

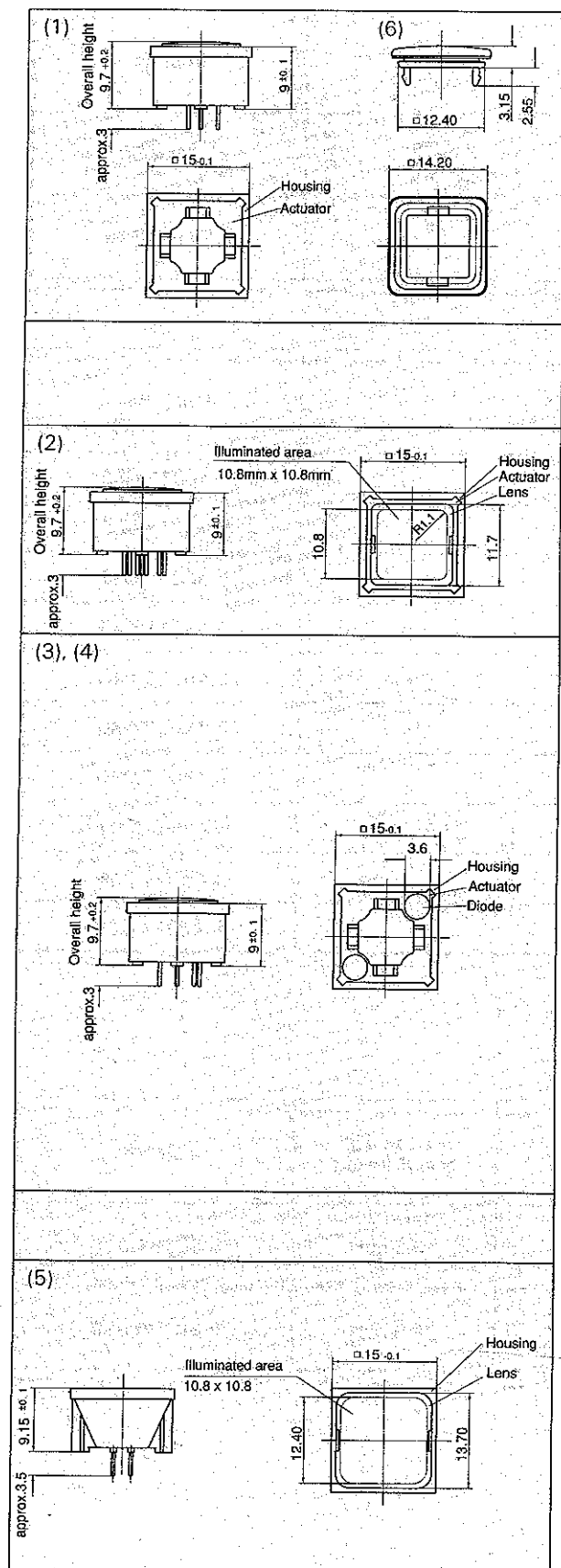


Keyswitch RF 15, non-illuminated Overall height 9.7 mm	Contact	Keyswitch colour	Order no.	Accessories: (6) Snap-on keycap	Order no. 5.46654.059 /0227
(1)* 	Au	opaque white	3.14100.001		beige, (other colours on request), can be legended by printing, engraving or laser
	Ag		3.14100.006		

Keyswitch RF 15, illuminated Overall height 9.7 mm	Illumination	Contact	Keyswitch colour	LED- colour	Order no.	
					Standard-LED	Low-current LED
(2)*  Improved illumination	Fully illuminated 2 LEDs	Au	red	red	3.14200.011	—
			green	green	3.14200.012	—
			yellow	yellow	3.14200.013	—
			orange	yellow	3.14200.014	—
		Ag	red	red	3.14200.021	—
			green	green	3.14200.022	—
			yellow	yellow	3.14200.023	—
			orange	yellow	3.14200.024	—
(3) 	Spot- illuminated 1 LED	Au	opaque white	blue	3.14100.030	—
				red	3.14100.031	3.14100.431
				green	3.14100.032	—
				yellow	3.14100.033	—
		Ag	opaque white	blue	3.14100.040	—
				red	3.14100.041	3.14100.441
				green	3.14100.042	—
				yellow	3.14100.043	—
(4) 	Spot- illuminated 2 LEDs	Au	opaque white	blue	3.14100.080	—
				red	3.14100.081	3.14100.481
				green	3.14100.082	—
				yellow	3.14100.083	—
		Ag	opaque white	blue	3.14100.090	—
				red	3.14100.091	3.14100.491
				green	3.14100.092	—
				yellow	3.14100.093	—

Signal indicator RF 15, Overall height 9.7 mm	Illumination	Contact	Lens colour	LED- colour	Order no.	
					Standard-LED	Low-current LED
(5)  Improved illumination	Fully illuminated 1 LED	—	red	red	3.14200.051	—
		—	green	green	3.14200.052	—
		—	yellow	yellow	3.14200.053	—
		—	orange	yellow	3.14200.054	—

* Suitable for RK 90 system

**Hints for application:**

If an overall height of 12.5 mm is required or if it is necessary to be able to change the legending, keycaps can be snapped onto non-illuminated keyswitches (1). The legending of the keycaps is visible through a window in the overlay. If different legending is required, you simply replace the keycap.

Low-profile keyboards with RF 15 elements are normally constructed with 19.05 mm grid spacing. With this grid, metal webs remain on the front panel between the individual key-switches, onto which the overlay can be glued. In this case, we recommend area embossing for the overlay above the key-switches.

To reduce current consumption, for the spot-illuminated key-switches red low-current LEDs are available.

Mechanical construction

Contact system	Snap-action contact,
and arrangement:	1 normally-open contact
Illumination:	1 or 2 LEDs (spot or surface illumination)
Fixing:	By soldering into the PCB
Flammability of plastic materials:	UL 94 HB
Contact material:	Au or Ag, as required
Terminals:	Contact spring: tin-plated
	Stationary contact: Au-version tin-plated, or Ag-version silver-plated

Mechanical characteristics

Operating force:	2 – 3 N max.
Full travel:	0.5 + 0.2 mm
Switching travel:	0.5 + 0.2 mm
Robustness:	≥ 100 N (with through-plated PCB)

Electrical characteristics

Rated voltage:	0.02 ... 42 V AC/DC (Au) for TTL level, 3 ... 50 V (Ag)
Rated current:	0.01 ... 100 mA AC/DC (Au) for TTL level, 0.1 ... 250 mA (Ag)
Rated power:	2 W AC/DC (Au), 12.5 W AC/DC (Ag) Ohmic load respectively

Contact resistance:	≤ 100 mΩ when new ≤ 3 Ω after operating life
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Insulation resistance:	> 10 ⁹ Ω
ESD-strength:	15 kV if the keyswitches are covered by an overlay

Bouncing time:	≤ 5 ms
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Further details

Ambient temp., operating:	- 25 °C ... + 70 °C
Ambient temp., storage:	- 40 °C ... + 80 °C - 40 °C ... + 50 °C in standard packing

Environment conditions:

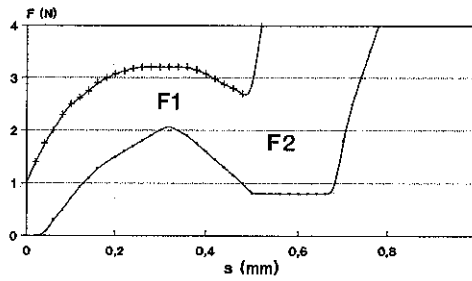
- Constant environment: acc. to IEC 68-2-3 and 2-30
- Variable environment: acc. to IEC 68-2-14 and 2-33

Operating life:	≥ 10 ⁶ operations
Soldering temp.:	250 °C
Soldering time:	2.5 sec. max.

Hole patterns, dimensional drawings, circuit diagram and data of the LEDs/signal indicators, see page 5 – 26 ff.

Force/Travel Diagram - Keyswitch

Operation characteristic limits RF



F 1 = Max. operating force
F 2 = Force at contact
F 2 is max. 55 % of F 1

Circuit Diagram - Keyswitches

Keyswitch, non-illuminated	Keyswitch, fully illuminated	Keyswitch, spot-illuminated 1/2 LED	Keyswitch, fully and spot-illuminated