

# RACON 8, SMT, 6.0 ± 1.0 N, 1 NO



## fields of application

- Measurement-control-regulation
- Mechanical and system engineering
- Automotive
- Electro-medical

## special features

- Gold contacts, reliable switching with low currents
- Special tactile feedback
- Different operating forces
- Variable overall heights due to plunger
- Terminal technology: SMT or THT
- Traceability through product identification



## 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              |
| Operating temperature, min.                  | -40 °C            |
| Operating temperature, max.                  | 90 °C             |
| 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           |

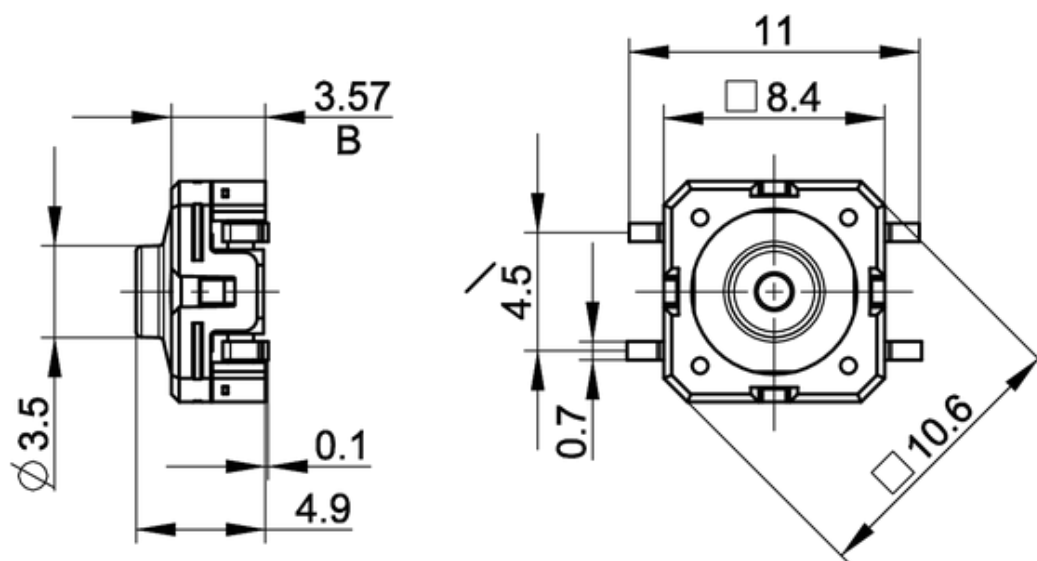
### direct links

- [RAFI eCatalog](#)

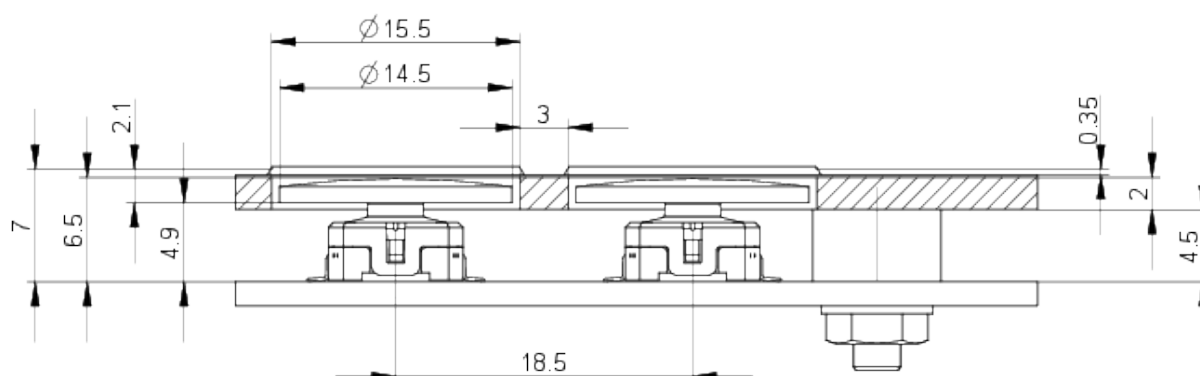
|  |  |
|--|--|
| Packaging unit   | 1,000 pcs.   |
| net weight   | 0.5 g  |
| Operating life   | 50,000 cycles  |
| B10  | 65,000 cycles  |
| Degree of protection, front side,<br>according to DIN EN 60529 | IP54<br>IPx7   |
| Degree of protection, rear side,<br>according to DIN EN 60529  | IP54<br>IPx7   |
| MSL Moisture Sensitivity Level                                 | 1  |
| Corrosive gas testing according to<br>standard                 | Yes  |
| MOQ order  | 1,000 pcs.   |
| RoHS compliant   | Yes  |
| REACH compliant  | Yes  |
| Component material   | Elastomer  |
| Product code   | C4   |
| <b>&gt; mounting diameters</b>                                 |  |
| Outside dimension, length                                      | 8.4 mm   |
| Outside dimension, width                                       | 8.4 mm   |
| Installation height  | 5 ± 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.  | 6 ± 1.0 N  |
| Switching travel   | 0,47 <sup>±0,1</sup> mm                                |
| Contact function   | 1 NO   |
| Contact system   | Snap-action contact<br>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

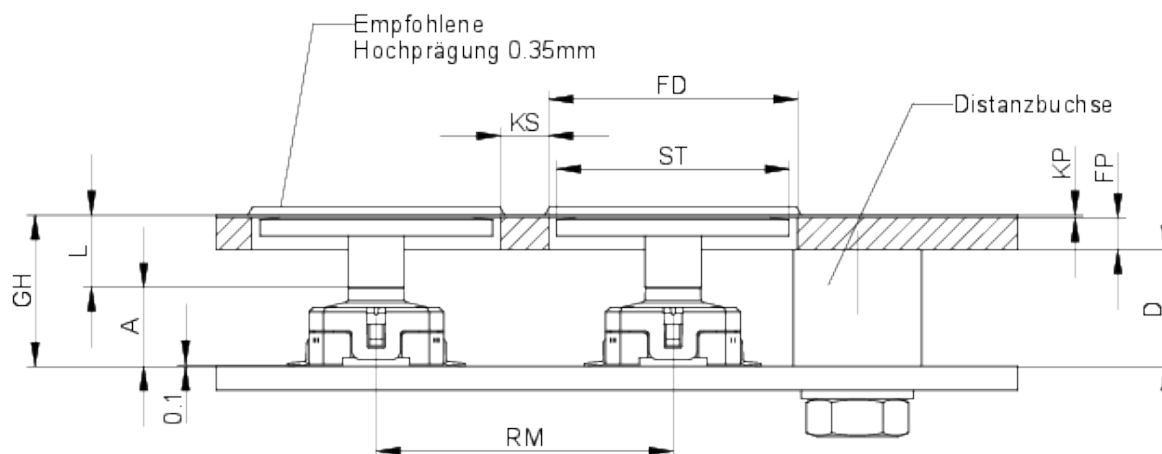
### Dimensioned drawing



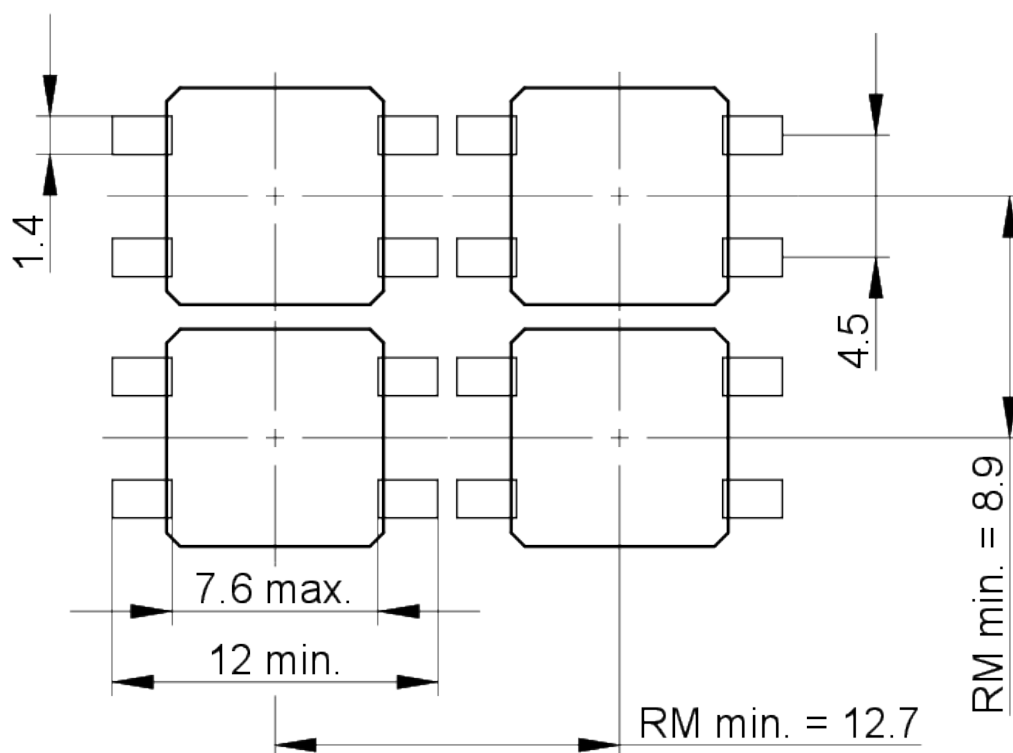
### System drawing



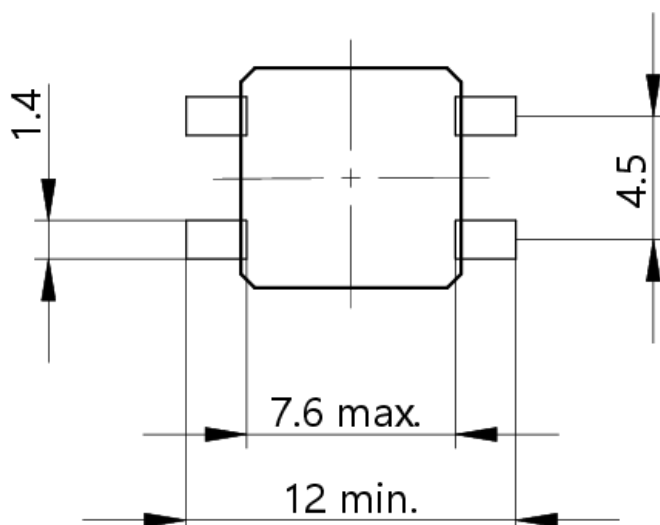
## System drawing



## PCB drawing

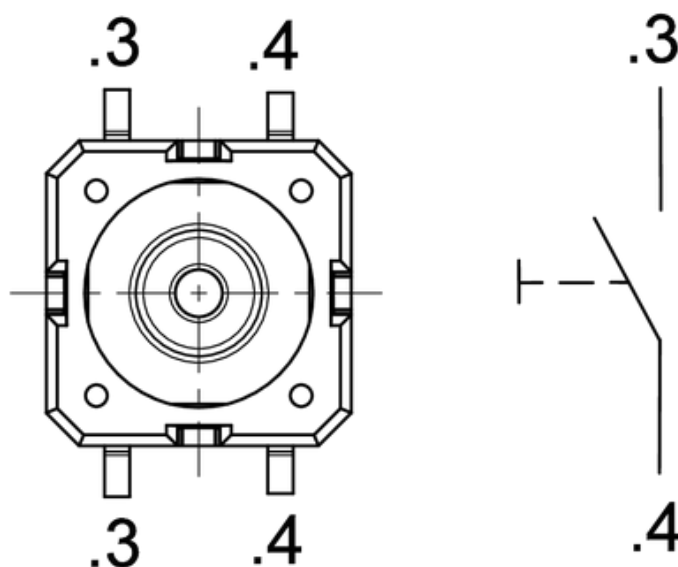


# PCB drawing

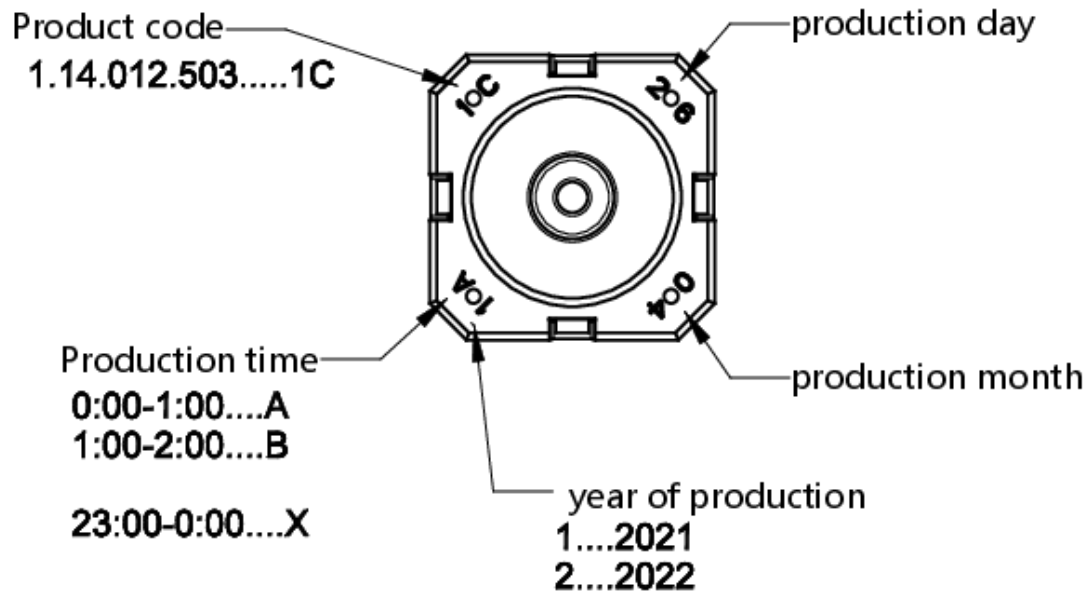


PCB-Pad  
component side

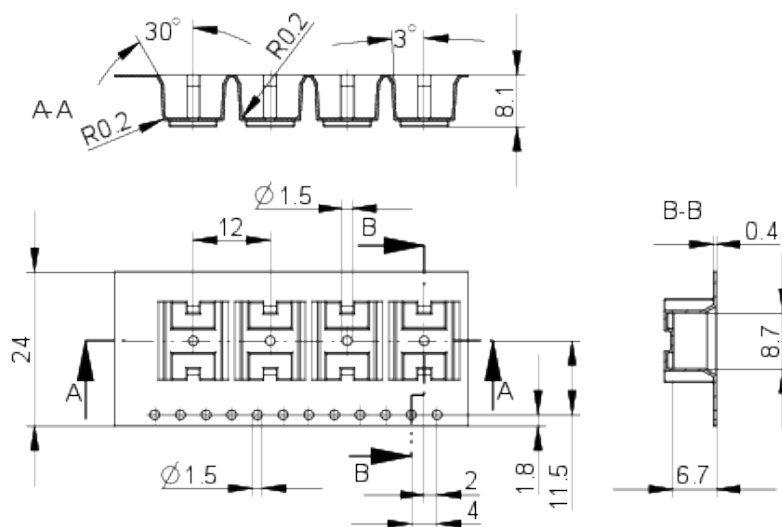
# Schematic diagram



Product labeling drawing



Packaging drawing

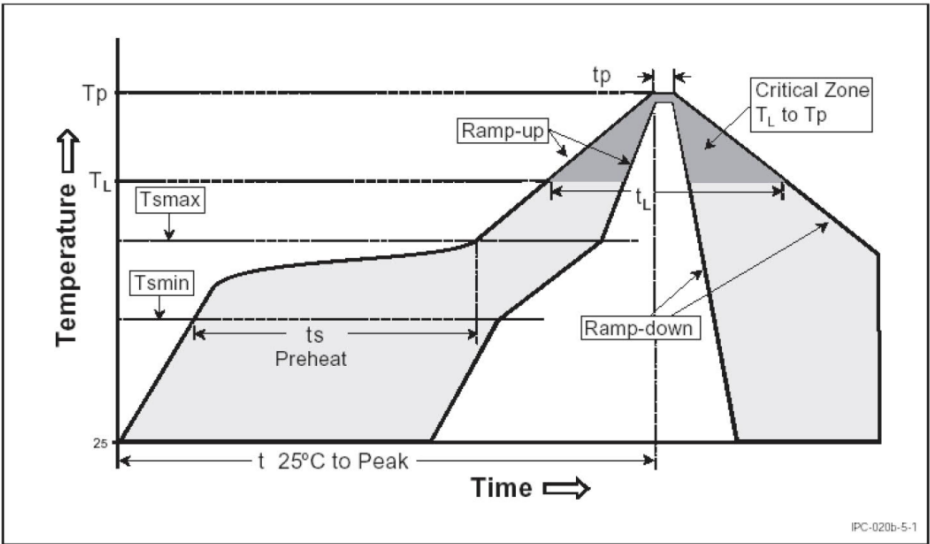


mounting

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<br>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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**Medium Robust Electronics**

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**RACON 8**

Valid for all variants RACON 8, 1.14.100.5XX-9XX

**Approved 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.

**Approved circuit board protection**

- **Lackwerke Peters GmbH & Co.KG** **ELPEGUARD® SL 1307**

**Important note**

If the tactile switch is completely painted, the paint may peel off the elastomer of the tactile switch during the first few actuations. Press the tactile switch only after the paint has hardened.  
We recommend leaving out the elastomer area when painting to prevent detachment.

- **TIEFCO Coating Company** **3M™ Novec™ 1700**

**Important note**

After coating, the contact resistance can increase. After repeated actuation, the contact resistance drops again under 100 mΩ.

**General remark:**

The potting, varnish and nano medium must be used in accordance with the manufacturer's technical data sheet. Actuation of the tactile switch only after the potting compound, varnish and nano medium has hardened.

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

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