

## RACON 12 ST, SMT, 6.8 ± 1.6 N, 1 NO

### Description



Our top-quality RACON 12 tactile switches – in the dimensions 12 x 12 mm – feature an unmistakable click, high switching reliability, a sealed contact system and castability. 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 12 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.	125 °C
Storage temperature, min.	-50 °C
Storage temperature, max.	90 °C
illuminated	No
Soldering	Reflow
Solder heat resistance according to standard	DIN EN 60068-2-58
Packaging	Blister
Packaging unit	750 pcs.
Net weight	1.5 g
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)

#### direct links

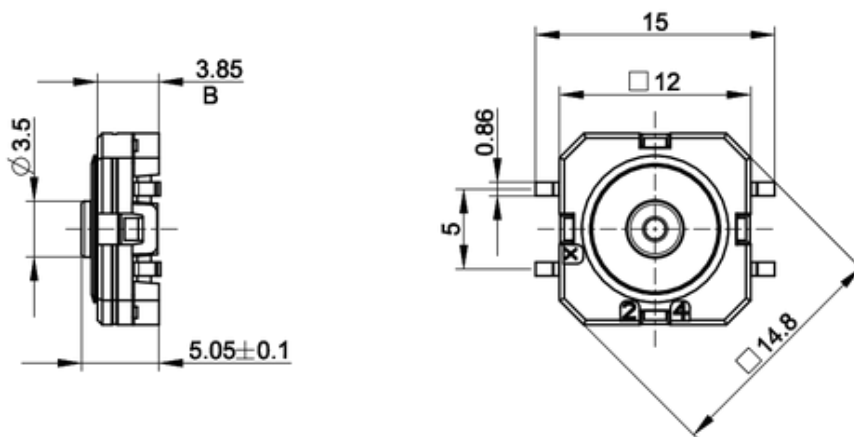
> [RAFI eCatalog](#)

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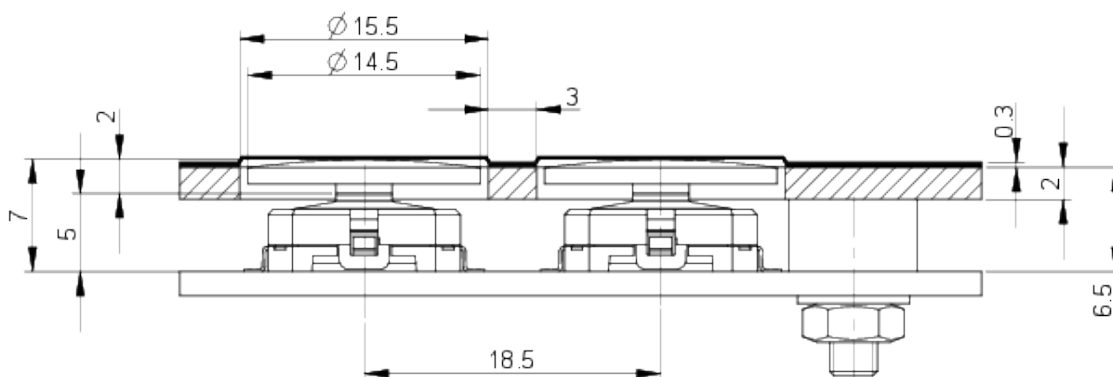
MSL Moisture Sensitivity Level	1
Corrosive gas testing according to standard	Yes
Minimum order quantity (MOQ)	750 pcs.
RoHS compliant	Yes
REACH compliant	Yes
Product code	TJ
Country of origin	DE
<b>&gt; mounting diameters</b>	
Outside dimension, length	12 mm
Outside dimension, width	12 mm
Installation height	5.05 ± 0.1 mm
Grid, min.	12.50 x 15.24 mm
<b>&gt; mechanical data</b>	
Terminal on the rear	SMT
Actuation function	momentary contact function
Operating force, max.	10 N
Operating force, min.	6.8 ± 1.6 N
Contact function	1 NO
Contact system	Snap-action contact SPST - Single Pole Single Throw
Contact material	Gold
Solderability	Yes
Bounce time at 10 mm/s	<5 ms
Switching travel	0.7 ± 0.15 mm
<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**

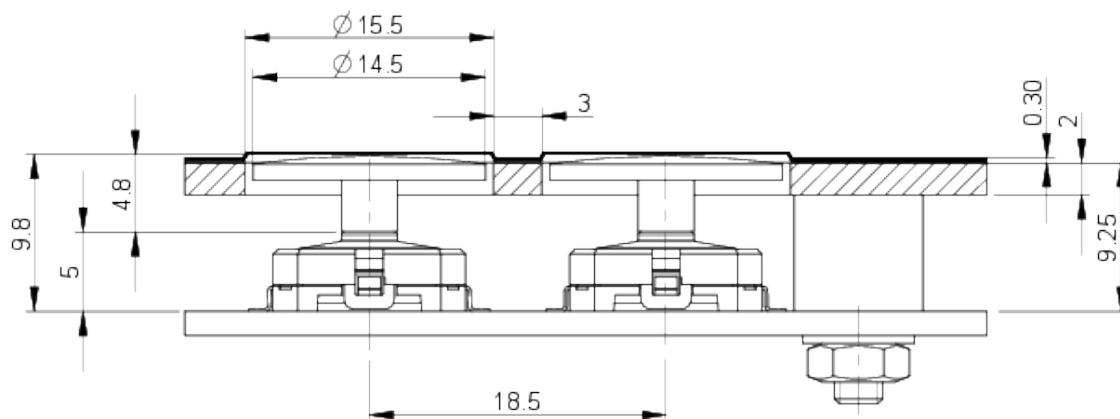
**Dimensioned drawing**



**System drawing**



**System drawing**

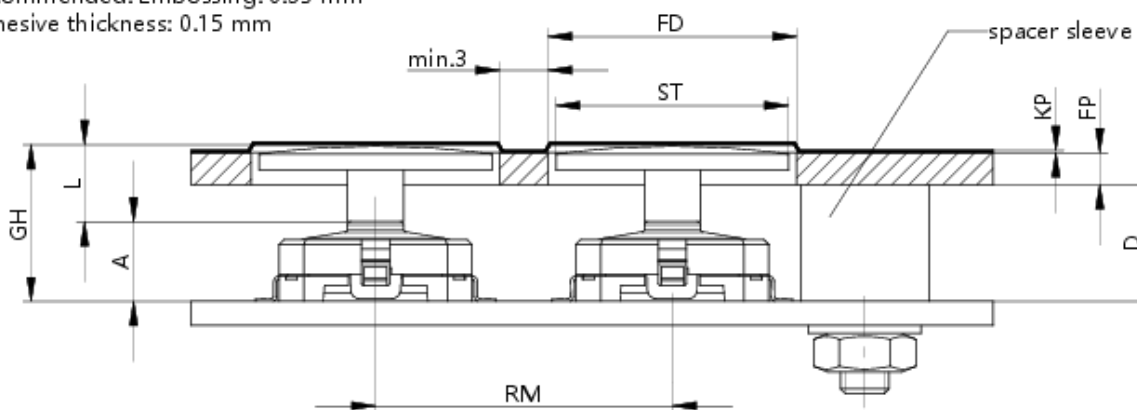


**System drawing**

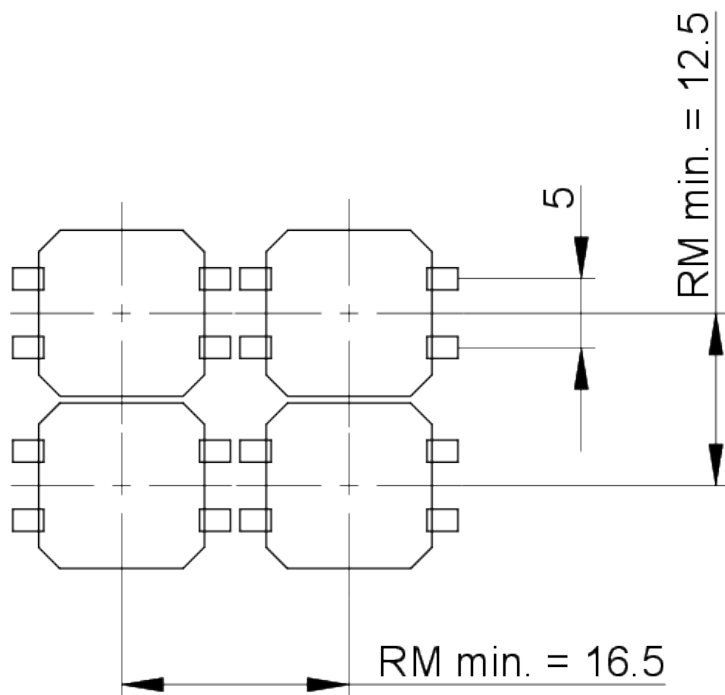
SMT gullwing connection

Recommended: Embossing: 0.35 mm

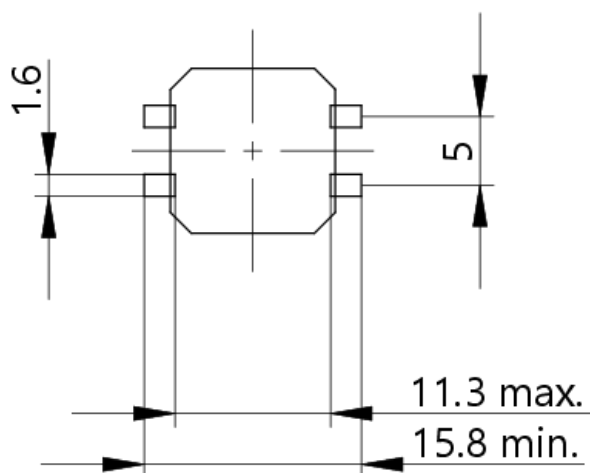
Adhesive thickness: 0.15 mm



PCB drawing

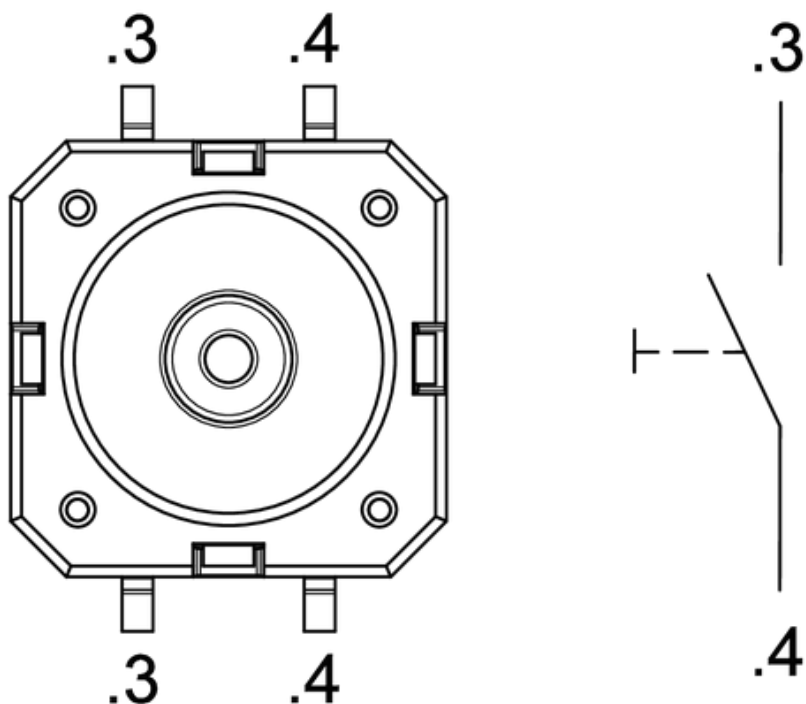


PCB drawing

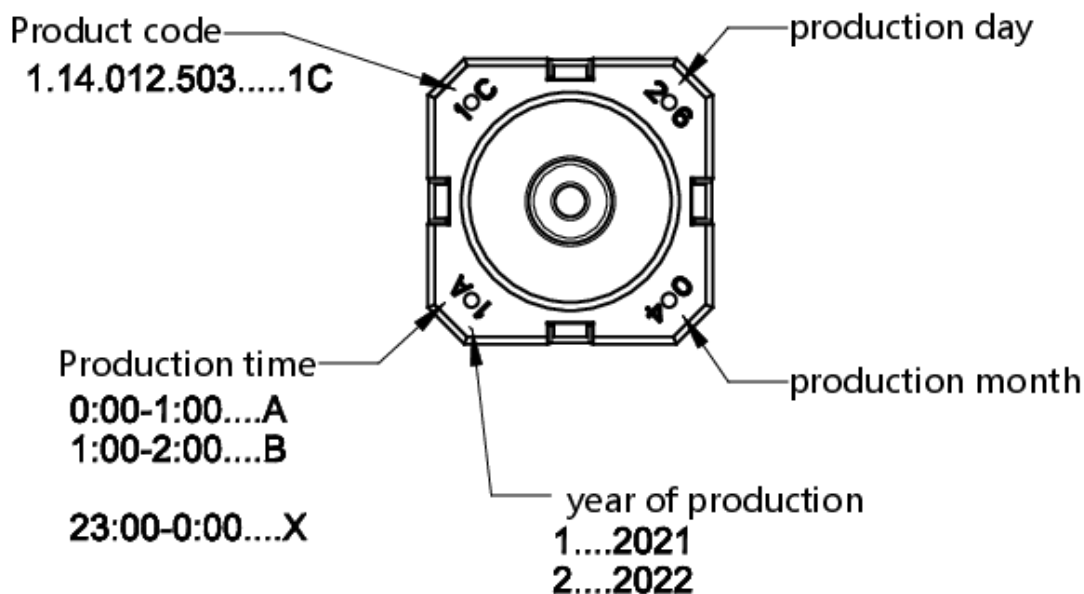


PCB-Pad  
component side

Schematic diagram



Product labeling drawing



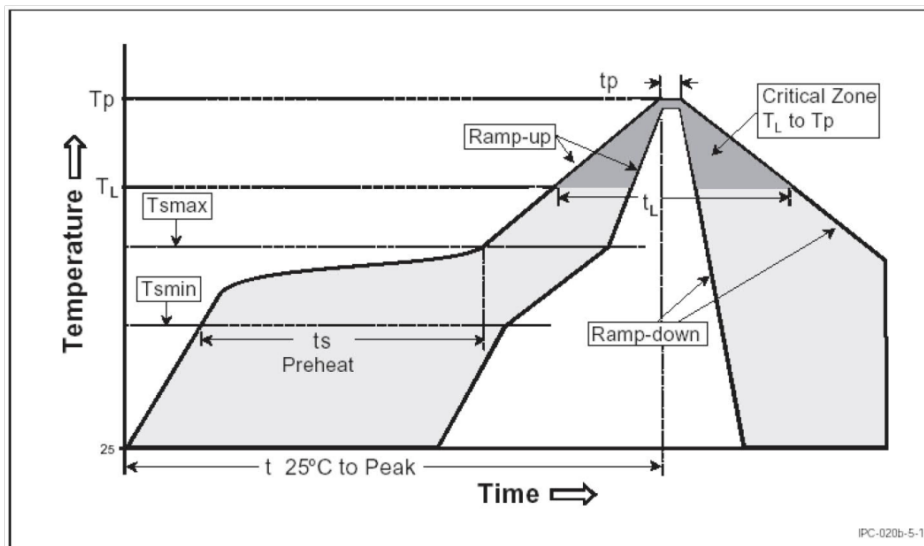


mounting

RAFI soldering profile for ROHS compliant reflow components



Publication date: October 7, 2021



Parameter	RAFI values
Gradient ( $T_L$ to $T_P$ )	max. 3°C / s
<b>Preheating zone</b>	
Minimum temperature ( $T_{smin}$ )	150°C
Maximum temperature ( $T_{smax}$ )	200°C
Time (from min. to max.) ( $t_s$ )	60 - 120 s
Gradient ( $T_{smax}$ to $T_L$ )	max. 3°C / s
Time over melting temperature ( $T_L$ ) time ( $t_L$ )	217°C 60 - 150 s
Peak temperature ( $T_P$ )	max. 260°C (+0°C)
Time within peak temperature - 5°C ( $t_p$ )	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 Jecdec 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



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### RACON 12 ST

Valid for all variants RACON 12 ST, 1.14.112.5XX-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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