

SUB-SUBMINIATURE MICROSWITCHES - STANDARD

V5D - 83194

- › Coil spring snap-action mechanism with wiping contacts
- › Very small size
- › Ratings from 1 mA 4 V_{DC} to 5 A 250 V_{AC}
- › Low operating force
- › cURus an CCC approved
- › Very long mechanical life
- › Auxiliary actuators: stainless steel or plastic, pre-assembled or retrofittable



Main specifications

| | | Standard 831940 | Dual-current 831948 |
|-------------------------------------|--------------------|--------------------|------------------------|
| Function | Connections | | |
| I (changeover) | W2 (solder) | | |
| Electrical characteristics | | 83194001 | 83194801 |
| Rating nominal / 250 V AC (A) | | 5 | 5* |
| Rating thermal / 250 V AC (A) | | 8.5 | 8.5 |
| Mechanical characteristics | | | |
| Max. operating force (N) | | 1.4 | 1.4 |
| Min. Release force (N) | | 0.25 | 0.25 |
| Max. Allowable overtravel force (N) | | 10 | 10 |
| Max. rest position (mm) | | 8.8 | 8.8 |
| Operating position (mm) | | 8.1+0.3/-0.2 | 8.1+0.3/-0.2 |
| Max. differential travel (mm) | | 0.13 | 0.13 |
| Min. overtravel (mm) | | 0.25 | 0.25 |
| Ambient operating temperature (°C) | | -40 → +85 | -40 → +85 |
| Mechanical life (operations) | | 10 ⁷ | 10 ⁷ |
| Contact gap (mm) | | 0.3 | 0.3 |
| Weight (g) | | 1 | 1 |

Additional specifications

- Case, Button: PA66 GF (UL 94-V0 / GWFI 960 °C / GWIT 775 °C)
- Moving blade: beryllium copper
- Contacts: gold-plated silver nickel
- Terminals: gold-plated brass
- Levers: stainless steel or PARA GF
- Degree of protection: IP40 (mechanism)
- Recommended actuating speed: 0.1 mm/s to 0.3 m/s
- Certification marks: cULus, CCC, ENEC

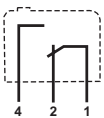
Product adaptations



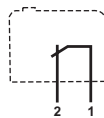
- › Special actuators: stainless steel or plastic, special shapes and lengths
- › Normally closed (R) or normally open (C) SPST versions
- › Connections: for PCB, quick-connect 2.8 x 0.5, special connections
- › High operating temperature: +110 °C
- › ENEC approval

Principles

Single break snap-action switch
Changeover - SPDT (form C)



Normally closed - SPST-NC (form B)**



Normally open - SPST-NO (form A)**



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Curves

Electrical life

Standard 831940 and Dual-current 831948

- 250 V~ 5 A resistive > 10 000 cycles
- 30 V= 3 A resistive 50 000 cycles

Dual-current 831948

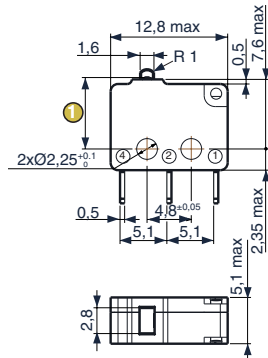
- 5 V= 1 mA resistive 1 000 000 cycles

* Models 831948 are designed to operate equally well on low-current (1 mA 4 V minimum recommended) or medium-current circuits (5 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Dimensions

Product

83194

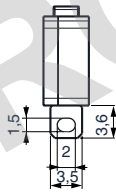


① Total travel position: max. 7.65

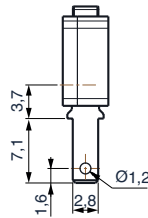
Fixing with M2 screws
Max. tightening torque: 0.15 N.m

Connections

W2 solder

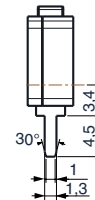


W7A5 quick-connect 2.8 x 0.5**



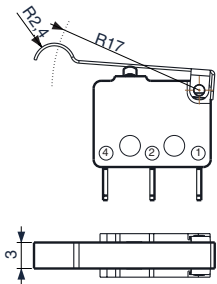
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X1 for PCB, straight output**

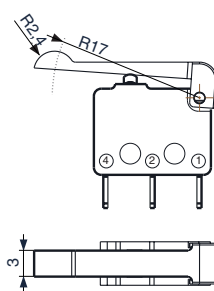


Actuators

194F dummy roller

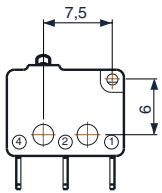


194FP plastic dummy roller





Other shapes and dimensions:
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Actuator mounting position



Actuators and mounting accessories

| Actuators | | Dummy roller stainless steel 194F R17 | Dummy roller plastic 194FP R17 |
|------------------------------|------------|---|---|
| | |  |  |
| Operating force - max. | N | 0.7 | 0.7 |
| Release force - min. | N | 0.09 | 0.09 |
| Rest position - max. | mm | 11.7 | 11.7 |
| Operating position | mm | 10.3 ^{+0.8/-0.55} | 10.3 ^{+0.8/-0.55} |
| Total travel position - max. | mm | 9.3 | 9.3 |
| Differential travel - max. | mm | 0.45 | 0.45 |
| Mechanical life | operations | 2.10 ⁶ | 10 ⁶ |

V5D-83194 microswitches with referenced actuators

| Actuators | 194F R17 | 194FP R17 |
|--------------------|----------|-----------|
| 831940 I W2 | 83194015 | 83194014 |
| 831948 I W2 | 83194813 | 83194814 |

Installation recommendations

See "Basic technical concepts"

For use above 150 V: to ensure protection against electric shock after installation in the application, any parts inserted in the mounting holes shall be insulated.

How to order

Use the 8 digit part numbers when they are defined

Other cases, precise: Type of microswitch - Function - Connection - Actuator*
* if needed

Example: 831940 C W2 194FP R17

Standard product

Product made to order



Contact us

Warning:

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