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industrial equipment
instrumentation
medical
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mobile phones
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security alarms
telecom
test equipment
thermostatic controls

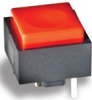





keyswitch

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; 3.5 N; 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	200,000 to 1,000,000	1,000,000	250,000
Sealed	IP40/IP67	K12C only	
Illumination	•	•	
Termination	SMT	Thru-hole	Thru-hole
Page Number	D-3	D-9	D-15

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 6.5 N	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-20	D-23	D-26	D-28

* Maximum value are for voltage and current separately

Dimensions are shown: mm
Specifications and dimensions subject to change

K12S Series High Performance SMT Key Switches (Cold White)

NEW



Features/Benefits

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

Typical Applications

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

Construction:

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

Mechanical

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

Packaging

Reels of 900 pieces (diameter 550mm)
Reels of 300 pieces (diameter 360mm)

* High sealing grade (IP67): Only after customer coating operation

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) / 2x10⁸ operations (versions with tactile effect)
CONTACT RESISTANCE: Initial < 100mΩ - After test < 250mΩ
INSULATION RESISTANCE: >10⁹Ω
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.



Sub-Series

- J** IP40 with peg + ventilation hole *
- L** IP40 without peg + ventilation hole *
- K** IP67 with peg + ventilation hole
- M** IP67 without peg + ventilation hole *

Option

- L** LED version (SPST)
- S** SPST version
- D** DPST version *

LED Color
NONE No LED
WHO White

Travel
1.5 1.5 mm

Operating Force
3N 3N (detect - no tactile)
5N 5N
6N 6N
9N 9N
12N 12N

Contact Arrangement

- O** Normally open
- C** Normally closed
- OO** 2 Normally open (DPST)
- CC*** 2 Normally closed (DPST)
- OC*** 1 Normally open
- 1 Normally closed (DPST)

LFTW Translucent lens reel 900pcs
LFTZ Translucent lens reel 300pcs

* Please contact technical support for this configuration



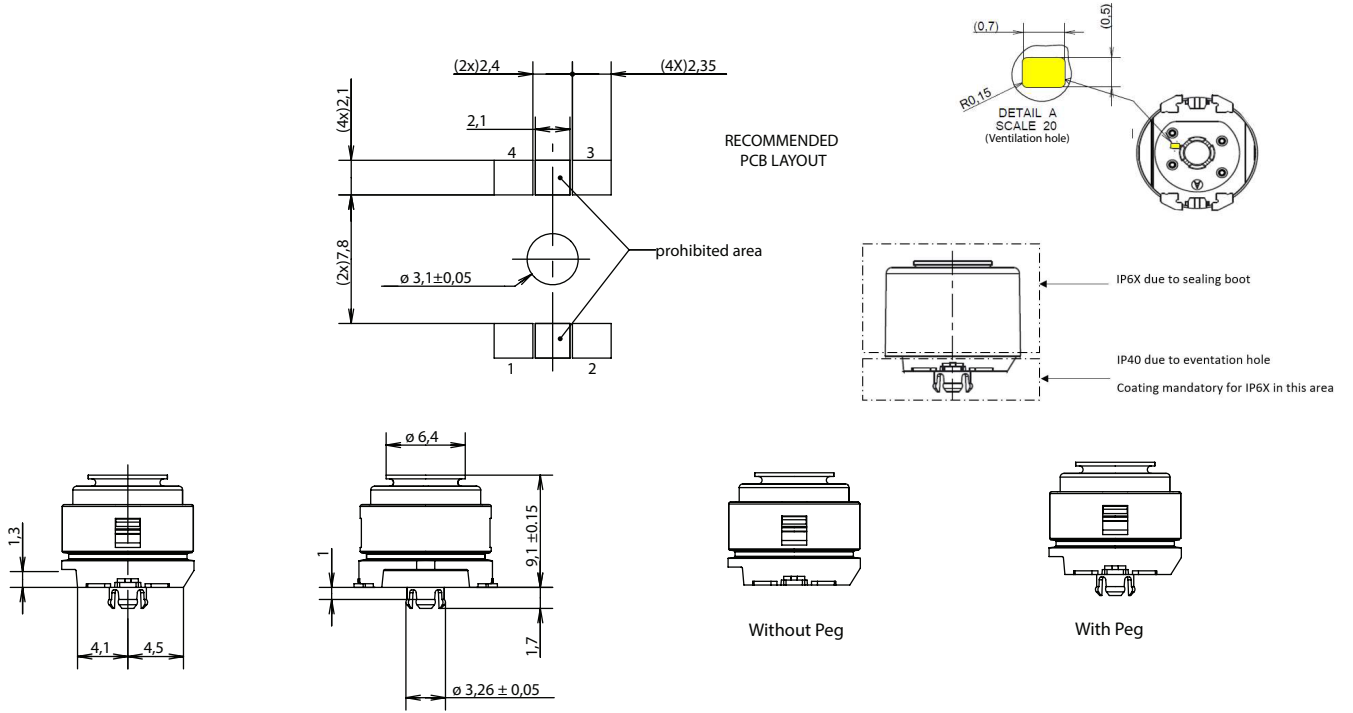
D

Key Switches

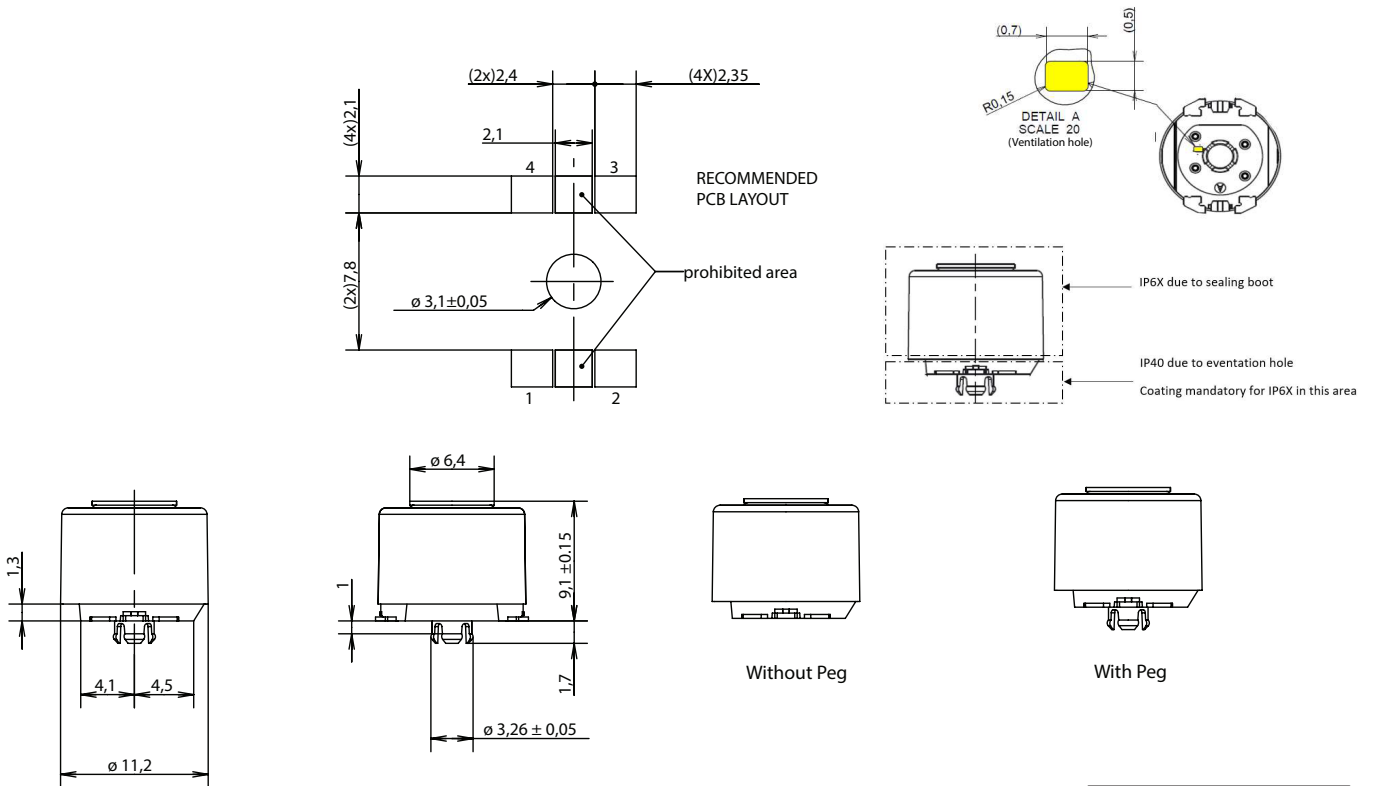
NEW

K12S Series High Performance SMT Key Switches (Cold White)

K12SJ / K12SL IP40 with peg / IP40 without peg



K12SK / K12SM IP67 with peg / IP67 without peg



Key Switches



First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



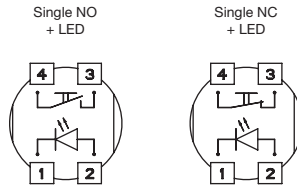
23 Jun 22

K12S Series High Performance SMT Key Switches (Cold White)

NEW

OPTION

L LED version



LED COLOR

OPTION CODE	LED COLOR
WHO	White

TRAVEL

1.5 1.5 mm

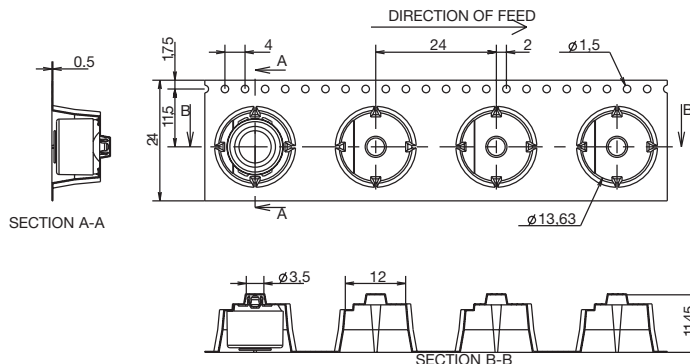
OPERATING FORCE

OPTION CODE	OPERATING FORCE
3N	3N (detect - no tactile)
5N	5N
6N	6N
9N	9N
12N	12N

CONTACT ARRANGEMENT

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

TAPE AND REEL



K12S Series High Performance SMT Key Switches

NEW



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; 5N; 6N; 9N 4/8 N; 6/12 N; 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.



Sub-Series

- A** IP40 with peg
- B** IP67 with peg
- C** IP40 without peg
- D** IP67 without peg

Option

- S** SPST version
- L** LED version (SPST)
- D** DPST version

LED Color

- NONE** No LED
- YE0** Yellow
- RD0** Red
- GN0** Green
- OR0** Orange
- WHO** White
- AM0** Amber

Travel
1.5 1.5 mm

Operating Force

- 3N** 3 N (detect - no tactile)
- 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)
- 12N** 12 N

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)

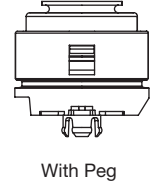
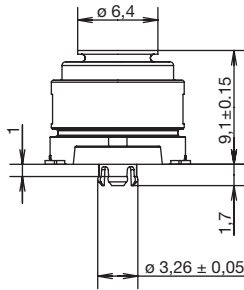
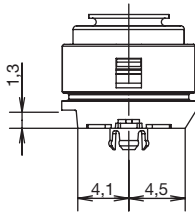
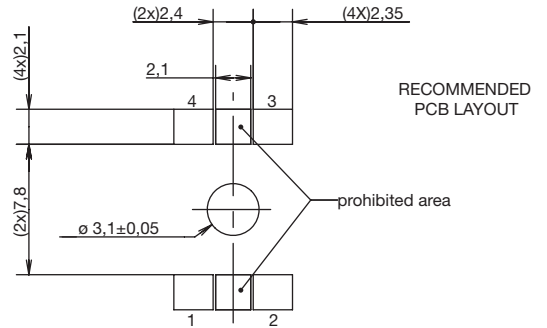
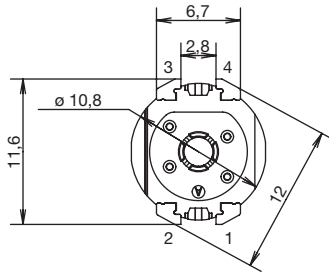
LFTX Lead free, RoHS terminals tin plated Translucent button

* Please contact technical support for this configuration

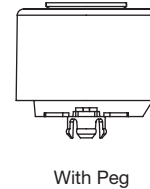
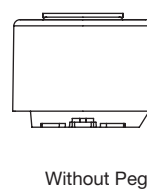
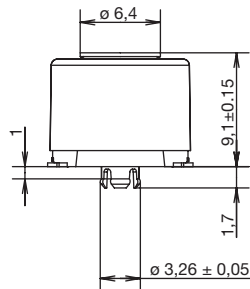
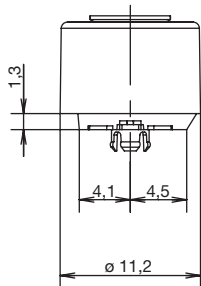
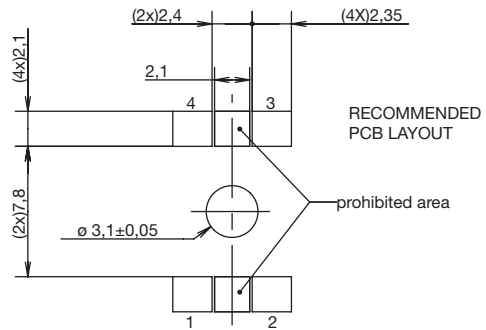
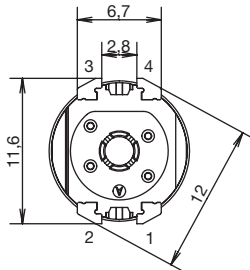
NEW

K12S Series High Performance SMT Key Switches

K12SA/K12SC IP40 with peg / IP40 without peg



K12SB / K12SD IP67 with peg / IP67 without peg



30 Jun 22



Dimensions are shown: mm
Specifications and dimensions subject to change



Key Switches

K12S Series High Performance SMT Key Switches

NEW

OPTION

S SPST version

L LED version

D DPST version

Single NO

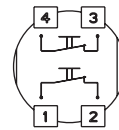
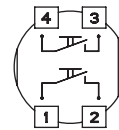
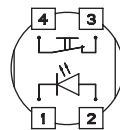
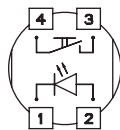
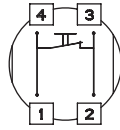
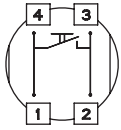
Single NC

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

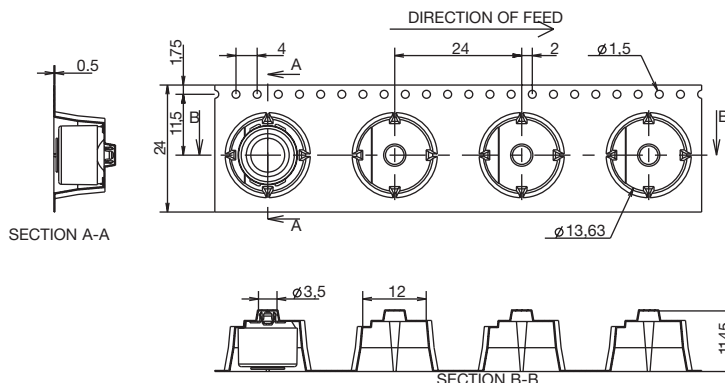
OPERATING FORCE

OPTION CODE	OPERATING FORCE
3N	3N (detect - no tactile)
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



First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

C&K

30 Jun 22

D-8

www.ckswitches.com

K12 Series 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
 For all K12 versions up to 6N with max. switching power: ≥ 10⁶
 operations
 For all K12/K12C versions from 7N to 20N with max. switching power:
 please consult factory
 For K12G & K12GO with max. switching power: ≥ 5 x 10⁴ operations
 CONTACT RESISTANCE: Initial ≤ 50 mΩ
 INSULATION RESISTANCE: ≥ 10¹⁰ 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

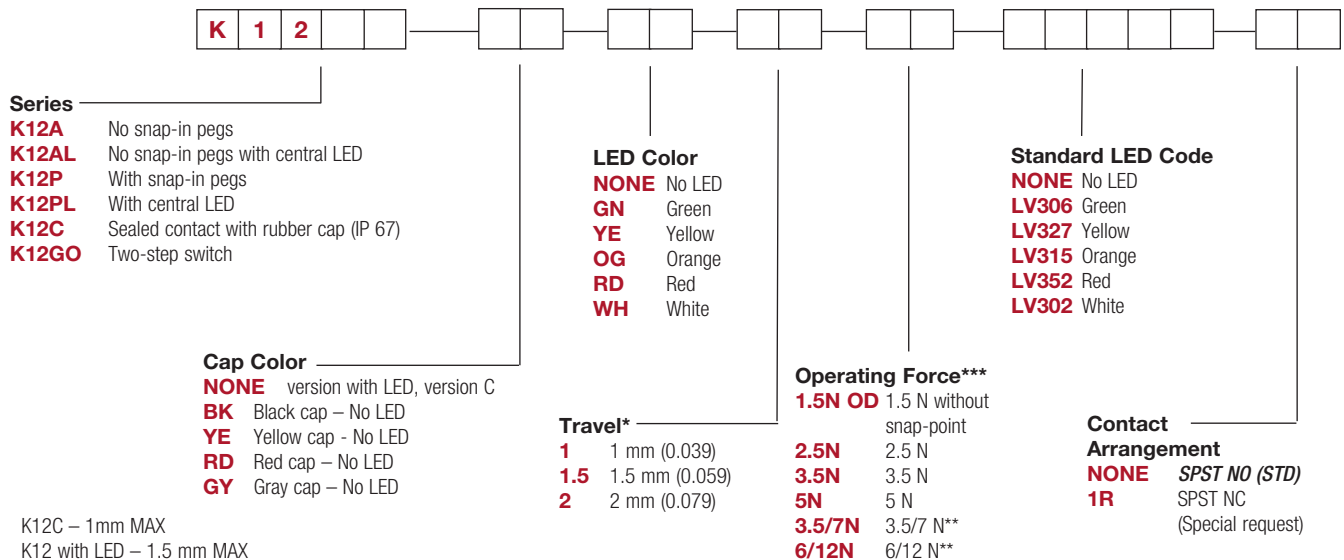
Process

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.



* K12C – 1mm MAX

K12 with LED – 1.5 mm MAX

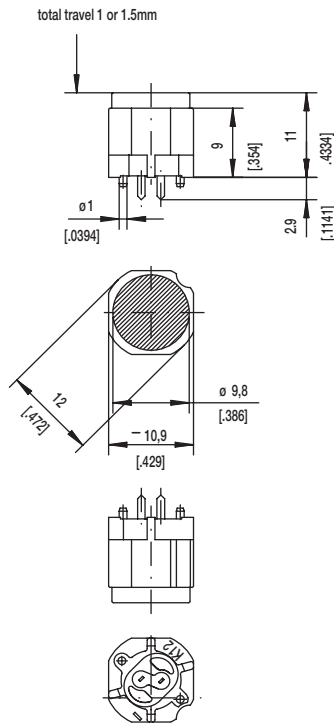
** K12G & K12GO version only

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

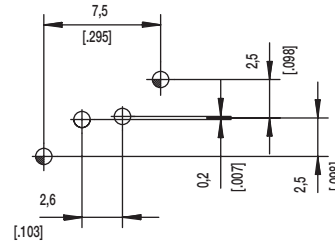
K12 Series High Performance Key Switches

SERIES

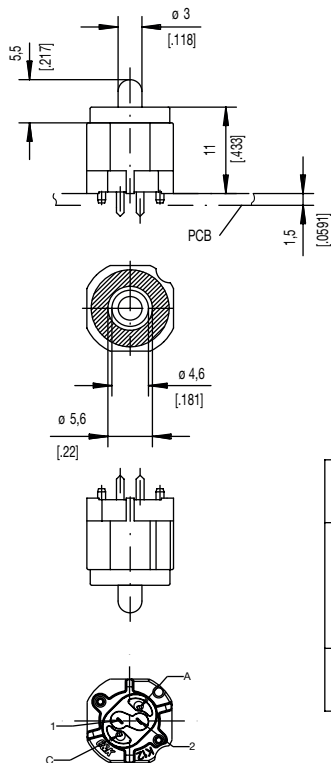
K12A without snap in



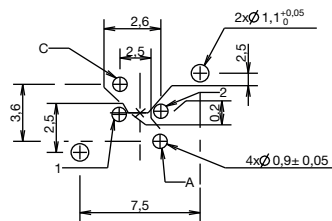
PCB LAYOUT, MOUNTING SIDE



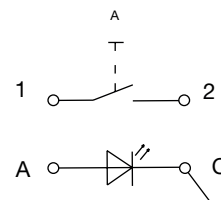
K12AL



PCB LAYOUT, MOUNTING SIDE



ELECTRICAL GRAPH



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

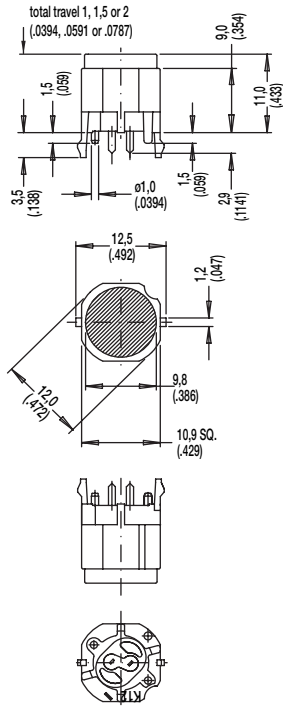


Key Switches

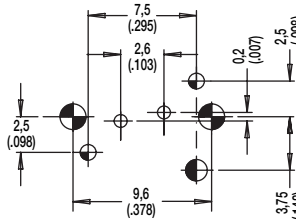
K12 Series High Performance Key Switches

SERIES

K12P with snap in



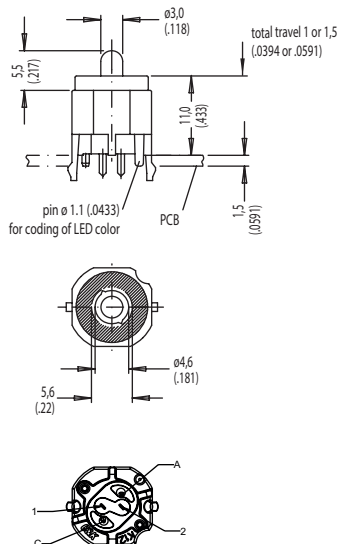
PCB LAYOUT, MOUNTING SIDE



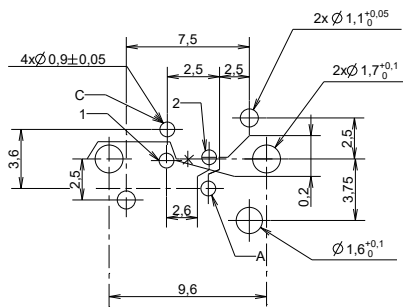
center of actuation area (notice LED)

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

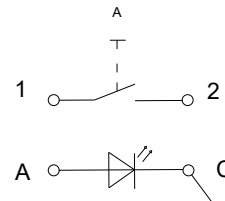
K12PL



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
	0,9 (.035)	2x	switch	0.7 x 0.2 (.028 x .081)	Sn

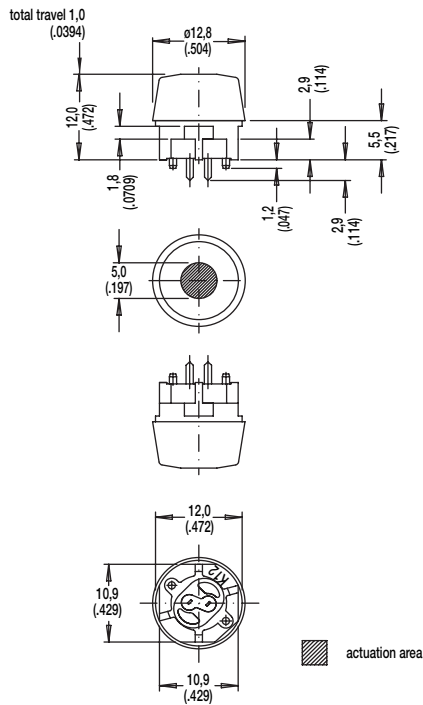


Dimensions are shown: mm
Specifications and dimensions subject to change

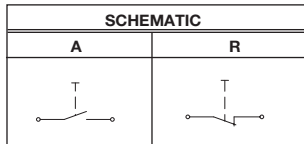
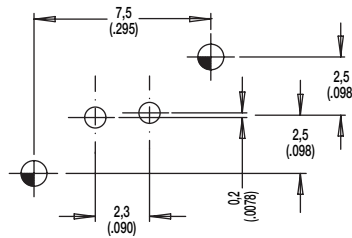
K12 Series High Performance Key Switches

SERIES

K12C SEALED CONTACT WITH RUBBER CAP (IP 67)



PCB LAYOUT, MOUNTING SIDE



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



D

Key Switches



14 Jan 22



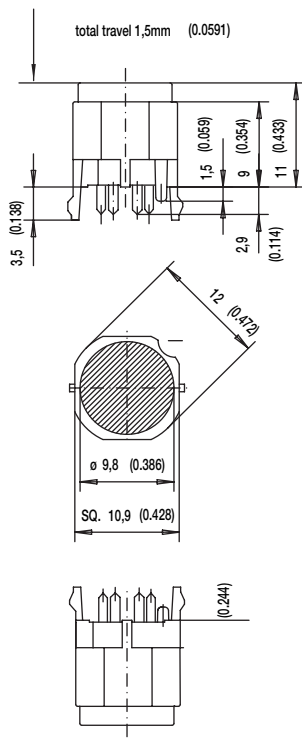
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

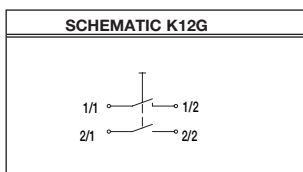
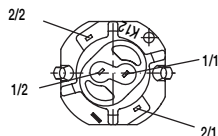
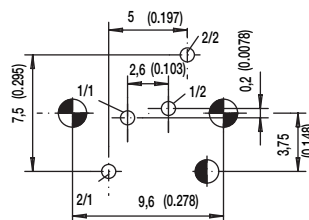
K12 Series High Performance Key Switches

SERIES

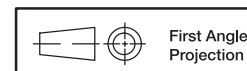
K12GO



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



Dimensions are shown: mm
Specifications and dimensions subject to change

K12 Series High Performance Key Switches

CAP COLOR

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

LED COLOR

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

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

TRAVEL

- 1** 1 mm
- 1.5** 1.5 mm
- 2** 2 mm

OPERATING FORCE

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)



D

Key Switches



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

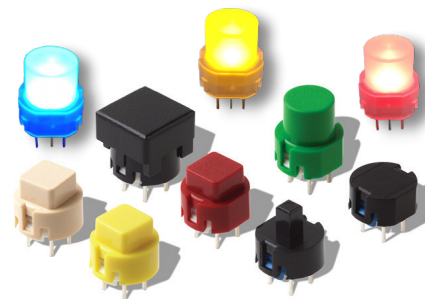
D6 Series SPST Momentary Key Switches

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:	Version F1: 250 000 operations Version F2: 100 000 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.

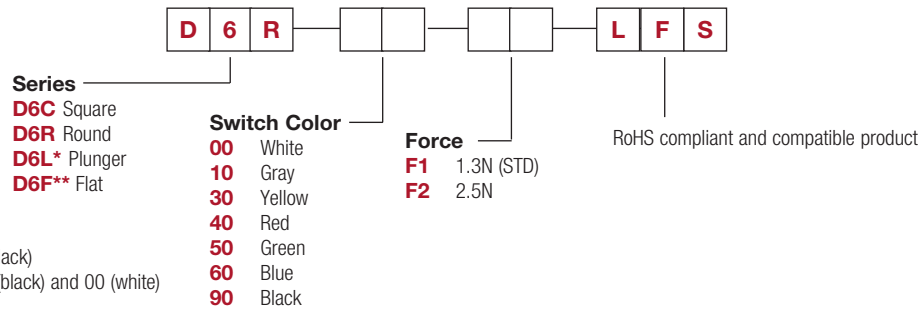
D6 Series SPST Momentary Key Switches

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



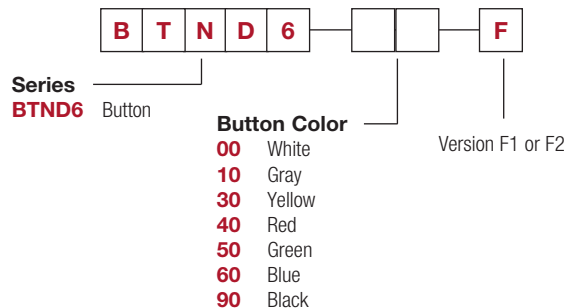
*Available only in color 90 (black)

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

Button

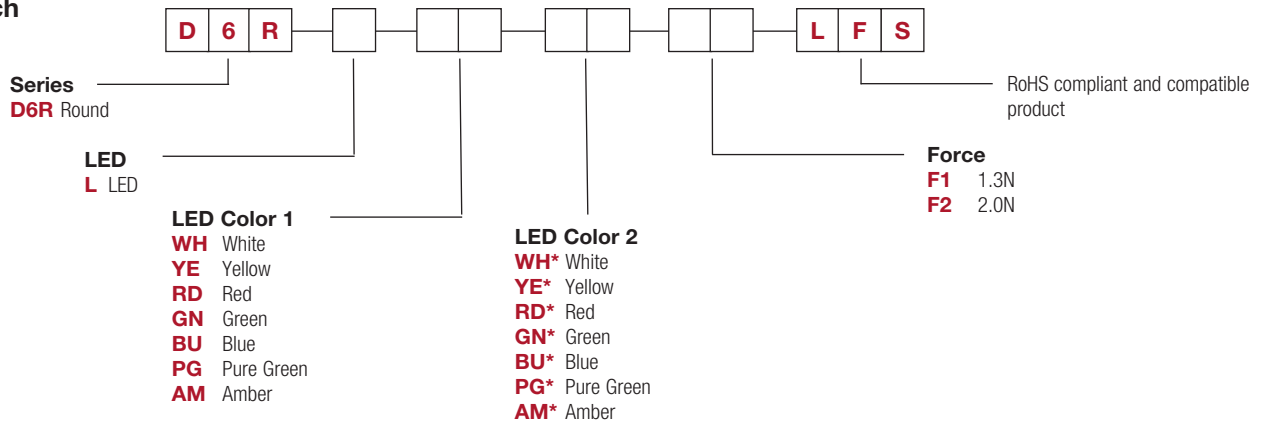
Buttons can be ordered separately
 Shipped in bulk

D6 button for use with D6C only



ILLUMINATED

Switch

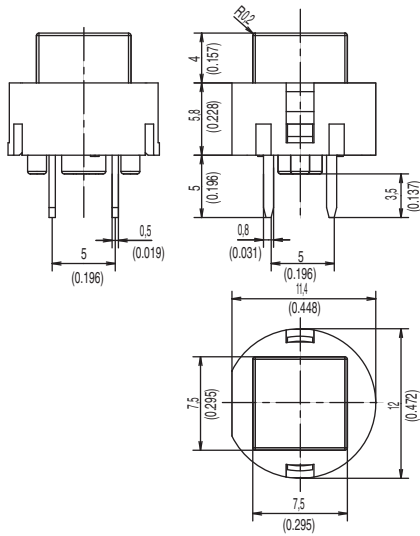


* Please contact technical support for these configurations

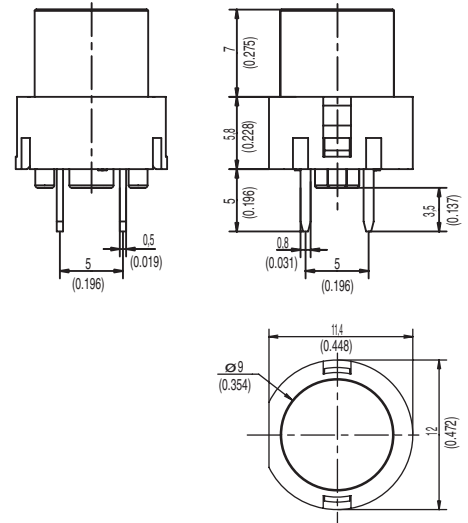
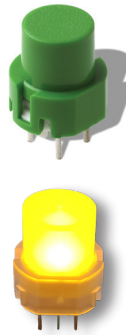
D6 Series SPST Momentary Key Switches

SERIES

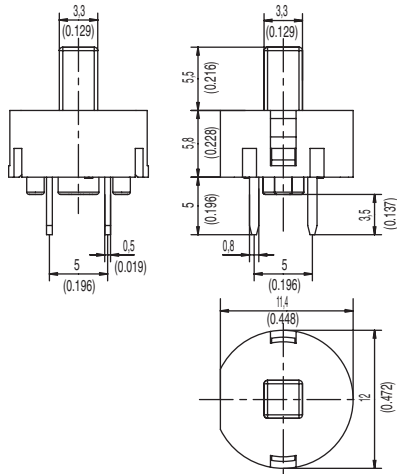
D6C



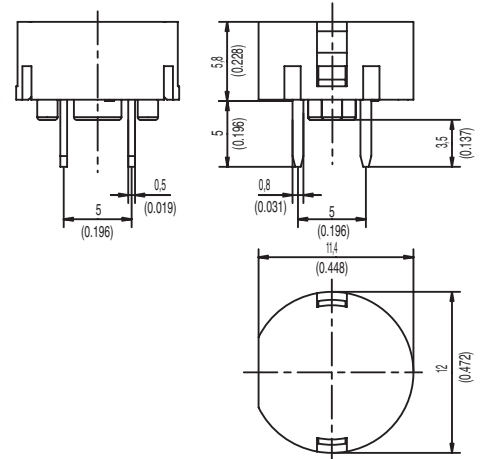
D6R



D6L ONLY AVAILABLE IN BLACK



D6F



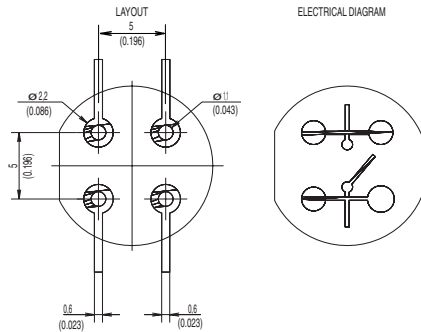
Key Switches



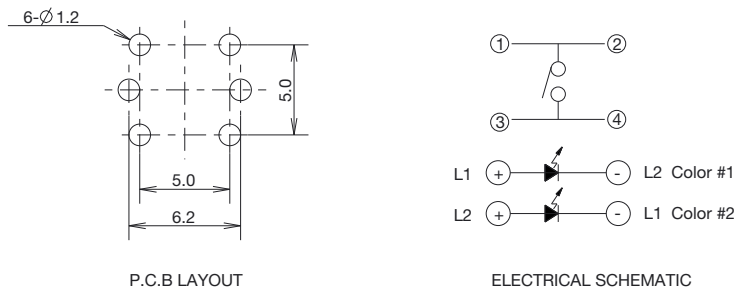
D6 Series SPST Momentary Key Switches

PCB LAYOUT

Switch (Non-Illuminated)



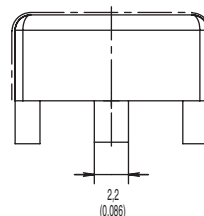
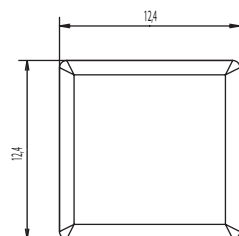
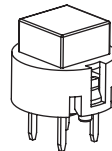
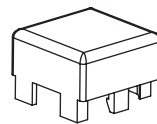
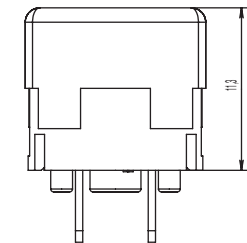
Switch (Illuminated)



BUTTON AVAILABLE

BTND6 Buttons must be ordered separately. Shipped in bulk.

NOTE: Only compatible with D6C



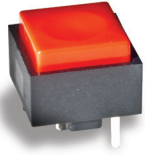
OPTION CODE	BUTTON COLOR
00	WHITE
10	GRAY
30	YELLOW
40	RED
50	GREEN
60	BLUE
90	BLACK



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

KS Series 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).

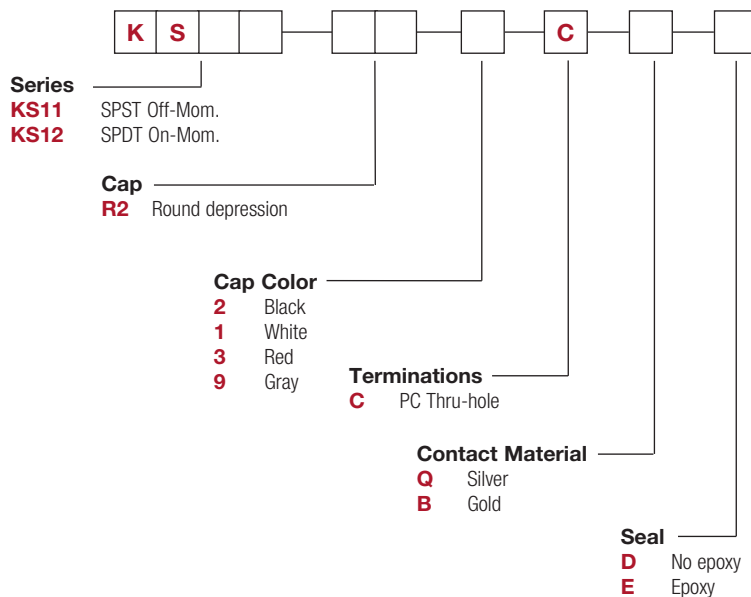
Note: Specifications and materials listed above are for switches with standard options.
 For information on specific and custom switches, consult Customer Service Center.

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

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.

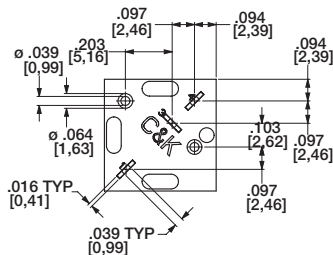
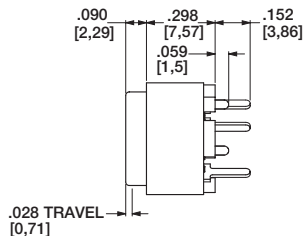
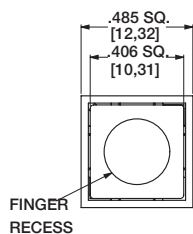


Key Switches

KS Series Single Pole Key Switches

SERIES

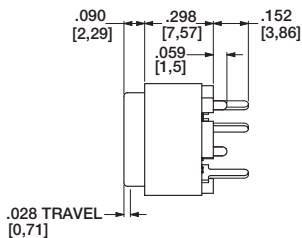
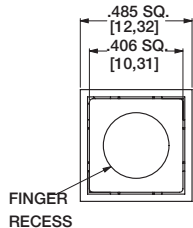
KS11 / KS12



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

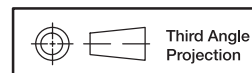
R2 CAP WITH ROUND DEPRESSION



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



Key Switches



Third Angle
Projection

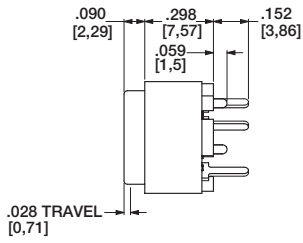


Dimensions are shown: mm
Specifications and dimensions subject to change

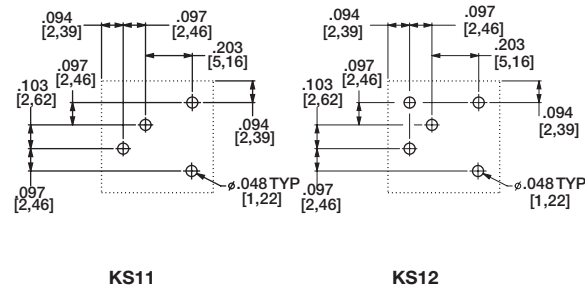
KS Series Single Pole Key Switches

TERMINATION

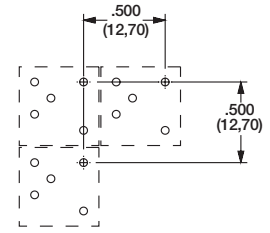
C PC THRU-HOLE



PC MOUNTING



MULTIPLE SWITCH SPACING



CONTACT MATERIAL

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

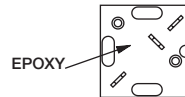
- 1) MOVABLE CONTACT: Stainless steel, with gold plate over nickel plate.
STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, with gold plate over nickel plate.
- 2) MOVABLE CONTACT: Stainless steel, silver plated.
STATIONARY CONTACTS & ALL TERMINALS: Copper alloy, silver plated.

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

SEAL

D NO EPOXY SEAL

E EPOXY SEAL



Third Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

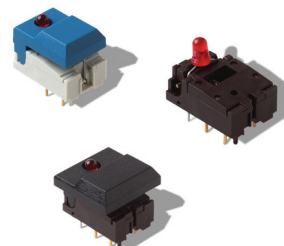
DIGITAST Series Microminiature SPDT, Key Switches

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

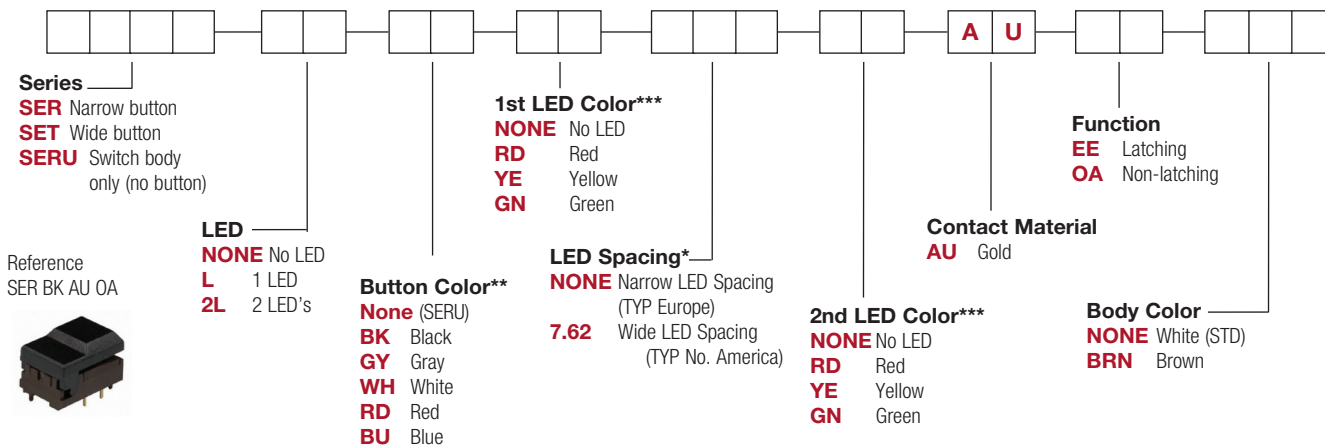
Environmental

OPERATING TEMPERATURE: -25°C to 85°C.

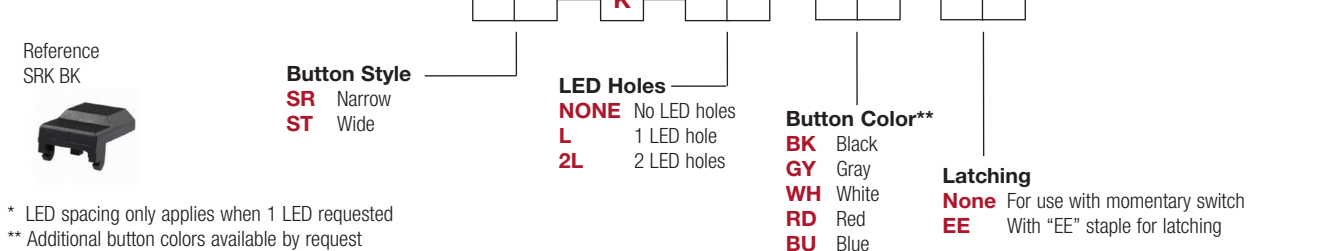
How To Order

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



Button



* LED spacing only applies when 1 LED requested
 ** Additional button colors available by request
 *** Additional LED colors available by request including Bi color configurations

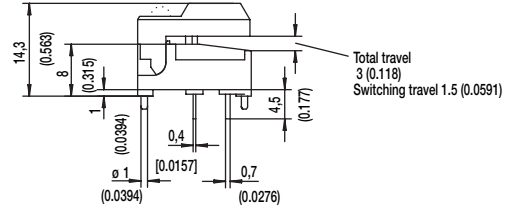
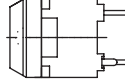
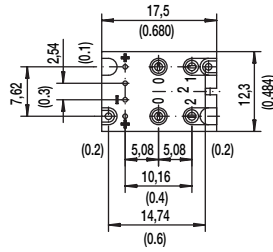
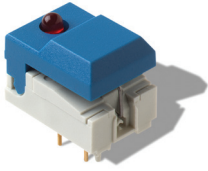


Dimensions are shown: mm
 Specifications and dimensions subject to change

DIGITAST Series Microminiature SPDT, Key Switches

DESIGNATION

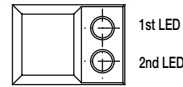
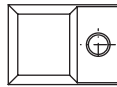
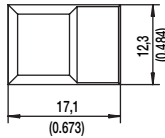
SER NARROW BUTTON



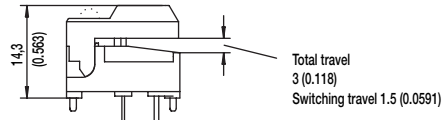
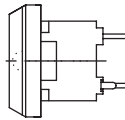
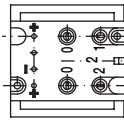
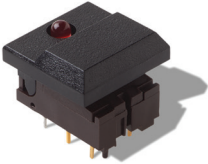
SER

SERL

SER2L



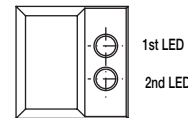
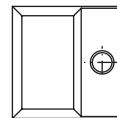
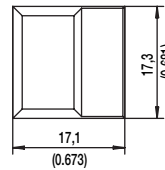
SET WIDE BUTTON



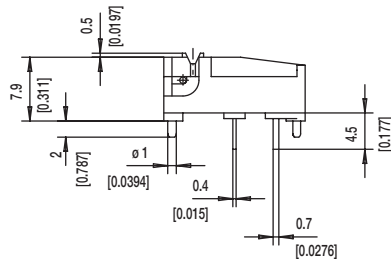
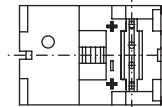
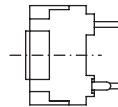
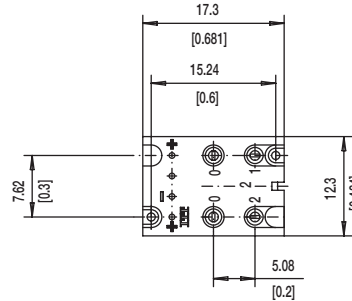
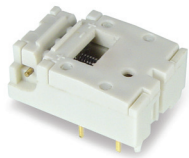
SET

SETL

SET2L



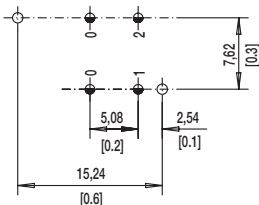
SERU NO BUTTON



DIGITAST Series Microminiature SPDT, Key Switches

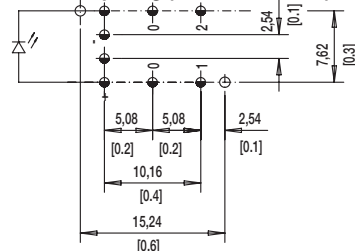
LED

NONE NO LED

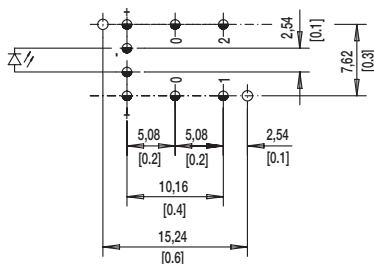


L 1 LEDS

7.62 mm Spacing (TYP No. America)

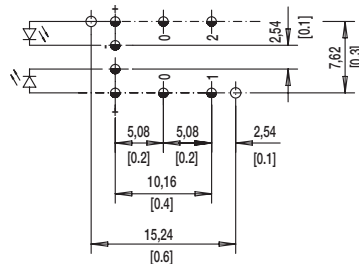


NARROW SPACING (TYP EUROPE)



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)].

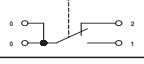

LED COLOR

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	



Dimensions are shown: mm
Specifications and dimensions subject to change

ED & EDM Series



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

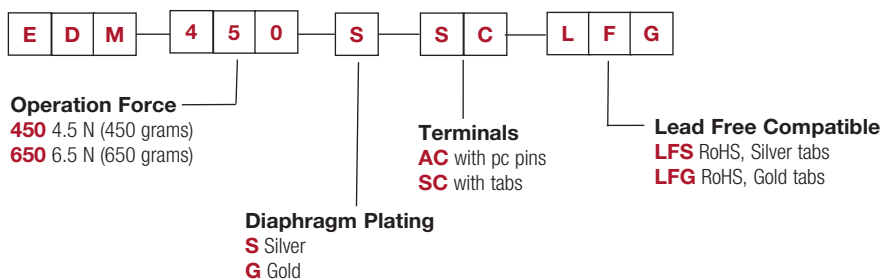
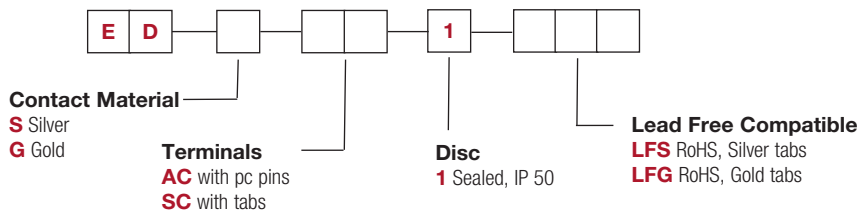
	Silver	Gold
OPERATING TEMPERATURE	-25°C to 65°C	-55°C to 85°C
MAXIMUM POWER	1 VA	0.2 VA
MAXIMUM VOLTAGE	100 VDC	100 VDC
MINIMUM VOLTAGE	20m VDC	20m VDC
MIN/MAX CURRENT	1 mA to 100 mA	50 µA to 50 mA
DIELECTRIC STRENGTH	≥ 250 Vrms	
CONTACT RESISTANCE	≤ 100 mΩ	
INSULATION RESISTANCE (between terminals)	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

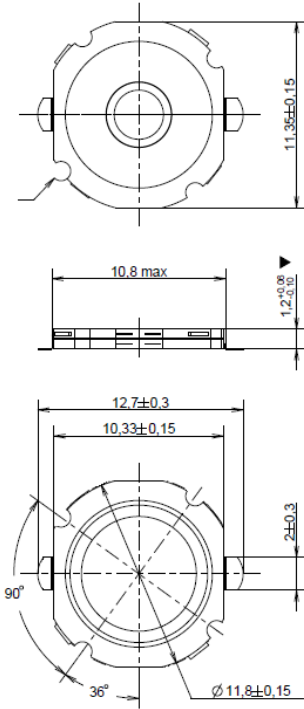
How To Order

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.

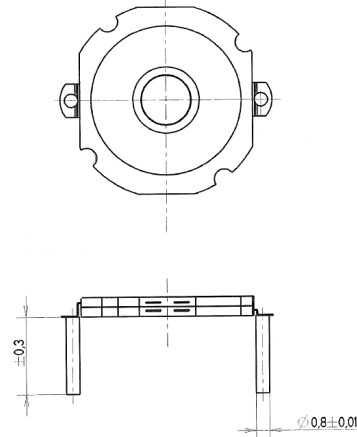


Dimensions are shown: mm
 Specifications and dimensions subject to change

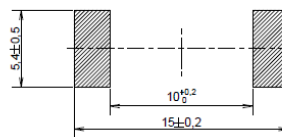
ED/EDM SC



ED/EDM



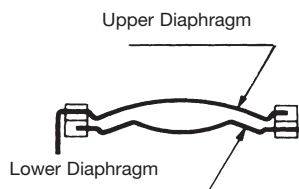
RECOMMENDED PCB LAYOUT



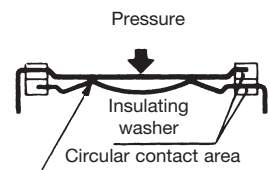
Switch Action Principal

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.



Switch in resting position



Switch in active position

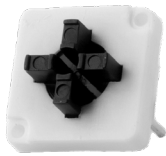


Key Switches

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 ($\Delta\%$)	Operating life	Travel (mm)
MD	2,4 N \pm 25%	\geq 15%	1,000,000	0.95 mm \pm 0.35
MDP	2,6 N \pm 25%	\geq 25%	200,000	0.4 mm \pm 0.25

Electrical

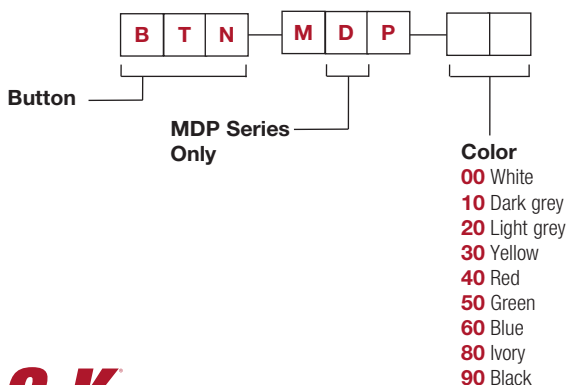
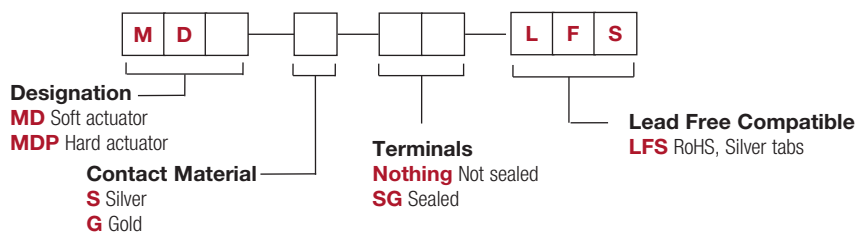
	Silver	Gold
MAXIMUM POWER:	1.0 VA	0.2 VA
MAXIMUM VOLTAGE:	100 VDC	100 VDC
MINIMUM VOLTAGE:	20m VDC	20m VDC
MIN/MAX CURRENT:	1.0 mA - 100 mA	50 μ A - 50 mA
DIELECTRIC STRENGTH:	\geq 250 Vrms	
CONTACT RESISTANCE:	\leq 100 m Ω	
INSULATION RESISTANCE: (between terminals)	Initial measurement: \geq 1 G Ω After damp heat: \geq 10 M Ω	
BOUNCE TIME:	\leq 3 ms	

Environmental

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

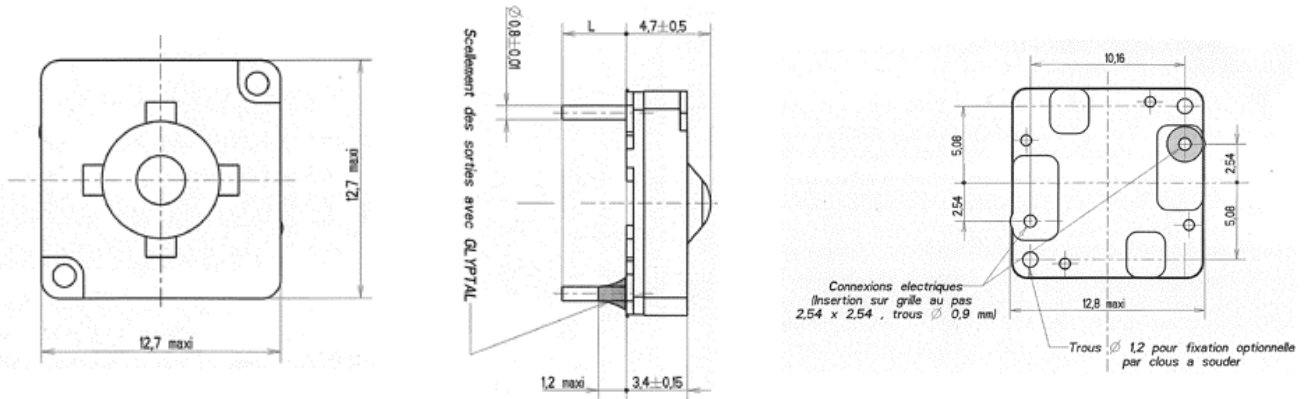
How To Order

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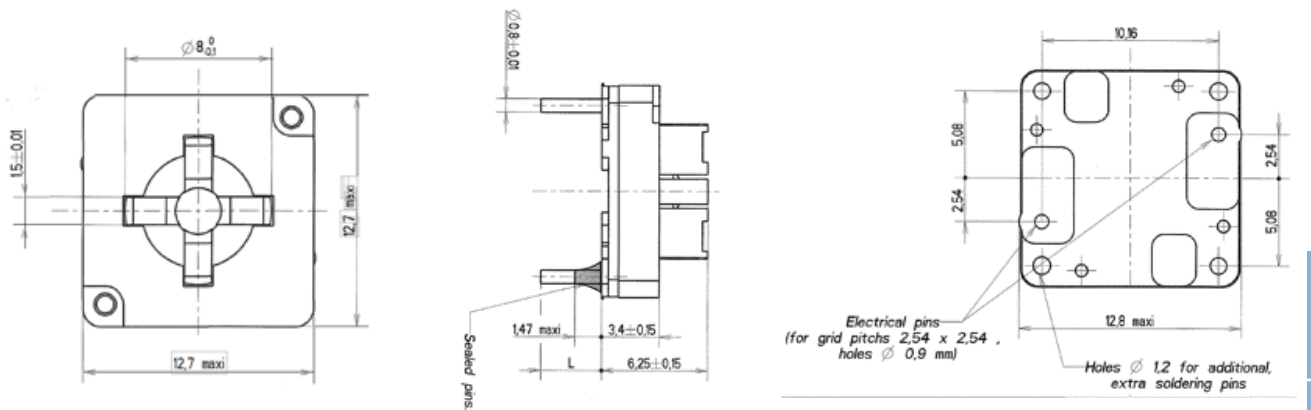


Dimensions are shown: mm
 Specifications and dimensions subject to change

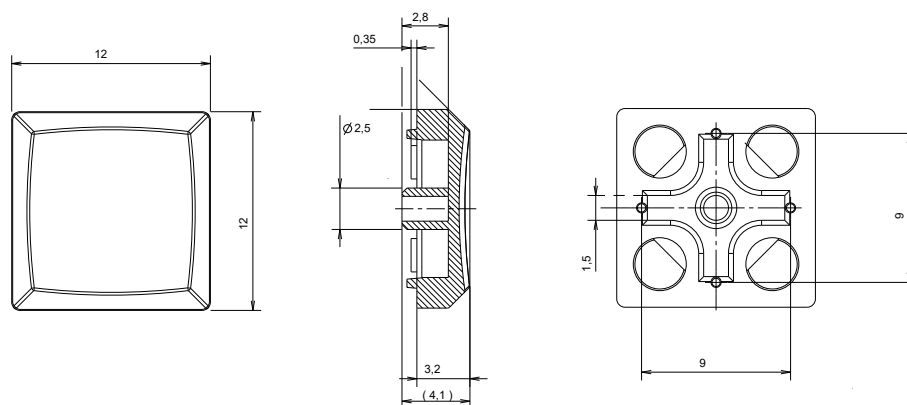
MD



MDP



MDP button



Dimensions are shown: mm
Specifications and dimensions subject to change