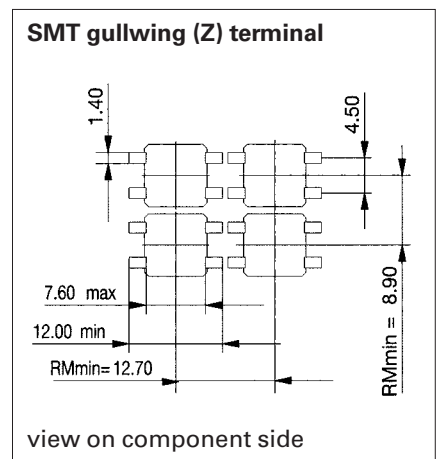
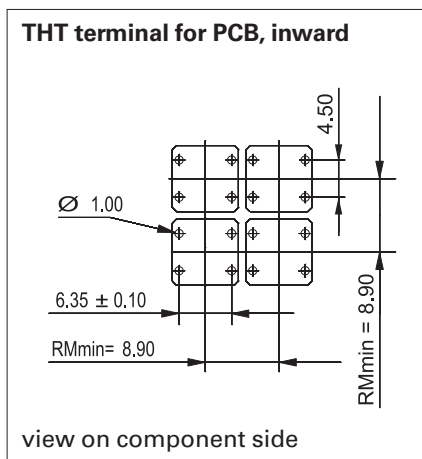
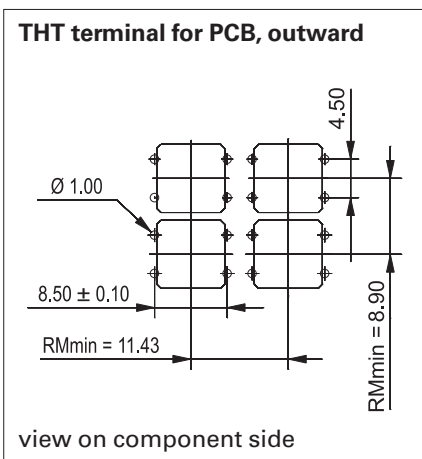
RACON

RACON 8, Typical System Assembly with Plunger under Overlay

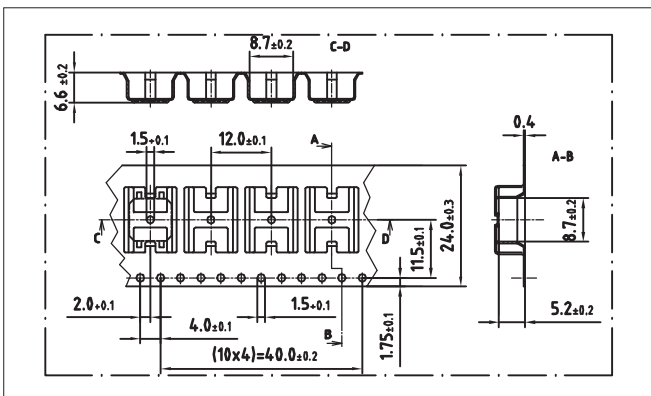


Variable	Declaration	THT terminal outward	THT terminal inward	SMT-terminal
A	Height of keyswitch		A = 4.90 +/- 0.1 mm	
GH	Overall height		GH = A + L	GH = A + L + 0.1 mm
L	Length of plunger		L = GH - A	L = GH - A - 0.1 mm

RACON 8, PCB Hole Pattern, Smallest Grid

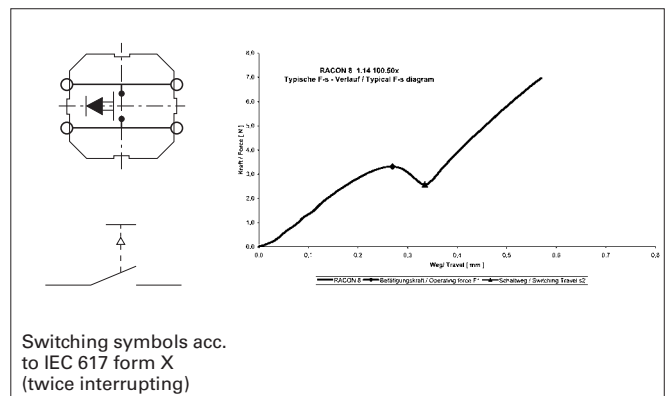


RACON 8, SMT Terminal, Tape and Reel Drawing



Circuit Diagram RACON 8

Typical Force-Travel Diagram



4

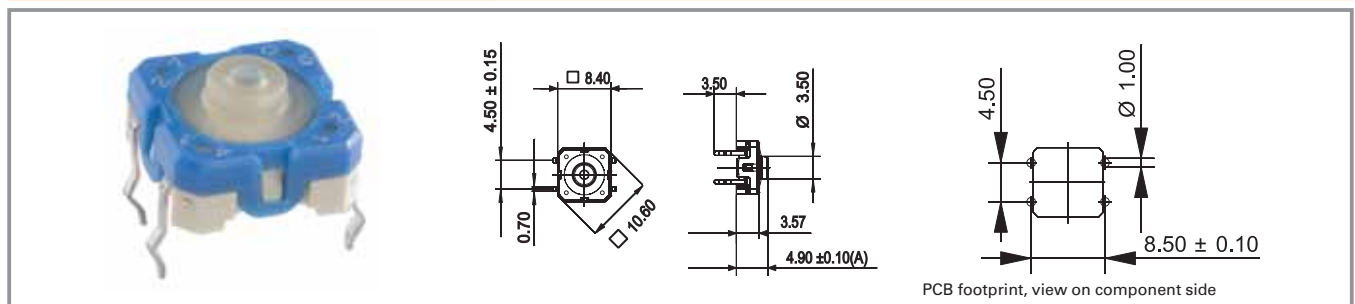
RACON

Typical accessories RACON 8 - Short-travel keyswitch

Description	Photo	Order no.	Additional accessories see page
Spacer, round, length 6.25 mm, red		5.30.759.034/0000	2 - 239, 4 - 82, 5 - 30
Plunger round		5.46.167.311/0209	4 - 32
RK 90 - Keycap body, for lenses 9 x 9 mm		5.55.103.265/1013	4 - 93

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

RACON 8 - Short-travel keyswitch, THT outward



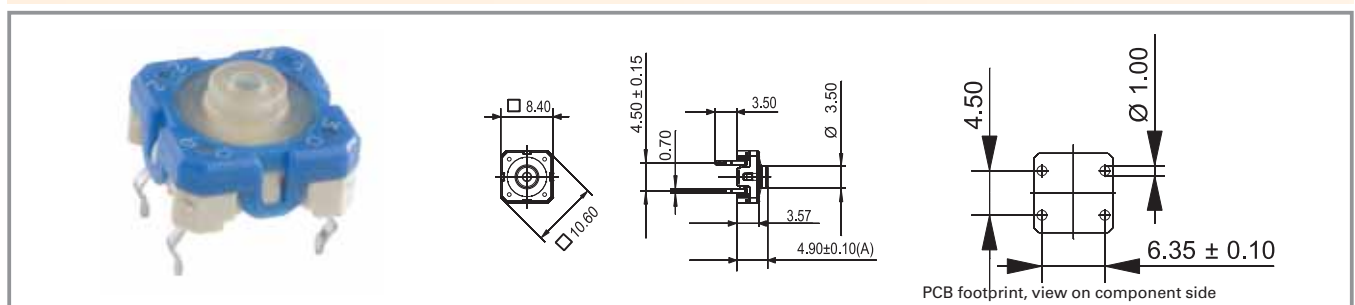
Terminals	Operating force	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
THT outward	3.3±0.6 N	E DIN IEC 600 68-2-20	A1	tubes à 60 piece	1.14.100.501/0000

Technical data see page 4 - 18

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

4

RACON 8 - Short-travel keyswitch, THT inward



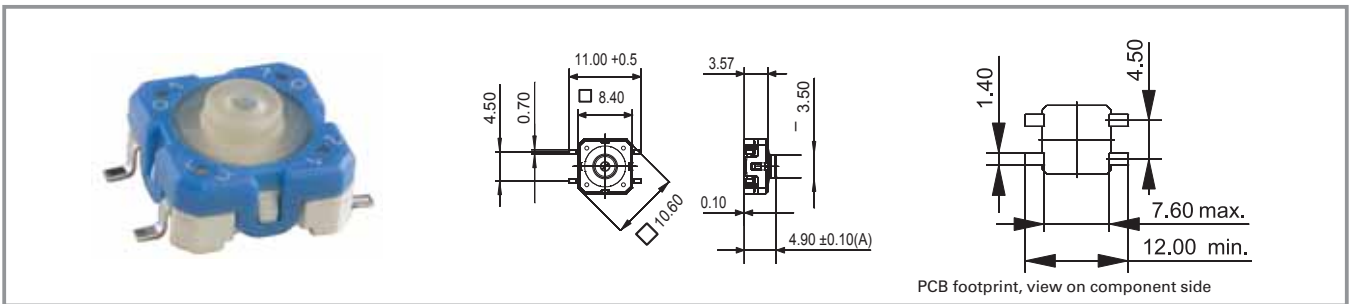
Terminals	Operating force	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
THT inward	3.3±0.6 N	E DIN IEC 600 68-2-20	B1	tubes à 60 piece	1.14.100.502/0000

Technical data see page 4 - 18

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

RACON

RACON 8 - Short-travel keyswitch, SMT gullwing (Z) terminals



Terminals	Operating force	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
SMT Gullwing (Z) terminals	3.3±0.6 N	E DIN IEC 600 68-2-58	C1	tape and reel à 1000 pieces	1.14.100.503/0000

Technical data see page 4 - 18

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

RACON 12 - Short-travel keyswitch



General Data

RACON 12 short-travel keyswitches 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 keyswitches 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 versions
 - Vapour phase soldering for SMT versions
 - Manual soldering
- SMT version suitable for processing with an automatic SMT assembly machine
- IMDS listed

4

Technical Data

Dimensions

Length of housing	12 mm
Width of housing	12 mm
Overall height	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

Operating force	see order block
Switching travel	see order block

Electrical characteristics

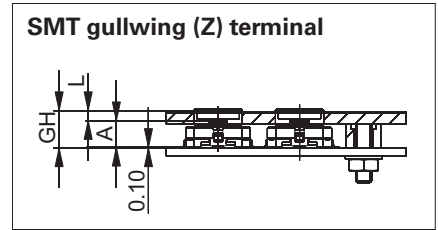
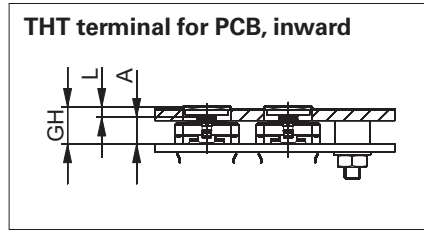
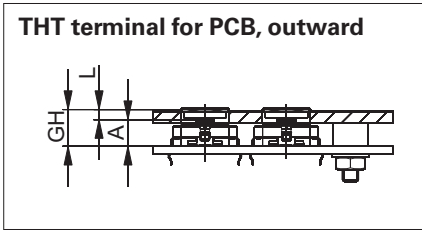
Rated voltage min.	0.02 V
Rated voltage max.	35 V

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 ⁹ Ω

Other specifications

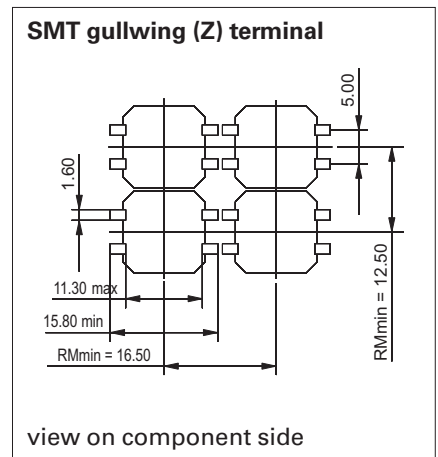
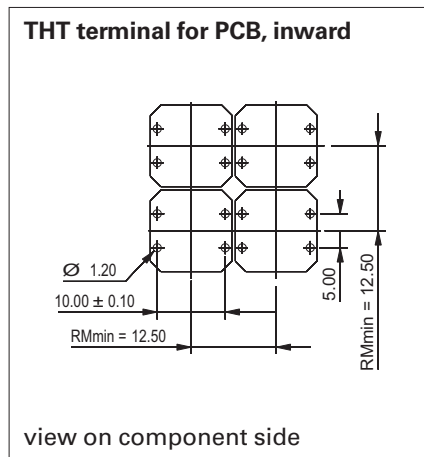
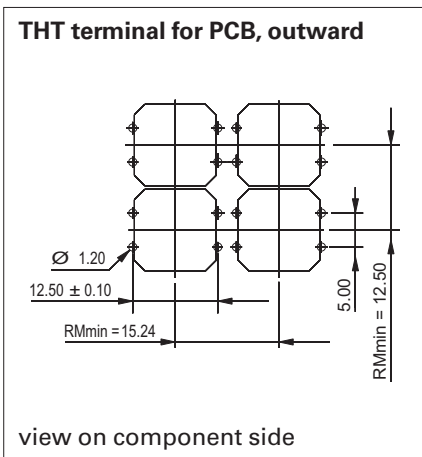
Ambient temp. operating min.	-40 °C
Ambient temp. operating max.	+90 °C
Resistance to environment	DIN EN 60068-2 -14, -30,-33 and -78
Operating life	1,000,000
Solderability / Solder heat resistance	see order block
Flammability of materials	UL 94 HB
Packing	see order block
Produkt code	see order block

RACON 12, Typical System Assembly with Plunger under Overlay



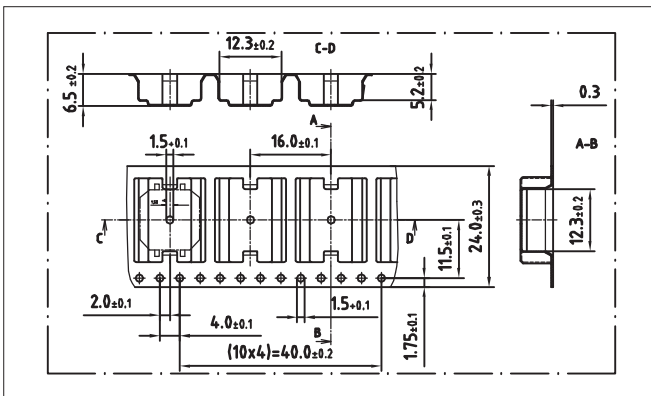
Variable	Declaration	THT terminal outward	THT terminal inward	SMT-terminal
A	Height of keyswitch		A = 4.95 +/- 0.1 mm	
GH	Overall height		GH = A + L	GH = A + L + 0.1 mm
L	Length of plunger		L = GH - A	L = GH - A - 0.1 mm

RACON 12, PCB Hole Pattern, Smallest Grid



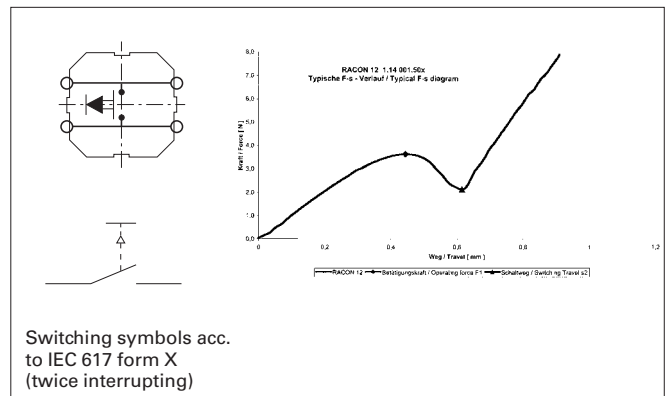
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RACON 12, SMT Terminal, Tape and Reel Drawing



Circuit Diagram RACON 12

Typical Force-Travel Diagram



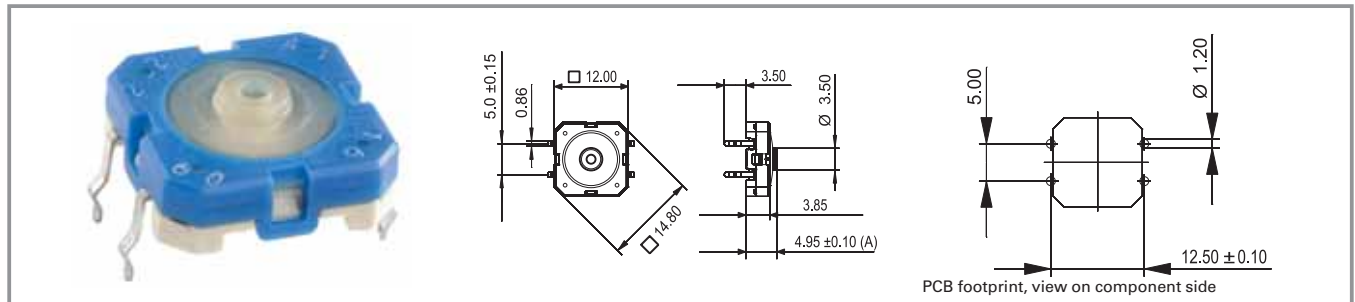
RACON

Typical accessories RACON 12 - Short-travel keyswitch

Description	Photo	Order no.	Additional accessories see page
Spacer, round, length 6.25 mm, red		5.30.759.034/0000	2 - 239, 4 - 82, 5 - 30
Square plunger for membrane data entry system		5.46.001.057/0209	4 - 34
Plunger round		5.46.168.050/0209	4 - 33
RK 90 - Keycap body, for lens 1 -module		5.55.103.030/1013	4 - 95

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

RACON 12 - Short-travel keyswitch solder terminals for PCB, outward

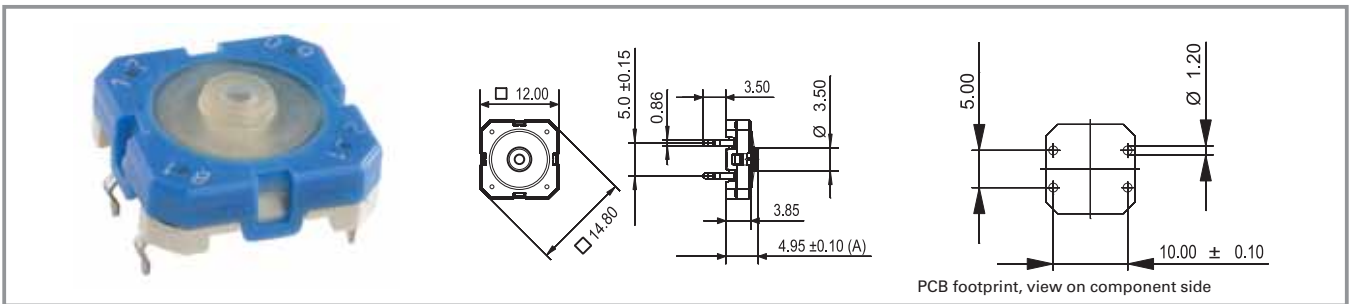


Terminals	Operating force	Switching travel	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
THT outward	3.6±0.7 N	0.61±0.1 mm	E DIN IEC 600 68-2-20	A1	tubes à 45 pieces	1.14.001.501/0000

Technical data see page 4 - 22

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

RACON 12 - Short-travel keyswitch solder terminals for PCB, inward

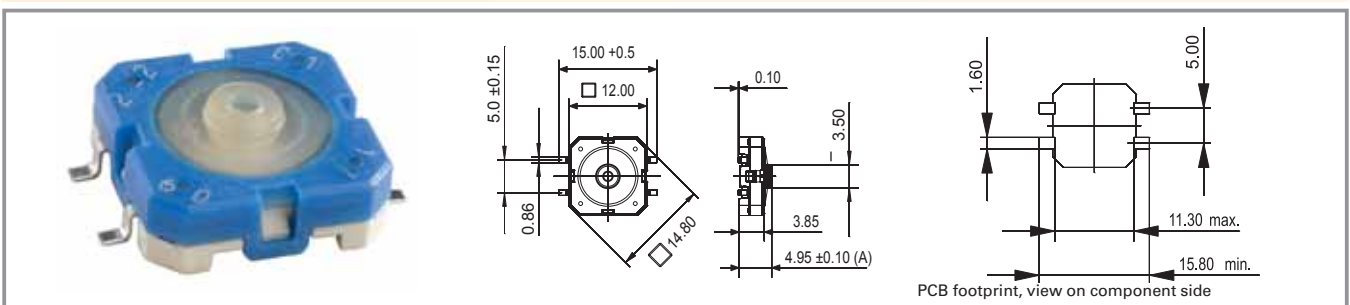


Terminals	Operating force	Switching travel	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
THT outward	3.6±0.7 N	0.61±0.1 mm	E DIN IEC 600 68-2-20	B1	tubes à 45 pieces	1.14.001.502/0000

Technical data see page 4 - 22

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

RACON 12 - Short-travel keyswitch SMT gullwing (Z) terminals



Terminals	Operating force	Switching travel	Solderability / Solder heat resistance	Produkt code	Packing	Order no.
SMT Gullwing (Z)	3.6±0.7 N	0.61±0.1 mm	E DIN IEC 600 68-2-58	C1	tape and reel à 750 pieces	1.14.001.503/0000
SMT Gullwing (Z)	6.8±1.6 N	0.7±0.1 mm	E DIN IEC 600 68-2-58	ZD	tape and reel à 750 pieces	1.14.001.916/0000
SMT Gullwing (Z)	9.7±2.5 N	0.73±0.1 mm	E DIN IEC 600 68-2-58	ZE	tape and reel à 750 pieces	1.14.001.920/0000

Technical data see page 4 - 22

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

RACON - Special accessories

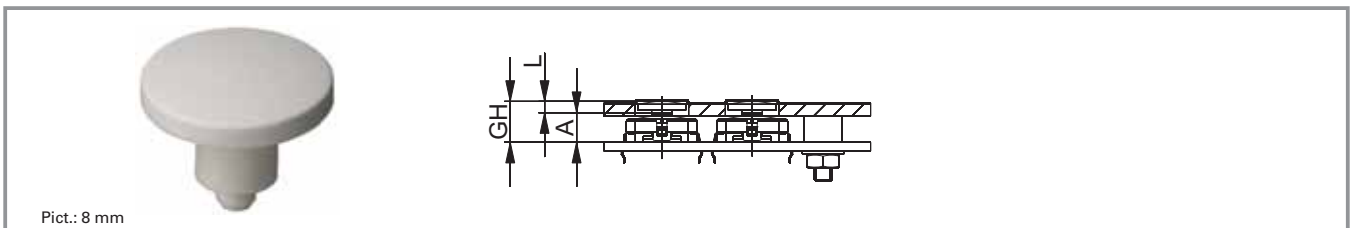


Pict.: 8 mm

General Data

GH = „L“ length of plunger + „A“ height of keyswitch (+ 0.1 mm for SMT versions)
 Front panel cut-out = size of plunger + 1 mm

Plunger round



Pict.: 8 mm

Plunger diameter/size	RACON version	Length of plunger L	Order no.
8 mm	RACON 8	1,4 mm	5.46.167.301/0209
8 mm	RACON 8	1.5 mm	5.46.167.102/0209
8 mm	RACON 8	1.6 mm	5.46.167.101/0209
8 mm	RACON 8/12	1,9 mm	5.46.167.090/0209
8 mm	RACON 8/12	2 mm	5.46.167.106/0209
8 mm	RACON 8/12	2.1 mm	5.46.167.107/0209
8 mm	RACON 8/12	4,6 mm	5.46.167.091/0209
8 mm	RACON 8/12	4.7 mm	5.46.167.311/0209
8 mm	RACON 8/12	4.8 mm	5.46.167.094/0209
8 mm	RACON 8/12	7,4 mm	5.46.167.092/0209
8 mm	RACON 8/12	7.5 mm	5.46.167.099/0209
8 mm	RACON 8/12	7.6 mm	5.46.167.096/0209

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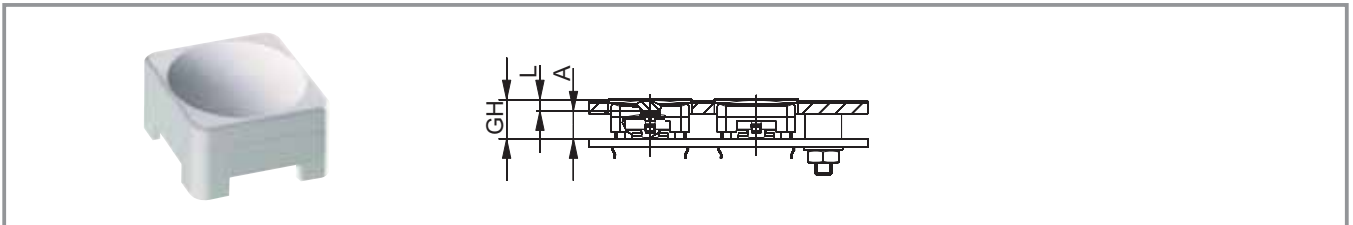
RACON

Plunger diameter/size	RACON version	Length of plunger L	Order no.
11.5 mm	RACON 8	1,4 mm	5.46.167.227/0209
11.5 mm	RACON 8	1.5 mm	5.46.167.061/0209
11.5 mm	RACON 8	1.6 mm	5.46.167.060/0209
11.5 mm	RACON 8/12	2 mm	5.46.167.067/0209
11.5 mm	RACON 8/12	2.1 mm	5.46.167.064/0209
11.5 mm	RACON 8/12	4,6 mm	5.46.167.043/0209
11.5 mm	RACON 8/12	4.7 mm	5.46.167.050/0209
11.5 mm	RACON 8/12	4.8 mm	5.46.167.047/0209
11.5 mm	RACON 8/12	7.5 mm	5.46.167.059/0209
11.5 mm	RACON 8/12	7.6 mm	5.46.167.058/0209
14.5 mm	RACON 8	1,4 mm	5.46.168.227/0209
14.5 mm	RACON 8	1.5 mm	5.46.168.061/0209
14.5 mm	RACON 8	1.6 mm	5.46.168.060/0209
14.5 mm	RACON 8/12	2 mm	5.46.168.067/0209
14.5 mm	RACON 8/12	2.1 mm	5.46.168.064/0209
14.5 mm	RACON 8/12	4,6 mm	5.46.168.043/0209
14.5 mm	RACON 8/12	4.7 mm	5.46.168.050/0209
14.5 mm	RACON 8/12	4.8 mm	5.46.168.047/0209
14.5 mm	RACON 8/12	7,4 mm	5.46.168.044/0209
14.5 mm	RACON 8/12	7.5 mm	5.46.168.059/0209
14.5 mm	RACON 8/12	7.6 mm	5.46.168.058/0209
19 mm	RACON 8	1.5 mm	5.46.169.061/0209
19 mm	RACON 8	1.6 mm	5.46.169.060/0209
19 mm	RACON 8/12	2 mm	5.46.169.067/0209
19 mm	RACON 8/12	2.1 mm	5.46.169.064/0209
19 mm	RACON 8/12	4.7 mm	5.46.169.050/0209
19 mm	RACON 8/12	4.8 mm	5.46.169.047/0209
19 mm	RACON 8/12	7.5 mm	5.46.169.059/0209

Plunger diameter/size	RACON version	Length of plunger L	Order no.
19 mm	RACON 8/12	7.6 mm	5.46.169.058/0209

Front panel cut-out = Plunger diameter + 1 mm.

Square plunger for membrane data entry system



Plunger diameter/size	RACON version	Length of plunger L	Order no.
14 x 14 mm	RACON 12THT	2.1 mm	5.46.001.064/0209
14 x 14 mm	RACON 12THT	4.8 mm	5.46.001.060/0209
14 x 14 mm	RACON 12THT	7.6 mm	5.46.001.063/0209
14 x 14 mm	RACON 12 SMT	2 mm	5.46.001.057/0209
14 x 14 mm	RACON 12 SMT	4.7 mm	5.46.001.058/0209
14 x 14 mm	RACON 12 SMT	7.5 mm	5.46.001.059/0209

Front panel cut-out = 15 x 15 mm.

4

RACON