

thermostatic controls



keyswitch

Key Switches

Product Selection Guide

Key Switches			
Series	K12S	K12	D6
Size (mm) L x W x H	12 x 11,6 x 9,1	12 x 12 x 11	12 x 11,4 x 14,5
Poles/Throws	SPST / DPST 2 x SPST momentary	SPST 2 x SPST momentary	SPST momentary
Maximum Load	30 V / 100 mA	30 V / 100 mA	32 V / 100 mA*
Operating Force	3 N; 3,5N; 5 N; 6 N 9 N; 4/8 N; 6/12 N	1,5 N; 2,5 N; 3,5 N; 5 N 3,5/7 N; 6/12 N	1,3 N 2,75 N
Travel (standard)	1,5 mm	1 mm, 1,5 mm, 2 mm	1 mm 1.10 mm
Life Cycle	1,000,000	1,000,000	250,000
Sealed	IP40/IP67	K12C only	
Illumination	•	•	
Termination	SMT	Thru-hole	Thru-hole
Page Number	D-4	D-7	D-13

Key Switches				
Series	KS	Digitast	ED / EDM	MD / MDP
Size (mm) L x W x H	12,4 x 12,4 x 9,9	17,1x12,3 x 14,3	12,7 x 11,3 x 1,2	12,7 x 12,8 x 4,7
Poles/Throws	SPST SPDT	SPDT momentary or push-on/push off	SPST momentary	SPST momentary
Maximum Load	50 V/25 mA	24 V/10 mA	100 V / 100 mA	100 V / 100 mA
Operating Force		1,5 N	2,4 N to 6,5N	2,4 N / 2,6 N
Travel (standard)	0.71 mm	3 mm	0.3 mm	0.95 mm / 0.4 mm
Life Cycle	100,000	5,000,000	1,000,000	1,000,000 / 200,000
Sealed			•	•
Illumination		•		
Termination	Thru-hole	Thru-hole	Thru-hole/SMT	Thru-hole
Page Number	D-16	D-19	D-22	D-24

* Maximum value are for voltage and current separately

Dimensions are shown: mm
Specifications and dimensions subject to change



D

Key Switches

K12S

High Performance SMT Key Switches



Features/Benefits

- Harsh environment applications - IP67
- Compatible with SMT lead free soldering process
- Illuminated
- Excellent tactile feel
- High reliability / long life
- DPST and detect versions available
- RoHS compliant

Typical Applications

- Automotive
- Joysticks
- Off-road transportation
- Motorcycles
- Industrial
- Medical

Construction:

FUNCTION: Momentary
CONTACT ARRANGEMENT: SPST or DPST
CONTACT TYPE: NO or NC
TERMINALS: SMT

Mechanical

TOTAL TRAVEL: 1,5 mm
OPERATING FORCE: 3N; 3,5N; 5N; 6N; 9N 4/8 N; 6/12 N
SEALING: IP40 or IP67

Packaging

Reels of 900 pieces

Electrical

SWITCHING POWER MIN./MAX.: 0.02mW/3 W DC
SWITCHING VOLTAGE MIN./MAX.: 2 V / 30 V DC
SWITCHING CURRENT MIN./MAX.: 10 mA /100 mA DC
DIELECTRIC STRENGTH: > 300 V RMS
OPERATING LIFE: > 10⁶ operations (detect version) / 2x10⁶ operations (versions with tactile effect)
CONTACT RESISTANCE: Initial < 100mΩ - After test < 250mΩ
INSULATION RESISTANCE: >10⁹ Ω
BOUNCE TIME: < 10 ms

Environmental

OPERATING TEMPERATURE: -40°C to 85°C.
STORAGE TEMPERATURE: -40°C to 95°C.
RoHS compliant and Halogen free.

Process

SOLDERABILITY: Lead free soldering compatible.

How To Order

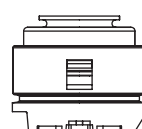
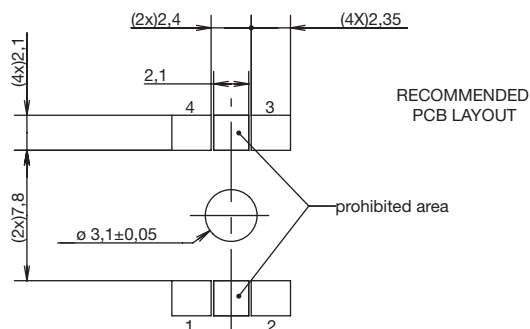
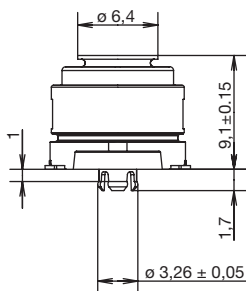
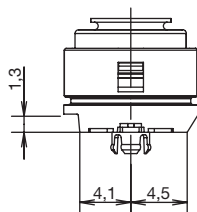
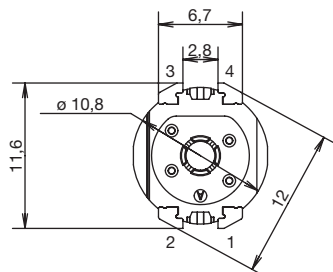
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

K	1	2	S				1	.	5			N			L	F	T	X	
Sub-Series A IP40 with peg B IP67 with peg C IP40 without peg D IP67 without peg				LED Color NONE No LED YE0 Yellow RD0 Red GN0 Green OR0 Orange WH0 White AM0 Amber				Operating Force 3N 3 N (detect - no tactile) 3.5N 3.5 N 5N 5 N 6N 6 N 9N 9 N 4/8N 4/8 N DPST (double step actuation) 6/12N 6/12 N DPST (double step actuation)				Contact Arrangement O Normally open (SPST) C Normally closed (SPST) OO* 2 Normally open (DPST) CC* 2 Normally closed (DPST) OC* 1 Normally open 1 Normally closed (DPST)				LFTX Lead free, RoHS terminals tin plated Translucent button			
Option S SPST version L LED version (SPST) D DPST version				Travel 1.5 1.5 mm				* Please contact technical support for this configuration											

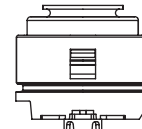
K12S

High Performance SMT Key Switches

K12SA/K12SC IP40 with peg / IP40 without peg

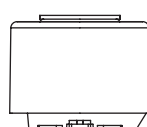
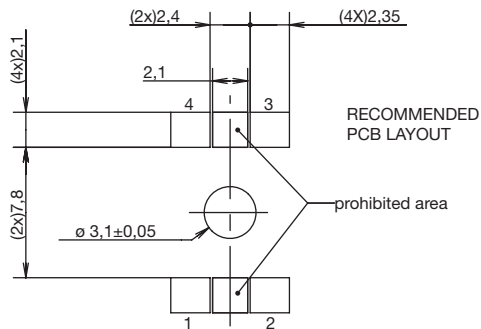
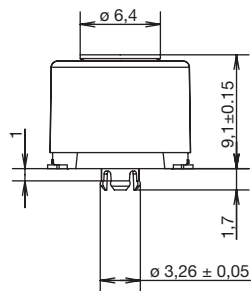
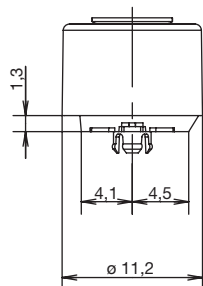
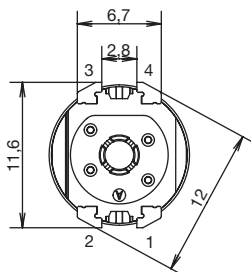


Without Peg

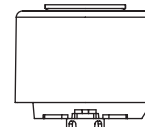


With Peg

K12SB / K12SD IP67 with peg / IP67 without peg



Without Peg



With Peg



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

K12S

High Performance SMT Key Switches

OPTION

S SPST version

L LED version

D DPST version

Single NO

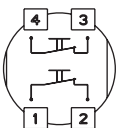
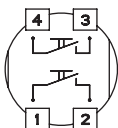
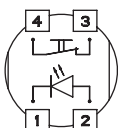
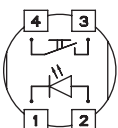
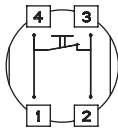
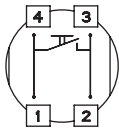
Single NC

Single NO
+ LED

Single NC
+ LED

Double NO

Double NC



LED COLOR

OPTION CODE	LED COLOR
	No LED
YE0	Yellow
RD0	Red
GN0	Green
OR0	Orange
WH0	White
AM0	Amber

TRAVEL

1.5 1.5 mm

OPERATING FORCE

OPTION CODE	OPERATING FORCE
3N	3N (detect - no tactile)
3.5N	3.5N
5N	5N
6N	6N
9N	9N
4/8N	4/8N (double step actuation)
6/12N	6/12N (double step actuation)

CONTACT ARRANGEMENT

- O** Normally open (SPST and LED versions)

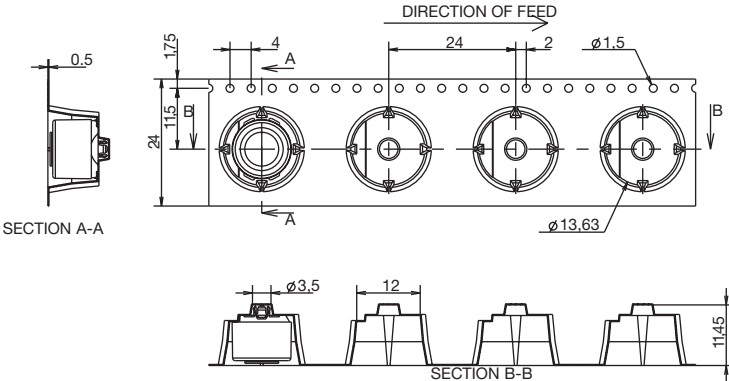
C Normally closed (SPST and LED versions)

OO 2 Normally open (DPST version)
- CC*** 2 Normally closed (DPST version)

OC* 1 Normally open/ 1 Normally closed (DPST)

* Please contact technical support for this configuration

TAPE AND REEL



Dimensions are shown: mm

Specifications and dimensions subject to change

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K12

High Performance Key Switches

Features/Benefits

- **Excellent tactile feel**
- **Wide choice of LED colors, travel and actuator forces**
- **High reliability / long life**
- **Sealed version available**
- **Designed for low-level switching**
- **Double stroke version available**
- **Detector version available**

Typical Applications

- **Automotive**
- **Off-road transportation**
- **Industrial electronics**
- **Computers & network equipment**
- **Joysticks**



Construction:

FUNCTION: momentary

DISTANCE BETWEEN BUTTON CENTERS:

min. 11 (0.433) K12C = 13 (0.512)

TERMINALS: PC pins, tinned

MOUNTING: Locating pins; K12G and K12P additionally with snap-in housing

Mechanical

TOTAL TRAVEL: 1 mm, 1.5 mm, 2 mm

SWITCHING TRAVEL: 0.6 mm*

OPERATING FORCE: 1.5 N OD without snap-point as detector switch, 2.5 N, 3.5 N, 5 N, 3.5/7 N, 6/12 N. Additional operating force 7N, 9N and 20N, available on request.

PROTECTION CLASS: K12C IP 67 (dust tight, protected against the effects of immersion in water; other versions IP 40)

* Additional switching travel (with pre-travel) available by request.

Packaging

Bulk in boxes of 250 pieces (version C or GO) or 300 pieces (version A, AL, P or PL)

Electrical

SWITCHING POWER MIN./MAX.: 0.02mW/3 W

SWITCHING VOLTAGE MIN./MAX.: 2 V DC / 30 V DC

SWITCHING CURRENT MIN./MAX.: 10 mA /100 mA

DIELECTRIC STRENGTH (50 Hz, 1 min): ≥ 500 V

OPERATING LIFE with max. switching power: $\geq 10^6$ operations

K12G & K12GO; operating life of second switch 5×10^4 operations, operating life K12C and version with more than 6N (7N, 9N 20N) please consult factory.

CONTACT RESISTANCE: Initial ≤ 50 m Ω

INSULATION RESISTANCE: $\geq 10^{10}$ Ω

BOUNCE TIME: ≤ 1 ms

Operating speed 100 mm/s (3.94/s)

Environmental

OPERATING TEMPERATURE: -40°C to 85°C.

STORAGE TEMPERATURE: -40°C to 95°C.

Process

SOLDERABILITY:

Wave soldering, compatible with lead free soldering profile
Hand soldering, 350°C

How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

Note: Some of the configurations may not be available or could require some development.

Series	LED Color	Standard LED Code	Cap Color	Travel*	Operating Force***	Contact Arrangement
K12A No snap-in pegs	NONE No LED	NONE No LED	NONE version with LED, version C	1 1 mm (0.039)	1.5N OD 1.5 N without snap-point	NONE SPST NO (STD)
K12AL No snap-in pegs with central LED	GN Green	LV306 Green	BK Black cap – No LED	1.5 1.5 mm (0.059)	2.5N 2.5 N	1R SPST NC (Special request)
K12P With snap-in pegs	YE Yellow	LV327 Yellow	YE Yellow cap - No LED	2 2 mm (0.079)	3.5N 3.5 N	
K12PL With central LED	OG Orange	LV315 Orange	RD Red cap – No LED		5N 5 N	
K12C Sealed contact with rubber cap (IP 67)	RD Red	LV352 Red	GY Gray cap – No LED		3.5/7N 3.5/7 N**	
K12GO Two-step switch	WH White	LV302 White			6/12N 6/12 N**	
	BU Blue	LV328 Blue				

* K12C – 1mm MAX

K12 with LED – 1.5 mm MAX

** K12G & K12GO version only

*** Additional operating force: 7N, 9N available on request

Dimensions are shown: mm

Specifications and dimensions subject to change

C&K

15 Nov 18



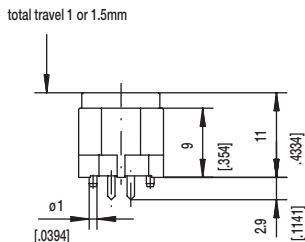
D

Key Switches

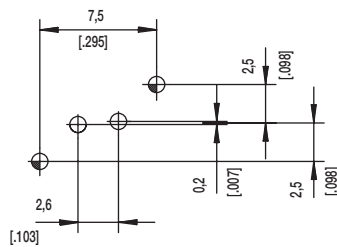
K12

High Performance Key Switches

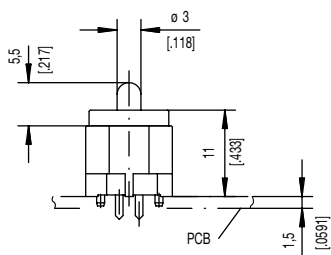
K12A without snap in



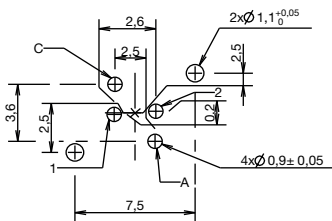
PCB LAYOUT, MOUNTING SIDE



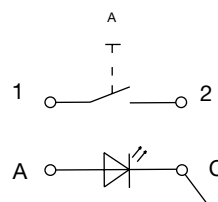
K12AL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



	1,1 ^{+0,05}	2x	2x	center hole		
	0,9 ±0,05		2x	LED	ø0,5 (.020)	Sn
		2x	2x	switch	0,7x0,2 (.028x.081)	Sn
Hole	ø	Without	with LED	Description	Terminal Section	Surface

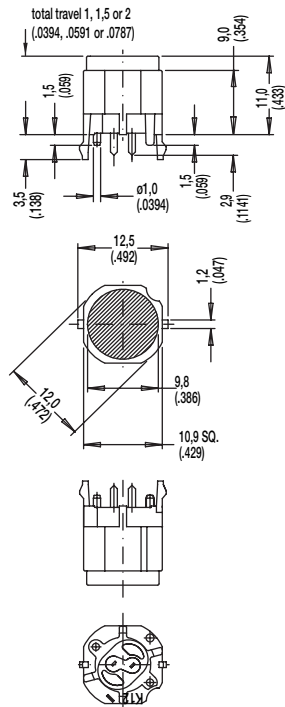


Dimensions are shown: mm
Specifications and dimensions subject to change

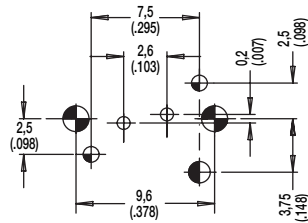
www.ckswitches.com

K12

K12P with snap in



PCB LAYOUT, MOUNTING SIDE

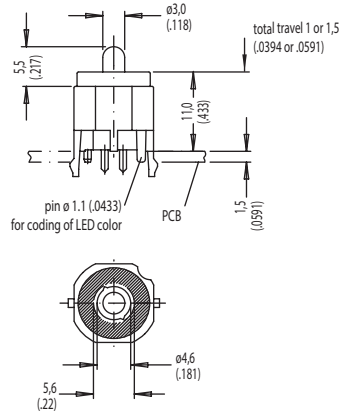


center of actuation area (notice LED)

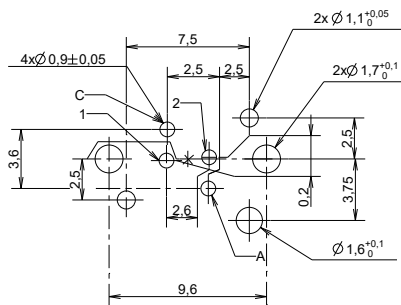


Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	switch	0.7 x 0.2 (.028 x .081)	Sn

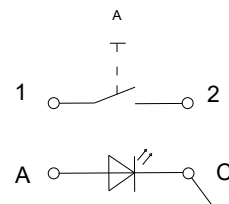
K12PL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	coding hole (L,M,N)		
	1,1 (.043)	2x	center hole		Sn
	0,9 (.035)	2x	LED	m0.5 (.020)	Sn
		2x	switch	0.7 x 0.2 (.028 x .081)	



Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

K12C SEALED CONTACT WITH RUBBER CAP (IP 67)

Hole	Ø	Without LED	Description	Terminal Section	Surface
 	1,1 (.043)	2x	center hole		
	0,9 (.035)	2x	switch	0.7 x 0.2(.0275 x .0787)	Sn

 actuation area



First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

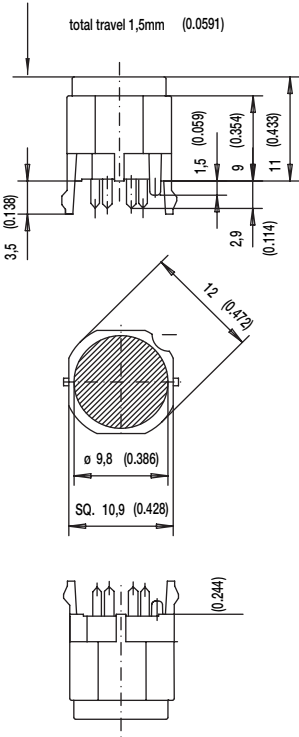
www.ckswitches.com

K12

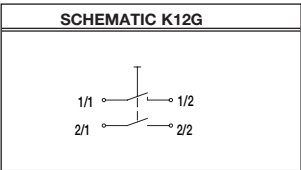
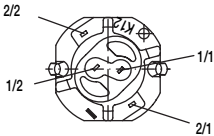
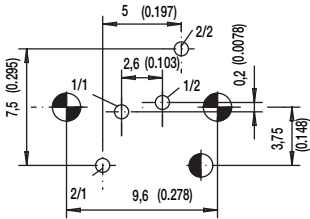
High Performance Key Switches

SERIES 

K12GO



PCB LAYOUT, MOUNTING SIDE



Hole	Ø	Without LED	Description	Terminal Section	Surface
	1,7 (.069)	2x	snap-in		
	1,6 (.062)	1x	code		
	0,9 (.035)		LED	m0.5 (.020)	Sn
		2x	switch 2	0.7 x 0.3 (.028 x .012)	Sn
		2x	switch 1	0.7 x 0.2 (.028 x .081)	Sn



First Angle
Projection

K12

High Performance Key Switches

OPTION CODE	COLOR
NONE	Version with LED
BK	Black - no LED
YE	Yellow - no LED
RD	Red - no LED
GY	Gray - no LED

OPTION CODE	COLOR
NONE	Models without LED
GN	Green
YE	Yellow
OG	Orange
RD	Red
WH	White
BU	Blue

STANDARD LED CODE	COLOR
NONE	Models without LED
LV306	Green
LV327	Yellow
LV315	Orange
LV352	Red
LV302	White
LV328	Blue

1 1 mm
1.5 1.5 mm
2 2 mm



OPTION CODE	OPERATING FORCE
1.5N OD	1.5 N, 150g without snap-point
2.5N	2.5 N, 250g
3.5N	3.5 N, 350g
5N	5 N, 500g
3.5/7N	3.5/7 N, 350/700g
6/12N	6/12 N, 600-1200g

CONTACT ARRANGEMENT OPTION

1R SPST NC (SPECIAL REQUEST FOR NORMALLY CLOSED OPTION)



Dimensions are shown: mm
Specifications and dimensions subject to change

Features/Benefits

- Easy X, Y coding on single side PCB
- Positive/ smooth tactile feedback
- High temperature
- Wide variety of colors & styles
- Illuminated versions available
- RoHS compliant and compatible

Typical Applications

- Video
- Electronic games
- Appliances



Construction

FUNCTION: momentary

CONTACT ARRANGEMENT: 1 make contact (SPST), NO

DISTANCE BETWEEN BUTTON CENTERS, MIN.: 12,7 (0.500)

TERMINALS: PC pins

Electrical

	Non-Illuminated	Illuminated
SWITCHING POWER MAX.:	3 VA	0.35 VA
SWITCHING VOLTAGE MAX.:	32 V DC	35 V DC
SWITCHING CURRENT MAX.:	100 mA DC	10 mA DC
OPERATING LIFE with max. switching power:	250 000 operations	Version F1: 100 000 operations Version F2: 30 000 operations
CONTACT RESISTANCE:	≤100 mΩ	≤200 mΩ
DIELECTRIC STRENGTH (50 Hz / 1 min):	250 V	
INSULATION RESISTANCE:	≥10 ⁹ Ω	
BOUNCE TIME:	≤10 ms	

Mechanical

	Non-Illuminated	Illuminated
SWITCHING TRAVEL:	Version F1: 0.2 mm ≤ Te ≤ 1.0 mm Version F2: 0.3 mm ≤ Te ≤ 1.1 mm	0.4 mm ≤ Te ≤ 0.8 mm
OPERATING FORCE:	Version F1: 0.8N ≤ Fa ≤ 1.8N Version F2: 2.0N ≤ Fa ≤ 3.5N	Version F1: 0.8N ≤ Fa ≤ 1.8N Version F2: 1.5N ≤ Fa ≤ 2.5N
SEALING:	IP40	

Environmental

	Non-Illuminated	Illuminated
OPERATING TEMPERATURE:	-20°C to 85°C	-20°C to 60°C

Process

SOLDERABILITY:

Wave soldering, compatible with lead free soldering profile

Hand soldering, 350°C for 3 seconds

Packaging

The D6 switches are delivered in boxes containing 10 trays with 250 pieces each:

Total 2,500 pieces per box.

The D6 buttons are delivered in bulk with 2500 pieces per box.

D6

SPST Momentary Key Switches

How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

NON-ILLUMINATED

Switch

D	6	R					L	F	S
Series			Switch Color			Force		RoHS compliant and compatible product	
D6C Square			00 White			F1 1.3N (STD)			
D6R Round			10 Gray			F2 2.5N			
D6L* Plunger			30 Yellow						
D6F** Flat			40 Red						
			50 Green						
			60 Blue						
			90 Black						

*Available only in color 90 (black)

** Available only in color 90 (black) and 00 (white)

Button

Buttons can be ordered separately
Shipped in bulk

D6 button for use with D6C only

B	T	N	D	6			F
Series					Button Color		Version F1 or F2
BTND6 Button					00 White		
					10 Gray		
					30 Yellow		
					40 Red		
					50 Green		
					60 Blue		
					90 Black		

ILLUMINATED

Switch

D	6	R						L	F	S
Series			LED			LED Color 1			LED Color 2	
D6R Round			L LED			WH White			WH White	
						YE Yellow			YE Yellow	
						RD Red			RD Red	
						GN Green			GN Green	
						BU Blue			BU Blue	
						PG Pure Green			PG Pure Green	
						AM Amber			AM Amber	
									Force	
									F1 1.3N	
									F2 2.0N	
									RoHS compliant and compatible product	



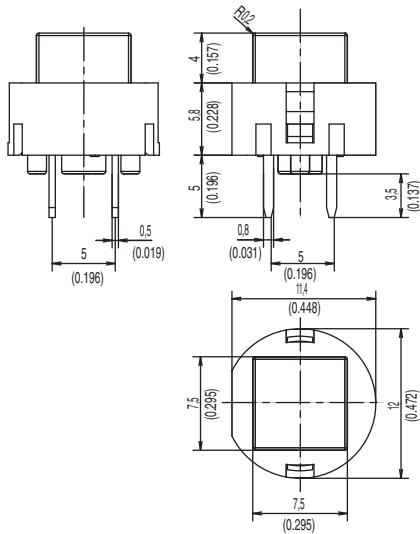
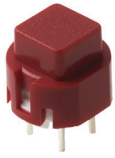
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Key Switches

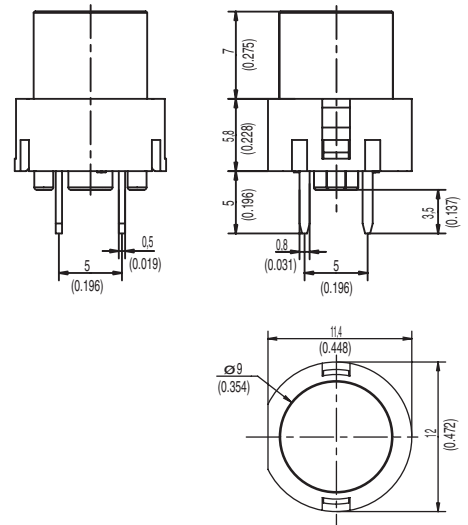
D6 SPST Momentary Key Switches

SERIES

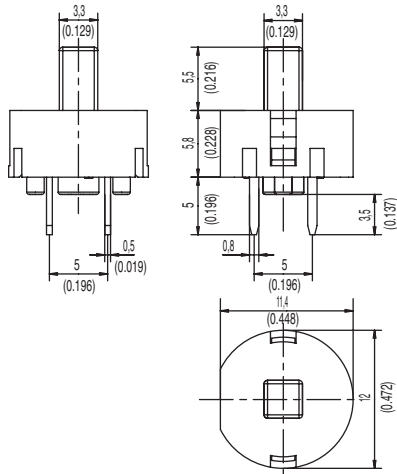
D6C



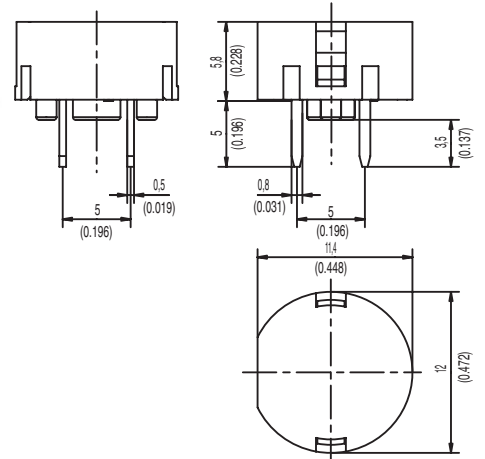
D6R



D6L ONLY AVAILABLE IN BLACK



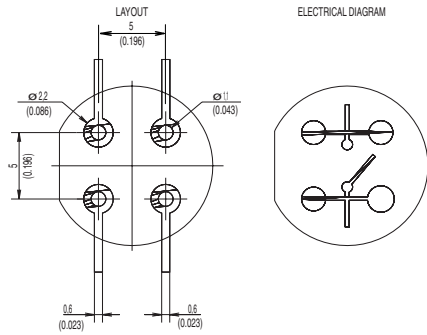
D6F



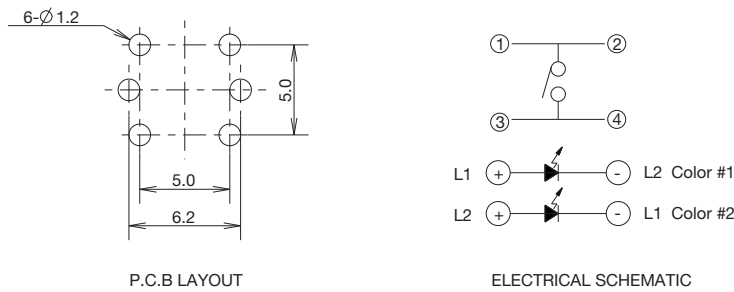
D6 SPST Momentary Key Switches

PCB LAYOUT

Switch (Non-Illuminated)



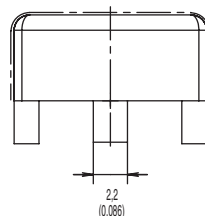
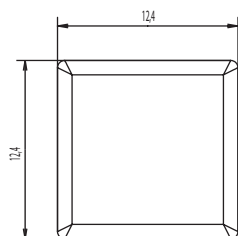
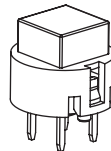
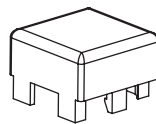
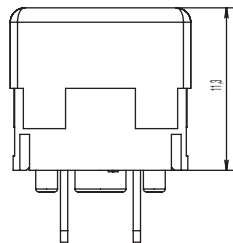
Switch (Illuminated)



BUTTON AVAILABLE

BTND6 Buttons must be ordered separately. Shipped in bulk.

NOTE: Only compatible with D6C



OPTION CODE	BUTTON COLOR
00	WHITE
10	GRAY
30	YELLOW
40	RED
50	GREEN
60	BLUE
90	BLACK



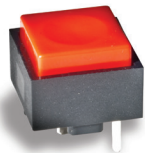
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

www.ckswitches.com

KS

Single Pole Key Switches



Features/Benefits

- **Positive tactile feel**
- **Variety of cap colors**
- **SPST and SPDT configurations**
- **RoHS compliant**

Typical Applications

- **Telecommunications**
- **Industrial**
- **Instrumentation**

Specifications

CONTACT RATING: Q contact material: 25mA @ 50V AC .or DC max.

ELECTRICAL LIFE: 100,000 actuations.

CONTACT RESISTANCE: Below 100 mΩ initial @ 2-4 V DC, 100 mA

INSULATION RESISTANCE: 10⁹ Ω min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -30°C to 65°C.

SOLDERABILITY: Per MIL-STD-202F method 208D, or EIA RS-186E method 9 (1 hour steam aging).

Materials

CASE: Glass filled nylon (UL 94V-0).

ACTUATOR: ABS, matte finish, black standard.

MOVABLE CONTACT: Q contact material: Stainless steel, silver plated.

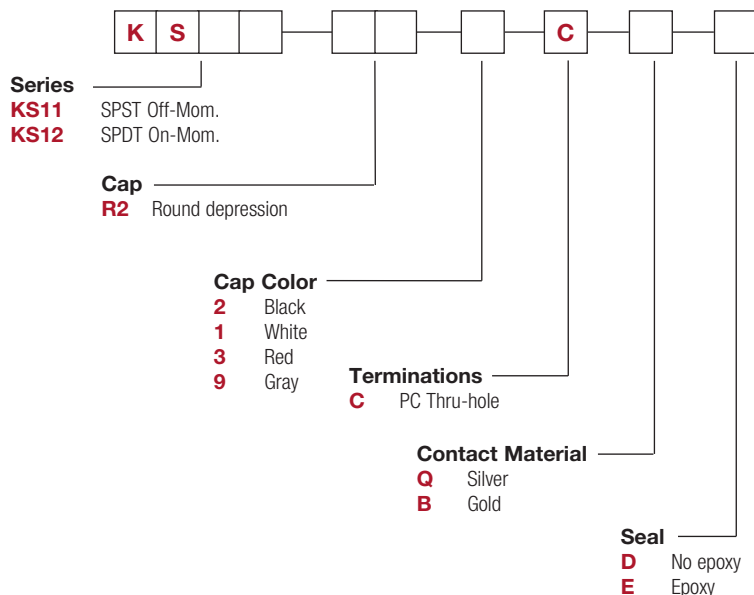
STATIONARY CONTACTS AND TERMINALS: Q contact material: copper alloy, silver plated.

TERMINAL SEAL: Epoxy

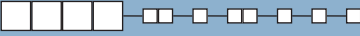
Note: Specifications and materials listed above are for switches with standard options.
For information on specific and custom switches, consult Customer Service Center.

How To Order

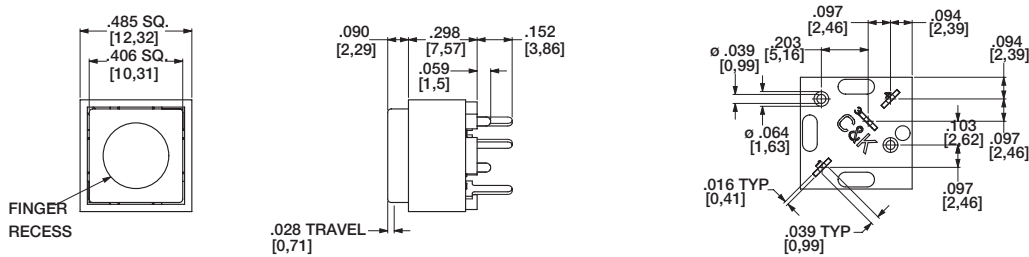
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



KS Single Pole Key Switches

SERIES 

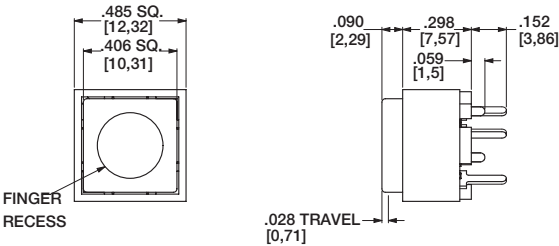
KS11 / KS12



NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
						
SP	KS11	OFF	MOM.	OPEN	1-3	SPST 
	KS12	ON	MOM.	1-4	1-3	SPDT 

CAP 

R2 CAP WITH ROUND DEPRESSION



OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
9	GRAY



Third Angle Projection
Dimensions are shown: mm
Specifications and dimensions subject to change



D

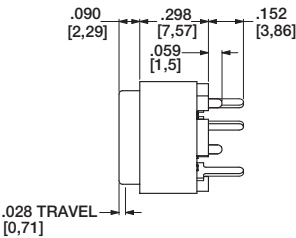
Key Switches

KS

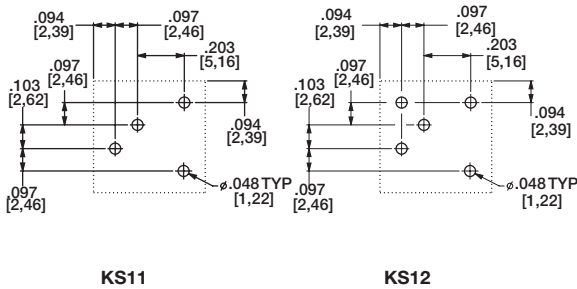
Single Pole Key Switches

TERMINATION

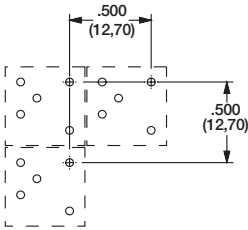
C PC THRU-HOLE



PC MOUNTING



MULTIPLE SWITCH SPACING



CONTACT MATERIAL

OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS	
			POWER	25 mA MAX. @ 50 V AC OR DC MAX.
Q	SILVER ²	SILVER ²	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
B	GOLD ¹	GOLD ¹		

- MOVABLE CONTACT: Stainless steel, with gold plate over nickel plate.
STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- MOVABLE CONTACT: Stainless steel, silver plated.
STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, silver plated.

NOTE: Any models supplied with Q or B contact material are RoHS compliant.

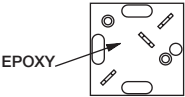


SEAL

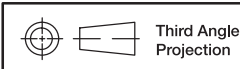
D

D NO EPOXY SEAL

E EPOXY SEAL



Key Switches



Dimensions are shown: mm
Specifications and dimensions subject to change

DIGITAST

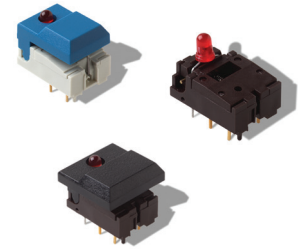
Microminiature SPDT, Key Switches

Features/Benefits

- **High reliability/long life**
- **Designed for low level switching**
- **Ready to implement on PCB**
- **Latching function available**
- **Several button options**
- **RoHS compliant and compatible**

Typical Applications

- **Medical**
- **Instrumentation**
- **Industrial electronics**
- **Audio electronics**



Construction

FUNCTION: momentary or push-push
 CONTACT ARRANGEMENT: 1 change over contact SPDT, NO
 MODE OF SWITCHING: Non-shorting
 DISTANCE BETWEEN BUTTON CENTERS:
 HORIZONTAL MINIMUM: 12,7 (0.500) or 17,78 (0.700)
 VERTICAL MINIMUM: 17,78 (0.700)
 TERMINALS: PC pins
 MOUNTING: Soldering, centering pins

Mechanical

TOTAL TRAVEL: ≤ 3 (.0018)
 SWITCHING TRAVEL: 1,5 (0.0591)
 LATCHING TRAVEL: 1,8 (0.0709)
 OPERATING FORCE: 1.5 +/- 0.5 N (150 +/- 50 grams)

Electrical

SWITCHING POWER MAX.: 240 mW DC
 SWITCHING VOLTAGE MAX.: 24 V DC
 SWITCHING CURRENT MAX.: 10 mA DC
 CARRYING CURRENT AT 20°C (push-push version): 100 mA
 DIELECTRIC STRENGTH (50 Hz, 1 min): 500 V
 OPERATING LIFE with or without max. switching power
 Momentary: $\geq 5 \times 10^6$ operations
 Push-push: $\geq 5 \times 10^5$ operations
 CONTACT RESISTANCE: Initial ≤ 50 m Ω
 After 5×10^6 operations: ≤ 100 m Ω
 INSULATION RESISTANCE: $\geq 10^{10}$ Ω
 CAPACITANCE at f= 10 kHz: ≤ 0.8 pF
 BOUNCE TIME: ≤ 2.5 ms
 Operating speed 400 mm/s (15.75/s)

Process

SOLDERABILITY:
 Wave soldering, compatible with lead free soldering profile
 Hand soldering, 350°C for 3 seconds

Environmental

OPERATING TEMPERATURE: -25°C to 85°C.

How To Order

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box. **Some of the configurations may not be available or could require some development.**

Switch

Series SER Narrow button SET Wide button SERU Switch body only (no button)	LED NONE No LED L 1 LED 2L 2 LED's	1st LED Color*** NONE No LED RD Red YE Yellow GN Green	LED Spacing* NONE Narrow LED Spacing (TYP Europe) 7.62 Wide LED Spacing (TYP No. America)	2nd LED Color*** NONE No LED RD Red YE Yellow GN Green	Function EE Latching OA Non-latching	Contact Material AU Gold	Body Color NONE White (STD) BRN Brown
---	---	---	--	---	---	---	--

Button

Button Style SR Narrow ST Wide	LED Holes NONE No LED holes L 1 LED hole 2L 2 LED holes	Button Color** BK Black GY Gray WH White RD Red BU Blue	Latching None For use with momentary switch EE With "EE" staple for latching
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* LED spacing only applies when 1 LED requested

** Additional button colors available by request

*** Additional LED colors available by request including Bi color configurations



Dimensions are shown: mm
 Specifications and dimensions subject to change

www.ckswitches.com



D

Key Switches

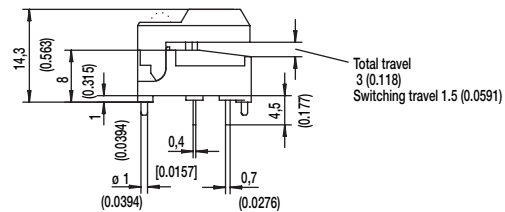
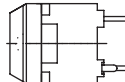
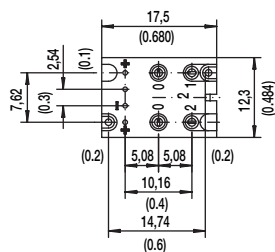
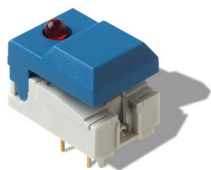
DIGITAST

Microminiature SPDT, Key Switches

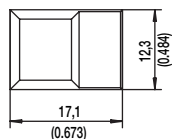
DESIGNATION



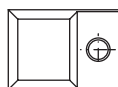
SER NARROW BUTTON



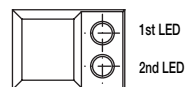
SER



SERL

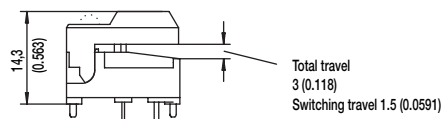
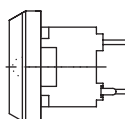
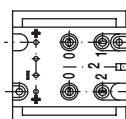
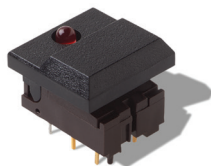


SER2L

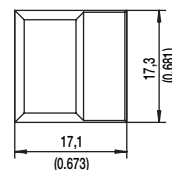


1st LED
2nd LED

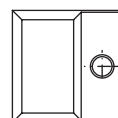
SET WIDE BUTTON



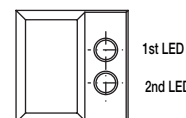
SET



SETL

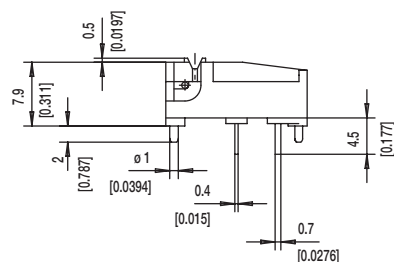
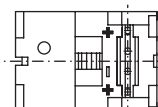
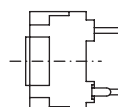
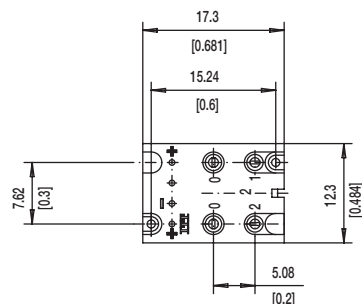


SET2L



1st LED
2nd LED

SERU NO BUTTON



Key Switches



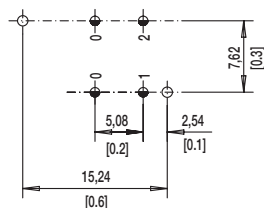
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

DIGITAST Microminiature SPDT, Key Switches

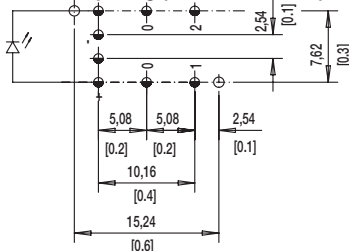
LED

NONE NO LED

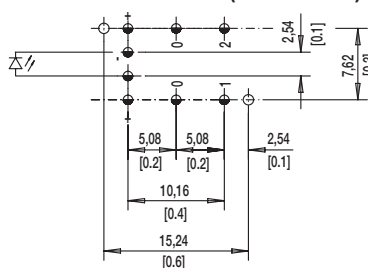


L 1 LEDS

7.62 mm Spacing (TYP No. America)

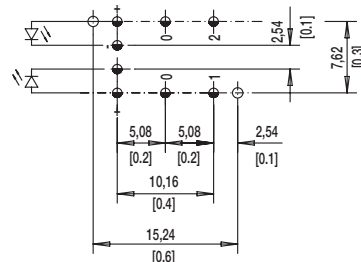


NARROW SPACING (TYP EUROPE)



TOP VIEW OF PCB

2L 2 LEDS



⌀ 1.0±0.1 (0.0394±0.00349)

⌀ 1.1±0.05 (0.0433±0.00197)

BUTTON COLOR

BK BLACK

GY GRAY

Other button colors available by request [red (RD), green (GN), white (WH), yellow (YE), blue (BU), orange (OG)].

LED COLOR

OPTION CODE	COLOR
NONE	Models without LED
RD	Red
GN	Green
YE	Yellow

CONTACT MATERIAL

OPTION CODE	MATERIAL
AU	Gold

FUNCTION

OPTION CODE	COLOR	SCHEMATIC
OA	Momentary	
EE	Push-Push	



First Angle
Projection

ED & EDM Disc



Features

- Short travel
- Good tactile feedback
- Self cleaning
- 3 actuation forces

Typical Applications

- Aircraft
- Instrument
- Panels
- Radio equipment

Specification

ED: Disc element

EDM: Disc element and double dome

FUNCTION: Momentary action

CONTACT TYPE: Normally open - SPST

TERMINALS: Through hole PCB terminations or Tabs

OPERATING LIFE: 1,000,000 cycles

Packaging

Trays 50 pieces

Characteristics

Environmental & Electrical

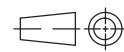
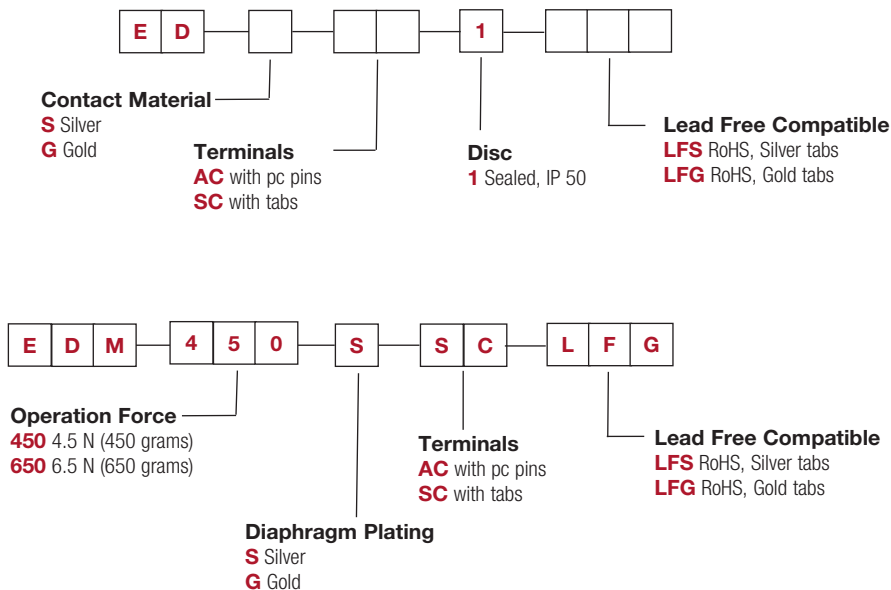
	Silver	Gold
OPERATING TEMPERATURE	-25°C to 65°C	-55°C to 85°C
MAXIMUM POWER	1 VA	0.2 VA
MAXIMUM VOLTAGE	100 VDC	100 VDC
MINIMUM VOLTAGE	20m VDC	20m VDC
MIN/MAX CURRENT	1 mA to 100 mA	50 µA to 50 mA
DIELECTRIC STRENGTH	≥ 250 Vrms	
CONTACT RESISTANCE	≤ 100 mΩ	
INSULATION RESISTANCE (between terminals)	Initial measurement: ≥ 1 GΩ After damp heat: ≥ 10 MΩ	
BOUNCE TIME	≤ 3 ms	
SIMULTANEITY	≤ 0.05 mm	

Mechanical

Type	Operating force N (grams)	Tactile feeling Δ%	Return force N	Travel mm
EDXXX LFX	2.4 (240) ± 25%	≥ 30%	≥ 0.4	0,3 ± 0,15
EDM450XXX LFX	4.5 (450) ± 25%	≥ 25%	≥ 1	0,5 ± 0,15
EDM650XXX LFX	6.5 (650) ± 25%	≥ 25%	≥ 1.6	0,6 ± 0,15

How To Order

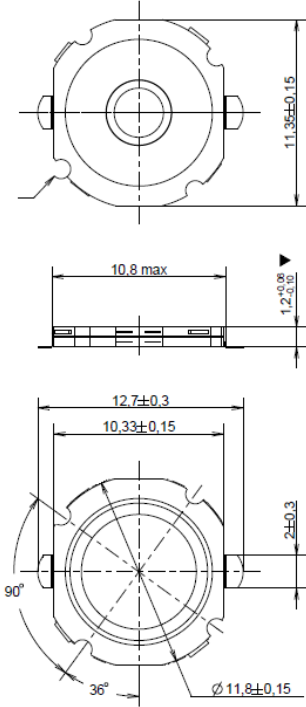
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



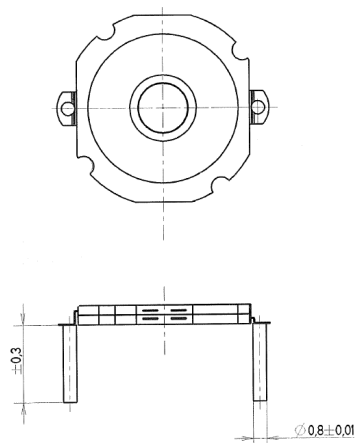
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

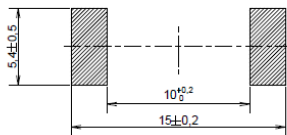
ED/EDM SC



ED/EDM



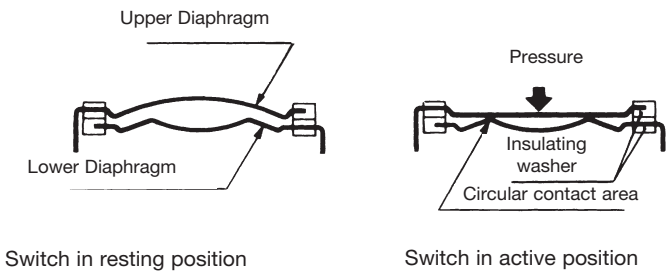
RECOMMENDED PCB LAYOUT



Switch Action Principal

The disc contact is essentially made of two separate conductive dome diaphragms separated by an insulated material.

The upper diaphragm is shaped so that under pressure it collapses suddenly and establishes contact with the lower diaphragm.



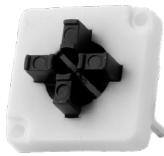
D

Key Switches

MD & MDP Series



MD
(Soft Actuator)



MDP
(Hard Actuator)

Features

- Short travel
- Good tactile feedback
- Self cleaning
- 2 actuator materials
- RoHS

Typical Applications

- Aircraft
- Instrument
- Panels
- Radio equipment

Specification

FUNCTION: Momentary action

CONTACT TYPE: Normally open - SPST

TERMINALS: Through hole PCB terminations

Mechanical

	Operating force (N)	Tactile feeling (Δ%)	Operating life	Travel (mm)
MD	2,4 N ± 25%	≥ 15%	1,000,000	0.95 mm ± 0.35
MDP	2,6 N ± 25%	≥ 25%	200,000	0.4 mm ± 0.25

Electrical

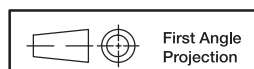
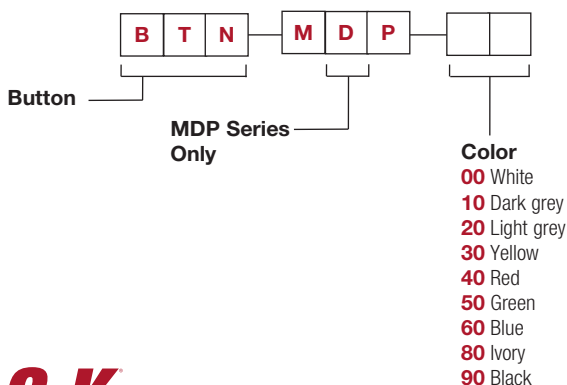
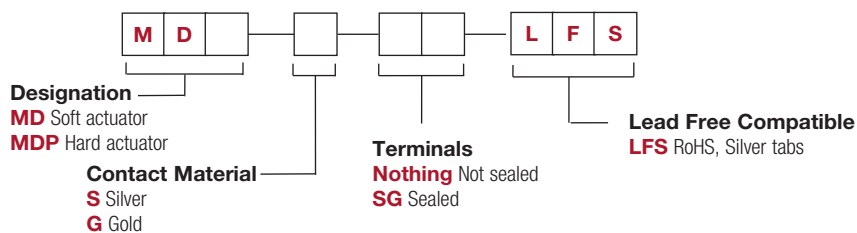
	Silver	Gold
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	100 VDC	100 VDC
MINIMUM VOLTAGE:	20m VDC	20m VDC
MIN/MAX CURRENT:	1.0 mA - 100 mA	50μA - 50 mA
DIELECTRIC STRENGTH:	≥ 250 Vrms	
CONTACT RESISTANCE:	≤ 100 mΩ	
INSULATION RESISTANCE:	Initial measurement: ≥ 1 GΩ	
(between terminals)	After damp heat: ≥ 10 MΩ	
BOUNCE TIME:	≤ 3 ms	

Environmental

	Silver	Gold
OPERATING TEMPERATURE:	-25°C to 70°C	-55°C to 85°C

How To Order

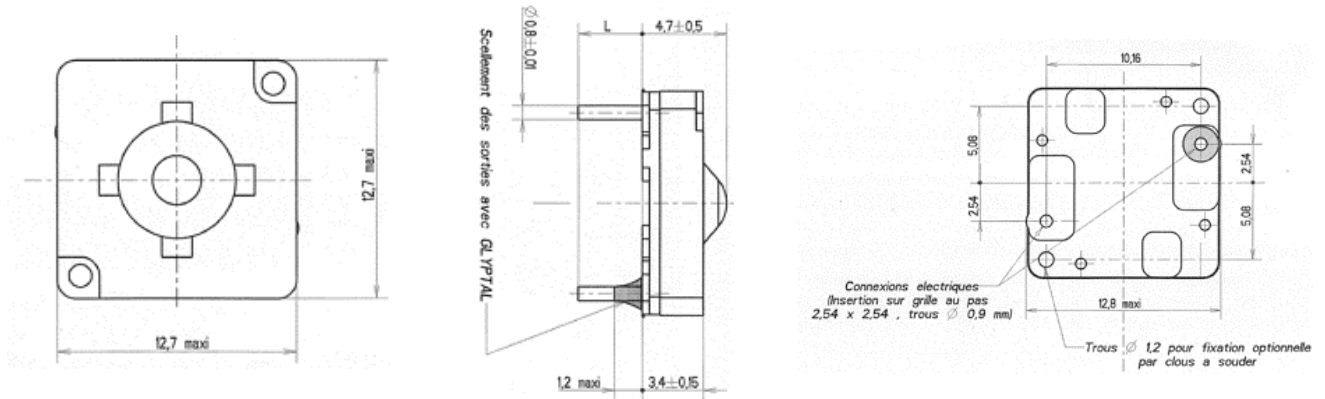
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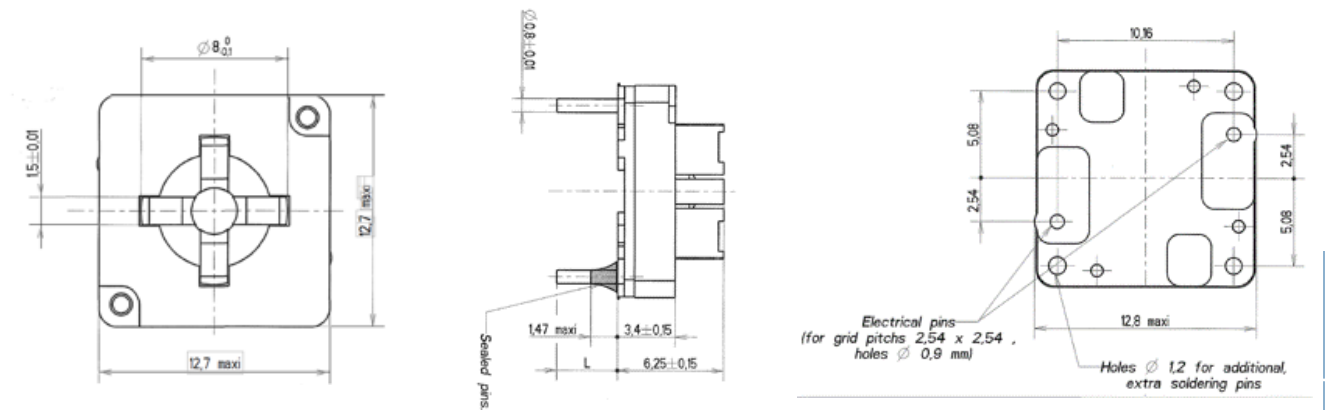
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

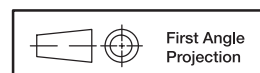
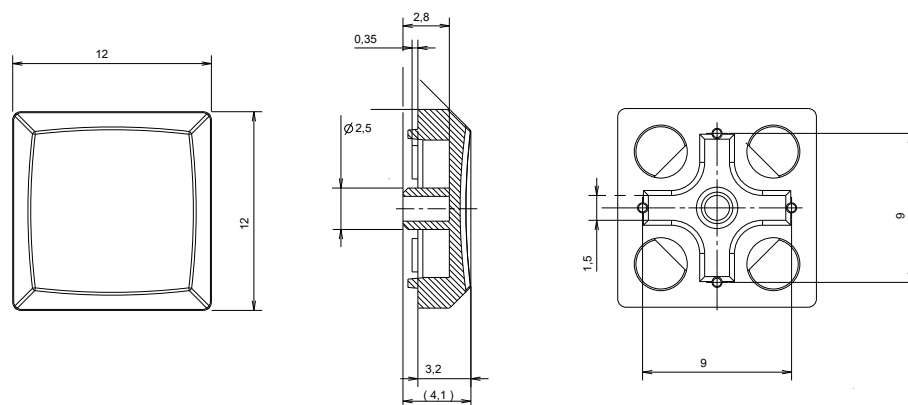
MD



MDP



MDP button



Dimensions are shown: mm
Specifications and dimensions subject to change