Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

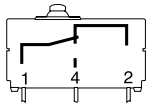
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

General specifications

Layout



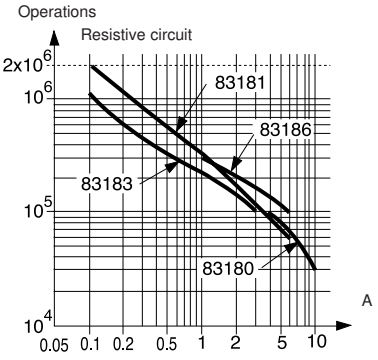
Components

Material
- Case : UL 94VO glass-filled polyester
- Button : Polyester
- Membrane : silicon
- Contacts : AgCdO
  AgNi (dual current),
- Terminals : tinned brass
- Cable : PVC (IP 67)
- Leads : PVC

Actuators
- flat : stainless steel
- roller : stainless steel with polyamide roller

Approvals 83 180/83 186 : NF. UL - cUL on request

Operating curve 250 V~



Switch rating with DC supply

		83 180	83 181	83 183	83 186
12 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	10 A	6 A	3 A	6 A
24 V	Resistive load	10 A	6 A	3 A	6 A
	Inductive L/R 5 ms	5 A	5 A	3 A	5 A

Model 83 181 is designed to operate equally well on dual-current (1 mA 4 V minimum) or medium-current (6 A maximum) circuits. However, a given product should only be used to switch one type of circuit during its working life.

Degree of protection

- Tag version :	casing	= IP67
	terminals	= IP00
- Lead / cable version :	outlet / casing	= IP67

Types

Part numbers for standard products with connection of type		1 2 FD0
Features		
Electrical characteristics		
Current rating at 250 V	Nominal	A
	Hp	1/2
Mechanical characteristics		
Operating force - max.		N (oz.)
Release force - min.		N (oz.)
Total travel force - max.		N (oz.)
Permitted overtravel force - max.		N (oz.)
Rest position - max.		mm (in.)
Tripping point		mm (in.)
Differential travel		mm (in.)
Overtravel - min.		mm (in.)
Ambient operating temperature	for tag version	°C (°F)
	for lead / cable version	°C (°F)
Mechanical durability		Operations
Contact gap		mm (in.)
Weight (tag version)		g (oz.)

Contact Type

C (Form C) SPDT
B (Form B) SPNC not available in PC terminals
A (Form A) SPNO not available in PC terminals

Connections

2 1 3 4

Actuators and mounting positions

Part numbers for standard actuators

Actuators - Length	mm (in.)
Mounting position	
Coefficient	
Tripping point	mm (in.)
83 180	
83 181/183/186	

Part numbers for standard actuators

Actuators - Length	mm (in.)
Mounting positions	
Coefficient	
Tripping point	

Except where otherwise indicated, actuators are supplied unmounted.
For factory mounting, specify fixing position L or R.

- **To calculate force :** take the force quoted for the switch and divide by the coefficient given in the table.
- **To calculate travel :** take the travel quoted for the switch and multiply by the same coefficient.

Mounting accessories for PCB mounting : 5 / 6 / 7 / 8

See page 3/9.

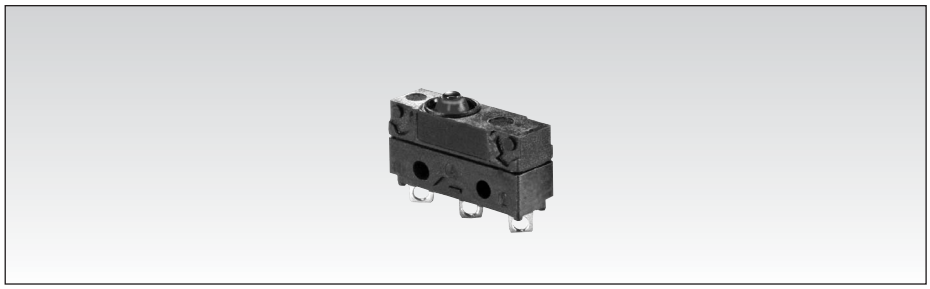
Other information

For other forces, actuators, connections and temperatures, please consult us.

Normally stocked items

Catalog products produced to order

Crouzet



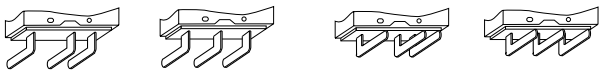
1

83180	83181	83183	83186
831800C1.0	**831810C1.0**	**831830C1.0**	**831860C1.0**
831800C2.0	**831810C2.0**	**831830C2.0**	**831860C2.0**
831800CFD0.0	**831810CFD0.0**	**831830CFD0.0**	**831860CFD0.0**
High current	Dual current	Medium current	Standard
10	6	3	6
12.5	7.5	4	7.5
3.4 (12)	2.5 (8.8)	2.5 (8.8)	2.5 (8.8)
1 (3.5)	0.8 (2.8)	0.8 (2.8)	0.8 (2.8)
5 (17.6)	4.2 (14.1)	4.2 (14.1)	4.2 (14.1)
10 (35.3)	10 (35.3)	10 (35.3)	10 (35.3)
9.3 (.37)	9.3 (.37)	9.3 (.37)	9.3 (.37)
8.4 $^{\pm 0.3}$ (.33 $^{\pm 0.012}$)	8.4 $^{\pm 0.3}$ (.33 $^{\pm 0.012}$)	8.4 $^{\pm 0.3}$ (.33 $^{\pm 0.012}$)	8.4 $^{\pm 0.3}$ (.33 $^{\pm 0.012}$)
0.10 (.004)	0.10 (.004)	0.10 (.004)	0.10 (.004)
0.6 (.024)	0.6 (.024)	0.6 (.024)	0.6 (.024)
-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)	-40 +125 (-40 +257)
-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)	-40 +105 (-40 +221)
10^6	2 x 10^6	2 x 10^6	2 x 10^6
0.4 (.016)	0.4 (.016)	0.4 (.016)	0.4 (.016)
2 (.07)	2 (.07)	2 (.07)	2 (.07)

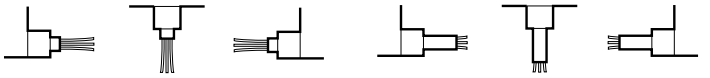
2

C	C	C	**C**
B	B	B	B
A	A	A	A

3



5 **6** **7** **8**



FD0 **FB0** **FG0** **CD0**** **CB0**** **CG0****

4

A **79 253 327**

Flat **170A** R18.3 (.72)

L	R
3	1.5
10.4 $^{\pm 1.2}$ (.41 $^{\pm .05}$)	9.2 $^{\pm 0.6}$ (.36 $^{\pm .24}$)

B **79 253 326**

Flat **170A** R24 (.94)

L	R
4	2
11.1 $^{\pm 1.2}$ (.44 $^{\pm .05}$)	9.6 $^{\pm 0.6}$ (.38 $^{\pm .024}$)

C **79 253 328**

Flat **170A** R41 (1.61)

L	R
7	3.5
13.2 $^{\pm 2.5}$ (.52 $^{\pm .1}$)	10.7 $^{\pm 1.2}$ (.42 $^{\pm .05}$)

E **79 218 454**

Roller **170E** R20 (.79)

L	R
3	1.5
15.4 $^{\pm 1.2}$ (.61 $^{\pm .05}$)	14.5 $^{\pm 0.6}$ (.57 $^{\pm .24}$)

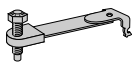
F **79 253 329**

Dummy roller **170F** R19.5 (.77)

L	R
3	1.5
13 $^{\pm 1.2}$ (.51 $^{\pm .05}$)	12 $^{\pm 0.6}$ (.47 $^{\pm .24}$)

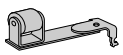
D *****

Screw **170D**



L *****

Transverse roller **170EL ***



Ø No Actuator

5

* Special order, contact us for part number

** Cable version for types 83 181, 83 183 and 83 186

To order please specify :

Example : 831810 C 2 • Ø

1 Switch Type
831810
831830
831860
831800

2 Contact Type
A
B
C

3 Connection

1	6	
2	7	
3	8	
4	FDØ	CDØ
5	FGØ	CBØ
	FBØ	CGØ

4 Actuators

Ø	F
A	L
B	
C	
D	
E	

5 Actuator Position
L - Left (Standard)
R - Right

To order actuators separately, use the 8 digit P/N

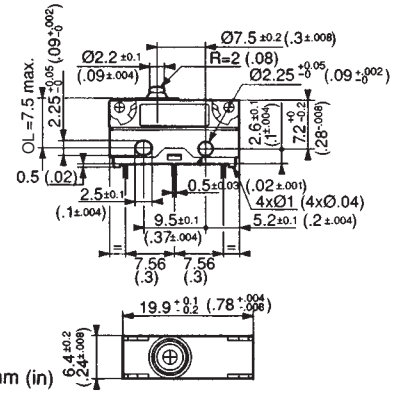
Example P/N is 831810 SPDT solder terminals with no actuator.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

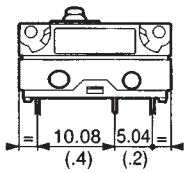
Sealed Subminiature Switches DIN 41635 B

Dimensions

Symmetric



Asymmetric

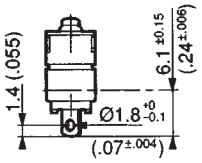


Fixed by 2 x M2 screws
Torque for screw alone: 0.2 Nm (1.75 in. lbs.)
screw + washer: 0.3 Nm (2.65 in. lbs.)

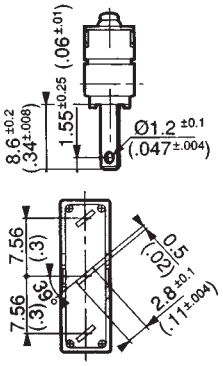
Connections

Terminals

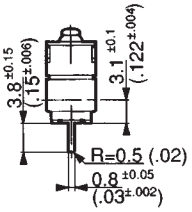
2
Solder



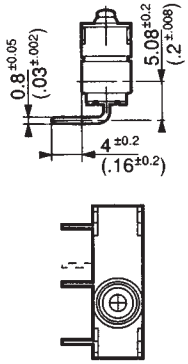
1
Faston 2.8 x 0.5
.110˝ Quick Connects



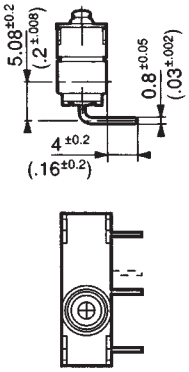
3 - 4
Straight PCB output



5 - 6
Side output,
PCB rear

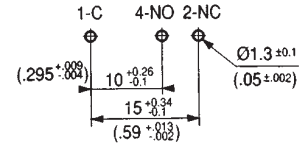


7 - 8
Side output,
PCB front

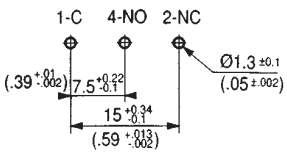


Printed circuit board mounting

Asymmetric
3, 5, 7

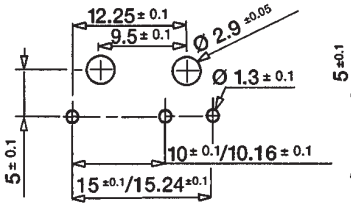


Symmetric
4, 6, 8

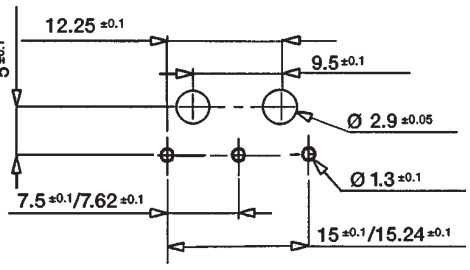


Mounting on a printed circuit board with mounting pins

Asymmetric



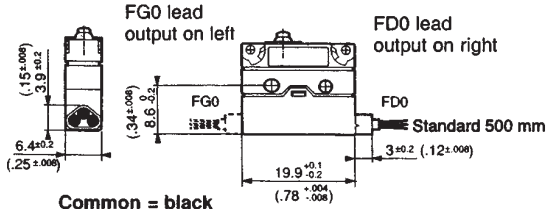
Symmetric



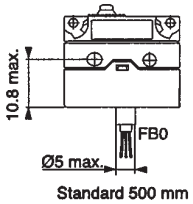
Lead output

FG0 lead
output on left

FD0 lead
output on right



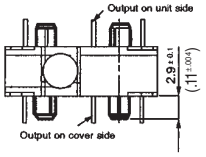
FB0 lead
output
on bottom



Common = black
NC = brown
NO = blue
mm (in)

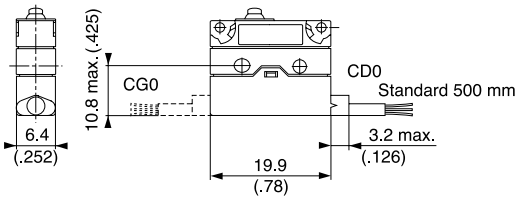
Conductor cross-section :
83181 / 83183 / 83186 = 3 x 0.5 mm² (.12 x .02 in²)
83180 = 3 x 0.75 mm² (.12 x .03 in²)

Mounting pins



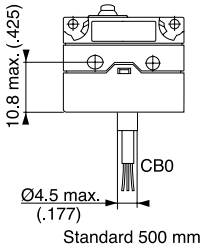
Cable output

CG0 cable output on left



CD0 cable output on right

CB0 cable output on bottom



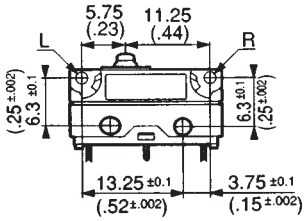
Conductor cross-section :
83181 / 83183 / 83186 = 3 x 0.5 mm² (.12 x .02 in²)

Common = black
NC = brown
NO = blue

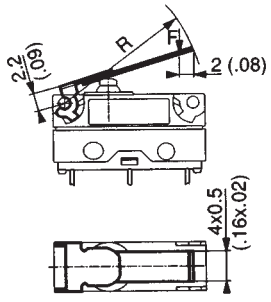
mm (in.)

Actuators

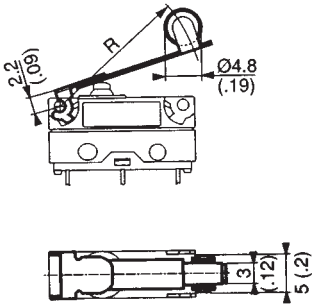
Mounting positions



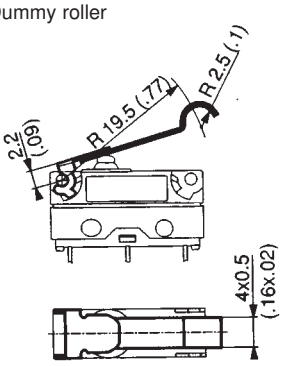
A, B, C
Flat



E
Roller



F
Dummy roller



mm (in.)

Recommendations for operation from the side