

RACON 8 ST, SMT, 3.3 ± 0.6 N, 1 NO



Description

Our top-quality RACON 8 tactile switches – in dimensions 8.4 x 8.4 mm – feature an unmistakable click, high switching reliability, and a sealed contact system. That has made RACON the standard in many industries. Whether for automotive applications, systems with keycaps, or membrane keyboards, RACON impresses in the THT or SMT versions – for your application too.

RACON 8 tactile switches can be arranged individually, in rows or as key blocks. When used beneath membrane overlays, the RACON key switches should be combined with plungers. Suitable for the most important soldering techniques.

- > Soldering bath for THT versions
- > Reflow soldering for SMT versions
- > Vapor phase soldering for SMT versions
- > Manual soldering
- > Processing of the SMT designs with SMT automatic assembly machines
- > IMDS entry



technical data

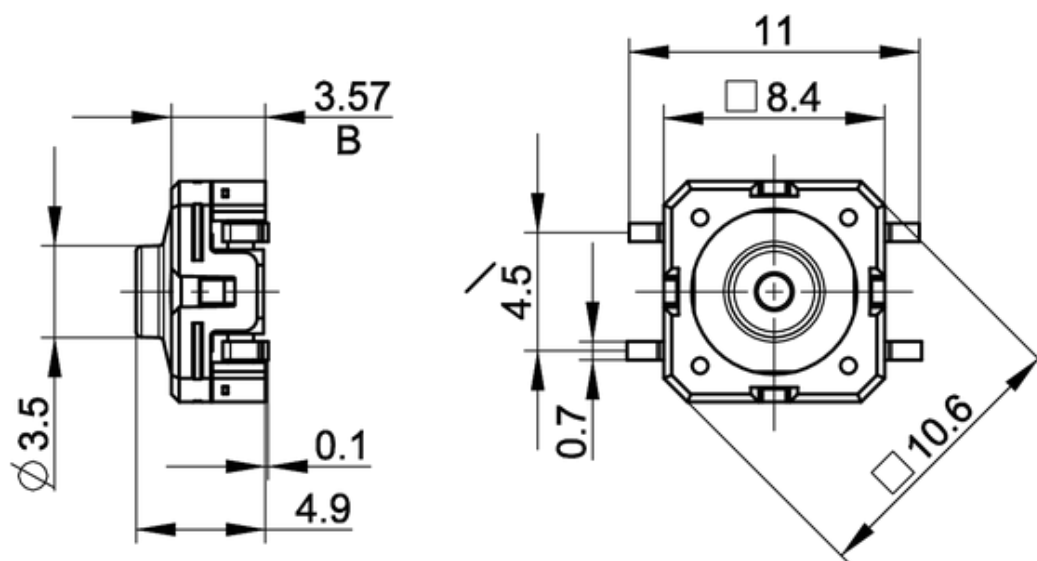
> general

Color	blue	direct links
Operating temperature, min.	-40 °C	
Operating temperature, max.	125 °C	> RAFI eCatalog
Storage temperature, min.	-50 °C	
Storage temperature, max.	85 °C	
illuminated	No	
Soldering	Reflow	
Solder heat resistance according to standard	DIN EN 60068-2-58	
Packaging	Blister	
Packaging unit	1,000 pcs.	
Operating life	1,000,000 cycles	
B10	1,300,000 cycles	
Degree of protection, front side, according to ISO 20653	IP67 (IP6K7)	
Degree of protection on rear side acc. to ISO 20653	IP67 (IP6K7)	
MSL Moisture Sensitivity Level	1	

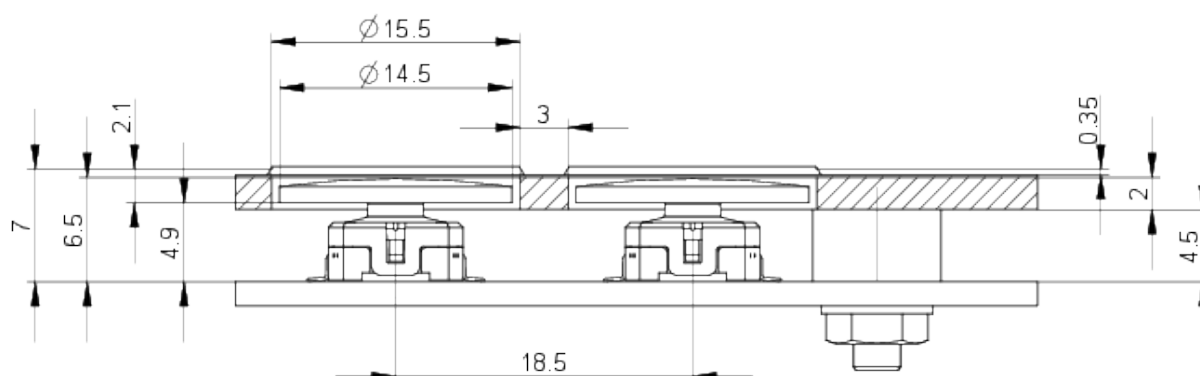
Corrosive gas testing according to standard	Yes
Minimum order quantity (MOQ)	1,000 pcs.
RoHS compliant	Yes
REACH compliant	Yes
Product code	TC
<b>&gt; mounting diameters</b>	
Outside dimension, length	8.4 mm
Outside dimension, width	8.4 mm
Installation height	4.9 ± 0.1 mm
Grid, min.	8.9 x 12.7 mm
<b>&gt; mechanical data</b>	
Actuation function	momentary contact function
Operating force, max.	8 N
Operating force, min.	3.3 ± 0.6 N
Switching travel	0.34 ± 0.15 mm
Bounce time at 10 mm/s	<5 ms
Contact function	1 NO
Contact system	Snap-action contact SPST - Single Pole Single Throw
Contact material	Gold
Solderability	Yes
Terminal on the rear	SMT
<b>&gt; electrical data</b>	
Rated voltage, min.	0.02 V
Rated voltage, max.	35 V
Rated current, min.	0.00001 A
Rated current, max.	0.1 A
Rated power, max.	1 W

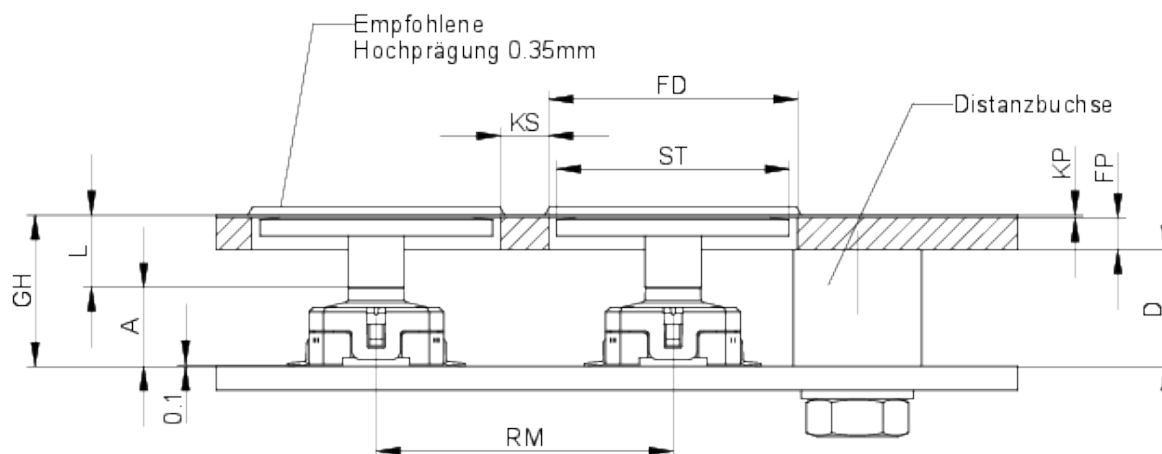
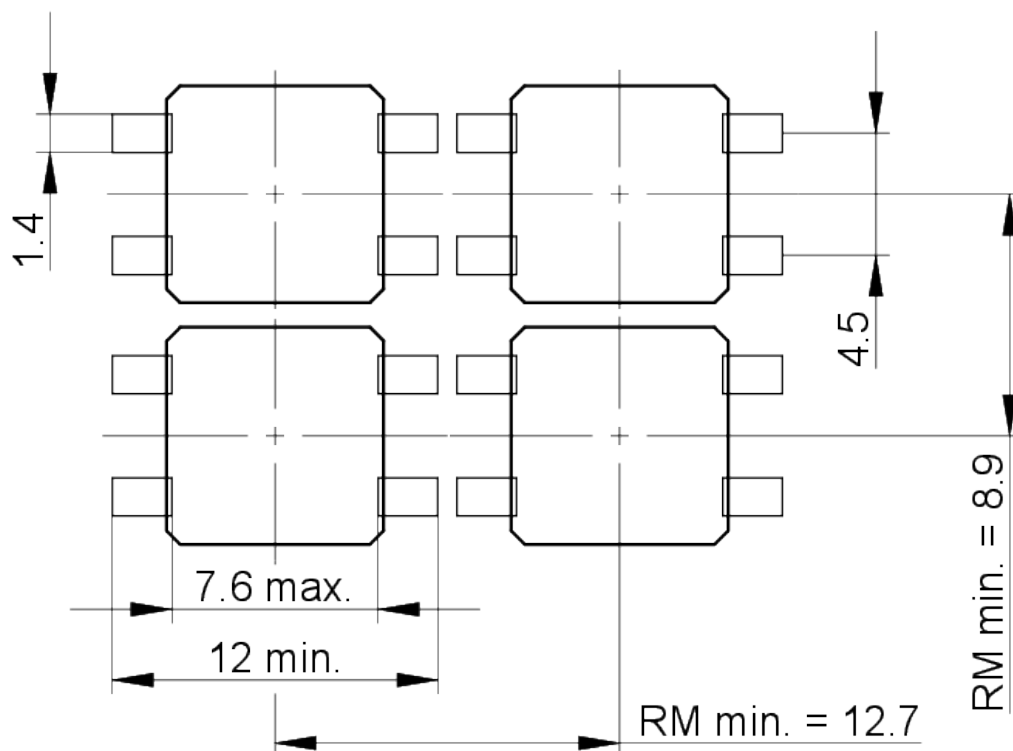
## drawings

### Dimensioned drawing

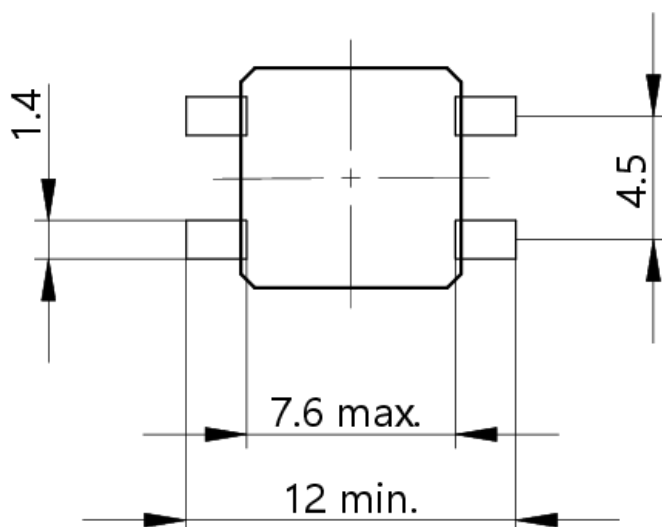


### System drawing



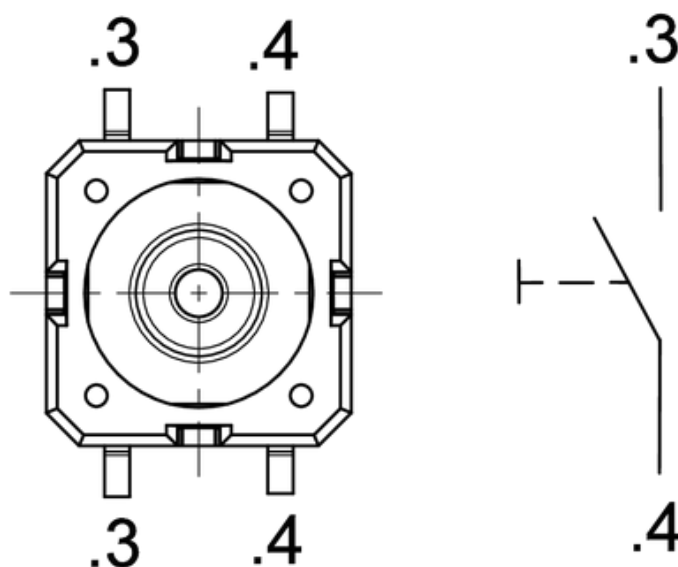
**System drawing****PCB drawing**

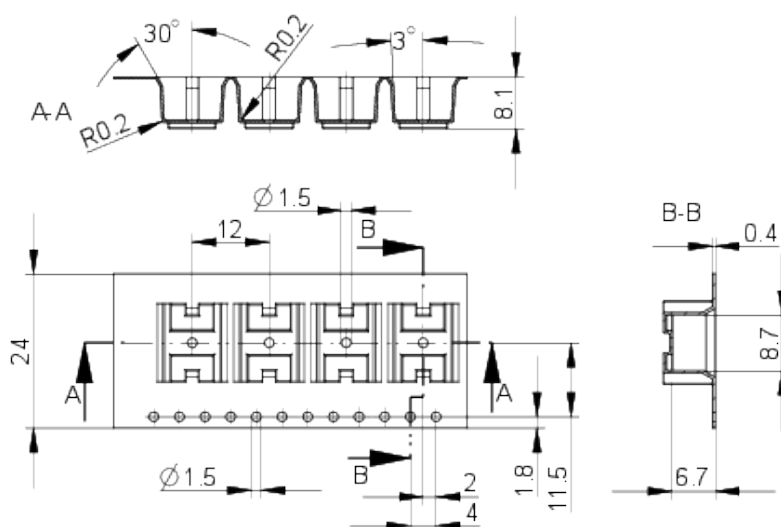
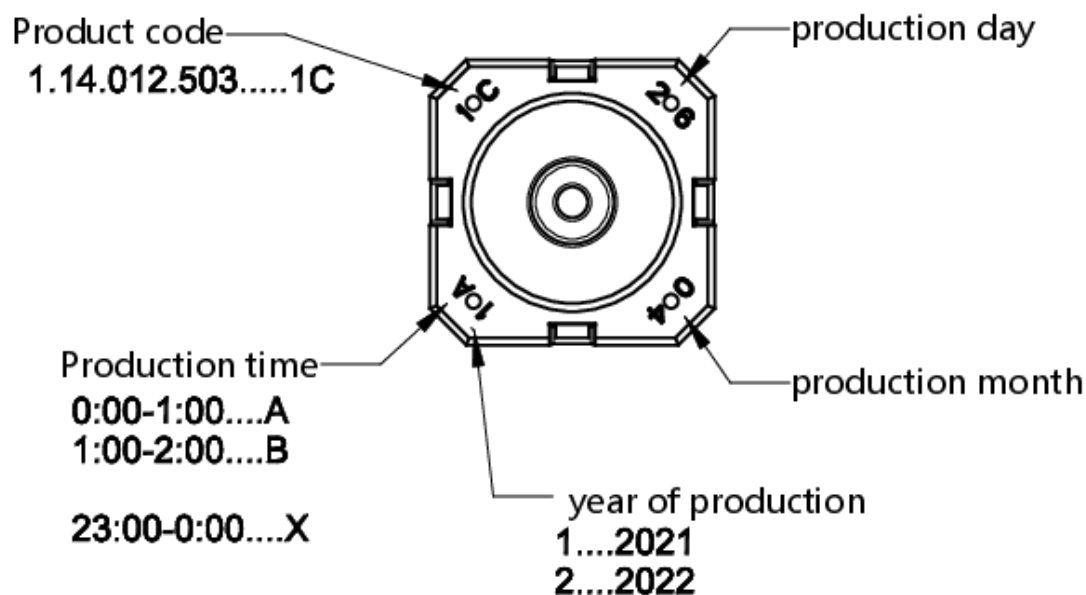
## PCB drawing



PCB-Pad  
component side

## Schematic diagram



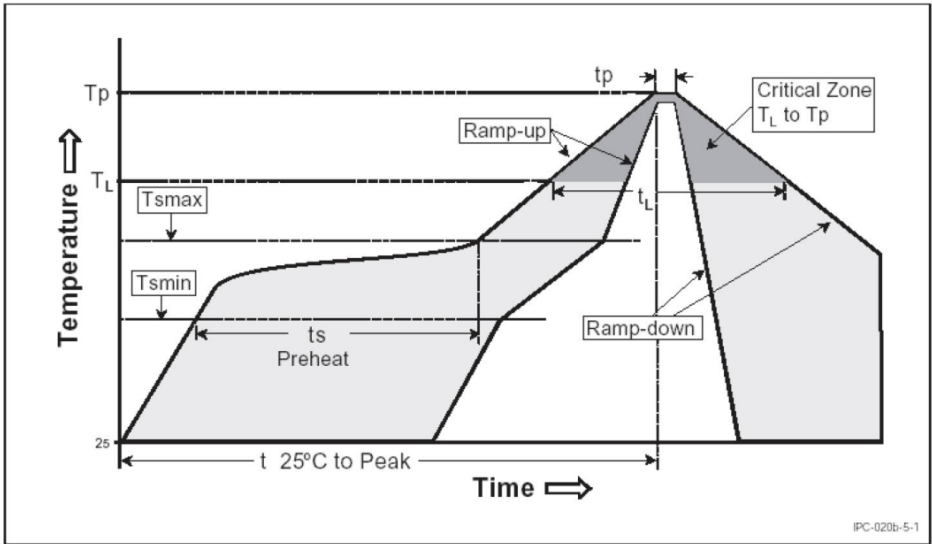


mounting

RAFI soldering profile for ROHS compliant  
reflow components



Publication date: October 7, 2021



Parameter	RAFI values
Gradient (T <sub>L</sub> to T <sub>P</sub> )	max. 3°C / s
<b>Preheating zone</b>	
Minimum temperature (T <sub>smin</sub> )	150°C
Maximum temperature (T <sub>smax</sub> )	200°C
Time (from min. to max.) (ts)	60 - 120 s
Gradient (T <sub>smax</sub> to T <sub>L</sub> )	max. 3°C / s
Time over melting temperature (T <sub>L</sub> ) time (tl)	217°C 60 – 150 s
Peak temperature (T <sub>P</sub> )	max. 260°C (+0°C)
Time within peak temperature – 5°C (tp)	20-40 s
Gradient ramp down	max. 6°C / s
Time difference from 25°C to peak temperature	max. 8 minutes

The reflow soldering profile is based on the definition of Jedec J-STD-020D.

The information in this sheet only contains general descriptions and / or performance features, which may not apply precisely as described to the respective application, and which may change due to further product enhancements. The technical data, illustrations and other information about our products are the mere results of individual technical testing. These descriptions and other product features are only binding if they expressly agreed upon at the time of the conclusion of a binding contract. In all other cases, we reserve the right to make technical changes as well as changes of availability. Pictures and other graphic illustrations are approximations only. All product names may be trademarks or brand names of the RAFI Group or any other sub-supplier of RAFI. The use of such by any third parties for their own purposes may infringe the rights of the respective entity holding those rights. Subject to change and errors excepted. Details about delivery times and availability are noncommittal and have no legal force.

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## Media Robust Electronics



Publication date: February 13, 2025

### RACON 8 ST

Valid for all variants RACON 8 ST, 1.14.108.5XX-9XX

#### Recommended potting compounds

WEVO-CHEMIE GmbH

WEVOPUR 7210 FL/WEVONAT 507

WEVOPUR PD4431 FL/WEVONAT 300

STOCKMAIER URETHANES GmbH & Co.KG

Stobicast® L768.16 Polyol/Isocyanat

#### Important note

Maximum potting height B must not be exceeded.

#### Recommended circuit board protection

Lackwerke Peters GmbH & Co.KG

combination of high-viscosity (HT-T)  
and low-viscosity coating from the  
ELPEGUARD® SL 1307 family

Lackwerke Peters GmbH & Co.KG

ELPEGUARD® SL 1800

#### Important note

The conformal coating of our tactile switches must be tested in the final application. Coating that enters the tactile switch does not harden directly, so that any resulting malfunction can only be detected later.

If the tactile switch is completely coated, the coating may peel off the elastomer of the tactile switch during the first few actuations. Press the tactile switch only after the coating has hardened.

We recommend leaving out the elastomer area when coating to prevent detachment.

#### General remark

The suitability and use of the recommended media for potting, conformal coating and nano-coating must be qualified and approved in the final application.

The potting, conformal coating and nano-coating must be used in accordance with the manufacturer's technical data sheet.

Actuation of the tactile switch only after the potting compound, conformal coating and nano coating has complete hardened.

Other potting compounds and processes for printed circuit board protection on request.

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