





Detect Switches Product Selection Guide



Advanced TCA®

μTCA®

Detect					
Series	HDT	HDS	GDS	SDT	SDS
Travel to Make (mm)	0,3	0,17	0,3	30° or less	0,35
Overtravel (mm)	0,75	0,5	0,9	1,1	1,65
Total Travel (mm)	1,05	1,07	1,6	1,1	2,0
Actuator Length (mm)	1,4	1,17	1,8	1,3	2,5
Life Expectancy	100,000 cycles	100,000 cycles	50,000 cycles	100,000 cycles	50,000 cycles
Contact Type	SPST N.O.	SPST N.O.	SPST N.O.	SPST N.O.	SPST N.O. SPST N.C.
Max. Voltage (V)	5	5	5	5	12
Max. Switching Current (mA)	1 mA	1 mA	1 mA	1 mA	100 mA
Sealing	No	No	No	No	No
Mounting	Surface mount	Surface mount	Surface mount	Surface mount	Surface mount
Page number	E-4	E-8	E-10	E-11	E-12

Detect						
Series	MDS	KSU	KSR2D	KSM	DDS	KSC4D
Travel to Make (mm)	2,5 max.	0,5	0,3	0,3	0,45	0,6
Overtravel (mm)	0,15 min.	1,0	N/A	1,15	1,95	N/A
Total Travel (mm)	2,9	1,5	0,3	1,72	2,4	0,6
Actuator Length (mm)	R 8,4	1,5	0,8	1,8	2,6	2,6
Life Expectancy	10,000 cycles	100,000 cycles	100,000 cycles	50,000 cycles	50,000 cycles	100,000 cycles
Contact Type	SPDT	SPST N.O.	SPST N.O.	SPST N.C.	SPST N.O.	SPST N.O.
Max. Voltage (V)	6 VDC	32	32	32	30	32
Max. Switching Current (mA)	0.3 A	50 mA	10 mA	50 mA	100 mA	50 mA
Sealing	No	Dust and water drop proof	Dust and flux tight	Flux tight	No	IP67
Mounting	Thru-hole & Surface Mount	Surface mount	Surface mount	Surface mount	Thru-hole	Surface mount
Page Number	E-13	E-19	E-21	E-22	E-24	E-26



Detect



Dimensions are shown: mm
Specifications and dimensions subject to change

Detect Switches Product Selection Guide

Detect						
Series	KSJ	ZMA	KDS	MPS	RS05	KM
Travel to Make (mm)	0,3	1,3 max.	1,25 max.	See actuation	See actuation	4,06
Overtravel (mm)	0,75	0,2 min.	8,9	charts on pages	charts on pages	1,78
Total Travel (mm)	1,05	1,5	10,16	F-31 through F-33	F-31 through F-33	5,84
Actuator Length (mm)	1,4		10,16	N/A	N/A	10,11
Life Expectancy	100,000 cycles	50,000 cycles	10,000 cycles	10,000,000 cycles	1,000,000 cycles	10,000 cycles
Contact Type	SPST N.O.	SPDT	SPST N.O. SPST N.C.	SPST N.O.	SPST N.O.	SPDT
Max. Voltage (V)	5	125 V	20	30 AC	5W or VA	125 V AC
Max. Switching Current (mA)	1 mA	3 Amps	.4 VA	300 mA	0,35 mA	250 mA
Sealing	Flux tight	No	No	Yes	Yes	Flux tight
Mounting	Surface mount	Thru-hole	Snap-in panel	Wire lead	Surface Mount	Thru-hole
Page number	E-28	E-30	E-34	E-35	E-40	E-42



Detect



Dimensions are shown: mm
Specifications and dimensions subject to change

HDT Series Micro Mini Surface Mount Detect Switches

NEW!

Features/Benefits

- Low profile package
- Design allows top or side actuation
- Low actuation force, 35 grams max.
- Pick and place compatible, available in tape & reel packaging
- RoHS compliant and compatible
- Halogen free

Typical Applications

- Consumer electronics
- Computers
- Medical devices
- ATCA and MicroTCA devices



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Specifications

CONTACT RATING: 1 mA 5 VDC
 MECHANICAL AND ELECTRICAL LIFE: 100,000 cycles min.
 CONTACT RESISTANCE: 500 m Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. between adjacent contacts.
 OPERATING TEMPERATURE: -40°C to + 85°C
 STORAGE TEMPERATURE: -40°C to + 85°C
 PACKAGING: Tape & reel

Materials

BASE: PA 46 (UL94V-0)
 COVER: PA 46 (UL94V-0)
 ACTUATOR: PA 46 (UL94V-0)
 MOVABLE BLADE: Stainless Steel, Ag over Ni plating.
 TERMINALS: Phosphor Bronze, Ag over Ni plating.
 SOLDERABILITY: Lead free compatible - No clean.

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

Build-A-Switch

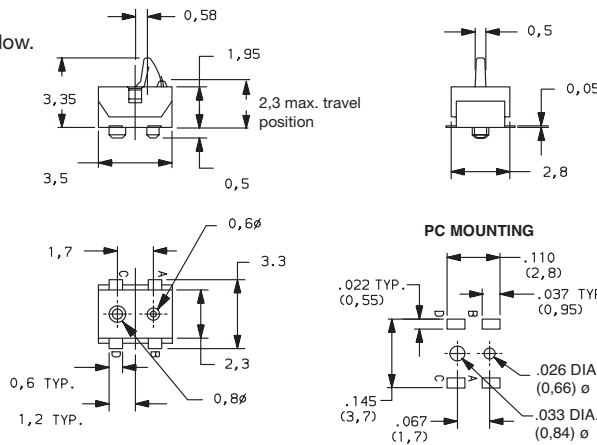
Complete part numbers for HDT Series are shown below.

PART NUMBER	PACKAGING	SCHEMATIC
HDT0001	TAPE & REEL 2,450 per reel	

NOTE: Available with no locating posts by adding "NP" (HDT0001NP) to Part Number.

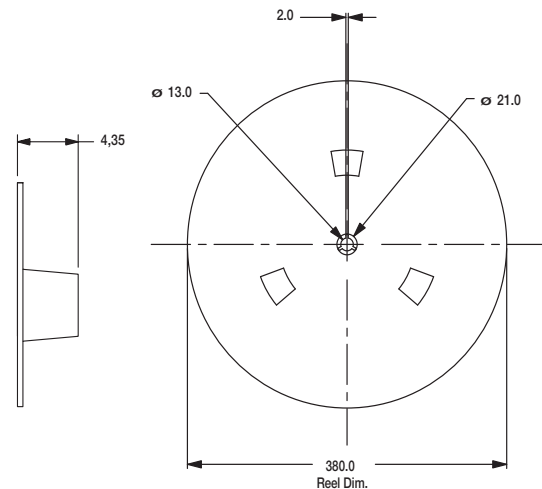
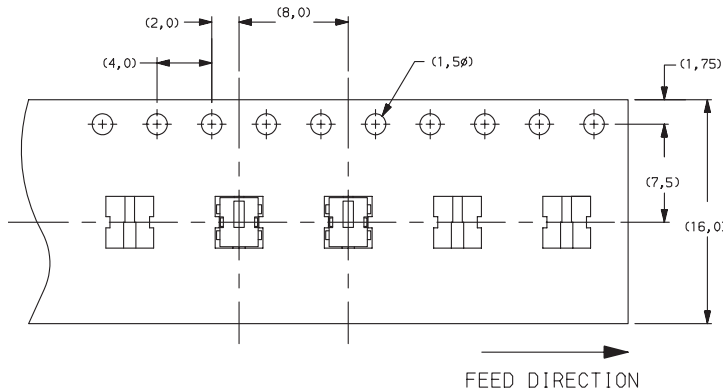
TRAVEL:

Pre-travel: .30 mm
 Overtravel: .75 mm
 Total: 1.05 mm



TAPE & REEL

HDT0001



Dimensions are shown: mm
 Specifications and dimensions subject to change

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Detect



NEW!

HDT Series Micro Mini Surface Mount Detect Switches

HDT0004

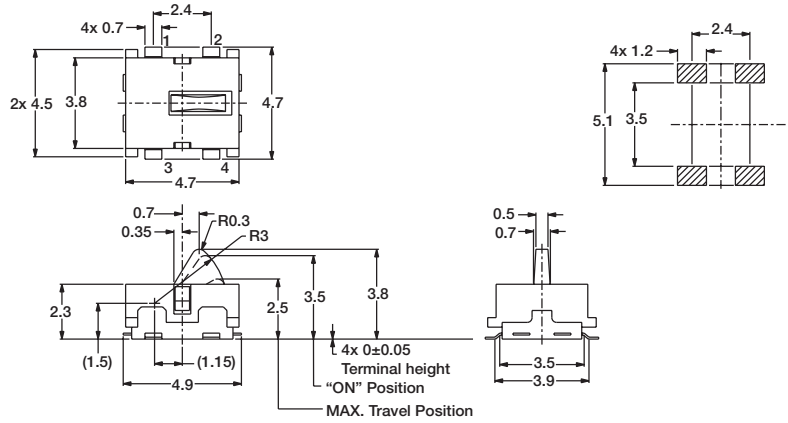


HDT0004

PART NUMBER	PACKAGING	SCHEMATIC
HDT0004	TAPE & REEL 2,800 per reel	 N.O.

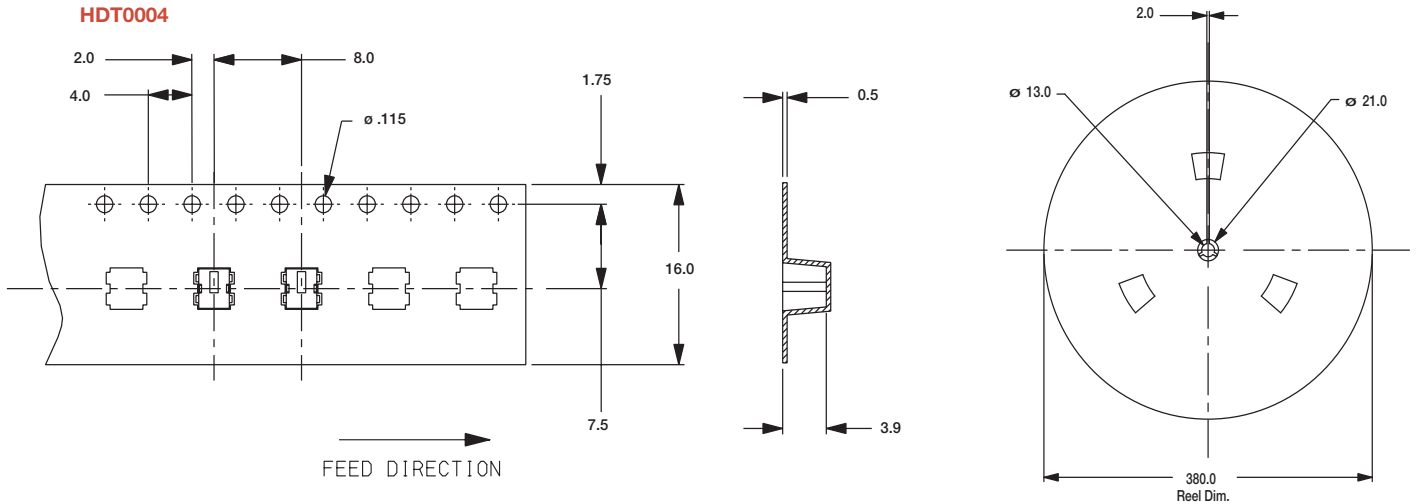
TRAVEL:

- Pre-travel: .3 mm
- Overtravel: 1.0 mm
- Total: 1.3 mm



TAPE & REEL

HDT0004



HDT0104

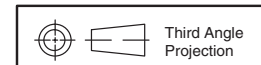
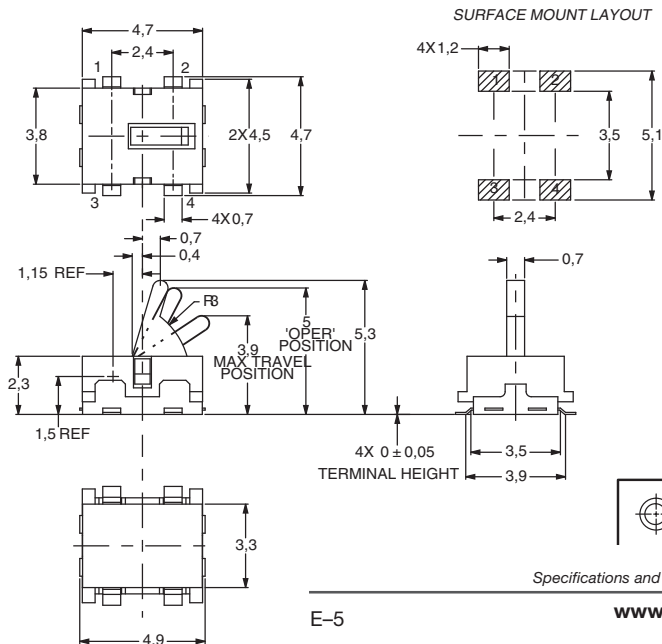


HDT0104

PART NUMBER	PACKAGING	SCHEMATIC
HDT0104	TAPE & REEL 2,100 per reel	 N.O.

TRAVEL:

- Pre-travel: .3 mm
- Overtravel: 1.1 mm
- Total: 1.4 mm



Dimensions are shown: mm
Specifications and dimensions subject to change



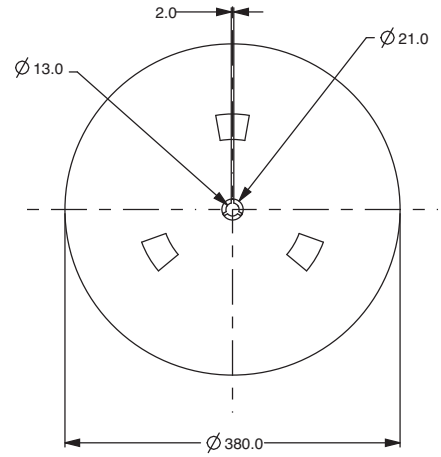
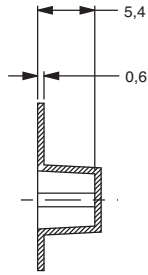
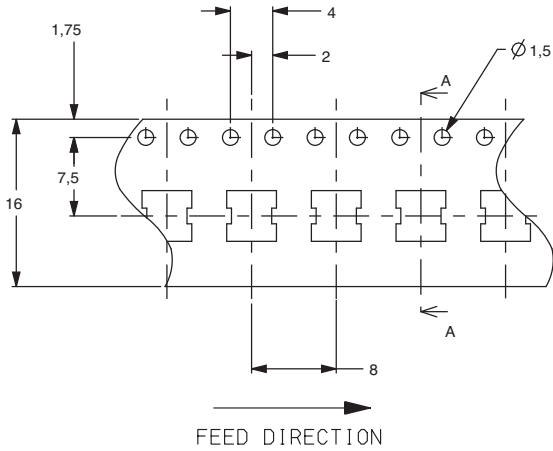
HDT Series

Micro Mini Surface Mount Detect Switches

NEW!

TAPE & REEL

HDT0104



HDT0204

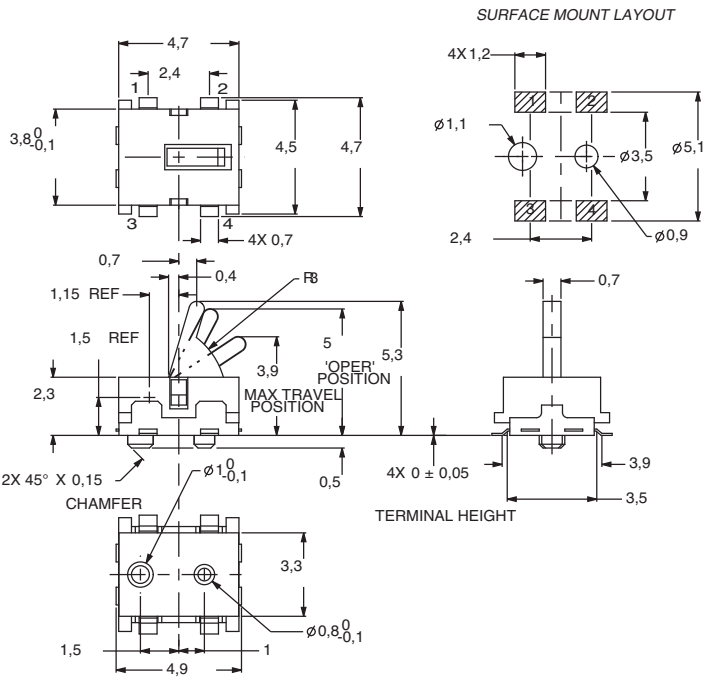


HDT0204

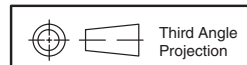
PART NUMBER	PACKAGING	SCHEMATIC
HDT0204	TAPE & REEL 2,000 per reel	

TRAVEL:

- Pre-travel: .3 mm
- Overtravel: 1.1 mm
- Total: 1.4 mm



Detect



Third Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

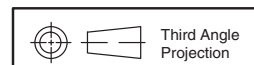
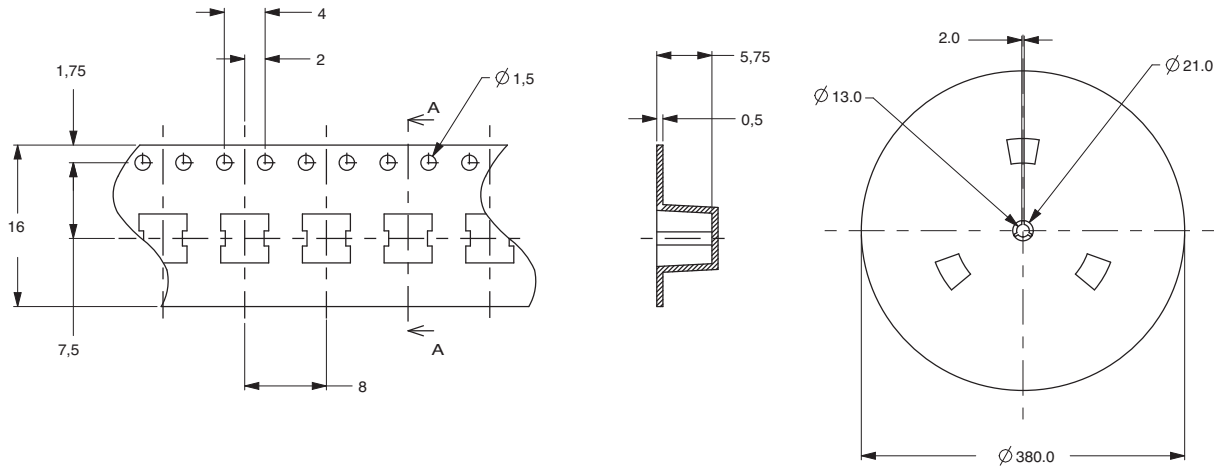


NEW!

HDT Series Micro Mini Surface Mount Detect Switches

TAPE & REEL

HDT0204



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

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HDS Series Micro Mini Side Actuated Surface Mount Detect Switches

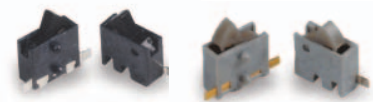
NEW!

Features/Benefits

- Low profile package sits just 1.4 mm off PCB
- Design allows top or side actuation
- Right and left options available
- Low actuation force, 30 grams max.
- Pick and place compatible, available in tape & reel packaging
- RoHS compliant and compatible

Typical Applications

- Consumer electronics
- Computers
- Medical devices
- Mobile Communications
- ATCA and MicroTCA devices



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Specifications

CONTACT RATING: 1 mA 5 VDC
 MECHANICAL AND ELECTRICAL LIFE: 100,000 cycles min.
 CONTACT RESISTANCE: 1 Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. between adjacent contacts.
 OPERATING TEMPERATURE: -40°C to + 80°C
 STORAGE TEMPERATURE: -40°C to + 80°C
 PACKAGING: tape & reel; 5,000 per reel.
 TRAVEL:
 Pre-travel .17 mm min.
 Overtravel: .5 mm min.
 Total: 1.07 mm

Materials

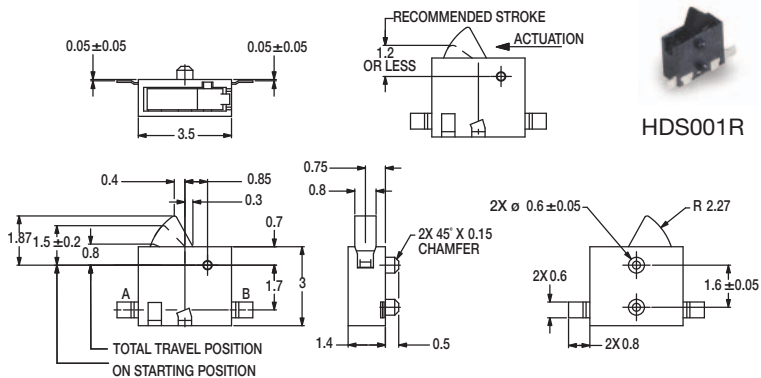
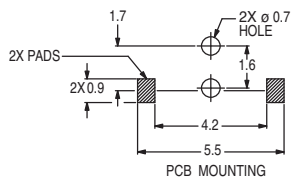
BASE: LCP HDS001L: Gray HDS001R: Black
 COVER: PA 46 (UL94V-0)
 ACTUATOR: PA 46 (UL94V-0) HDS001L: Gray HDS001R: Black
 MOVABLE BLADE: Stainless Steel, Ag over Ni plating.
 TERMINALS: Phosphor Bronze, Ag plating.

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

Build-A-Switch

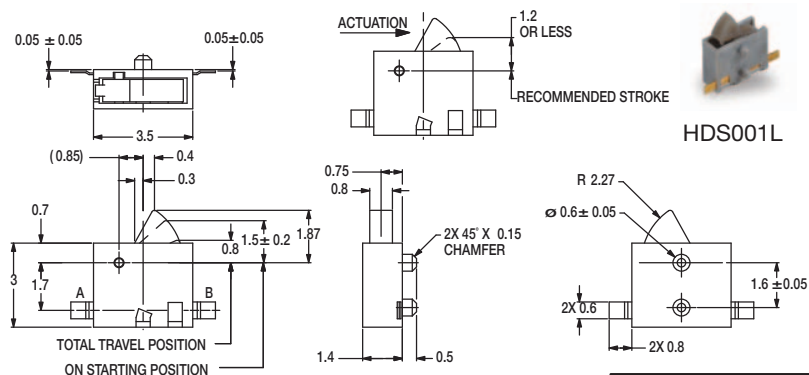
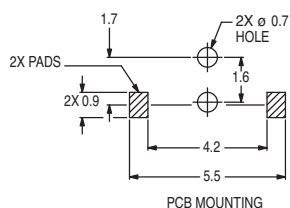
Complete part numbers for HDS Series are shown below.

PART NUMBER	PACKAGING	SCHEMATIC
HDS001R	TAPE & REEL	 N.O.



HDS001R

PART NUMBER	PACKAGING	SCHEMATIC
HDS001L	TAPE & REEL	 N.O.



HDS001L



Dimensions are shown: mm

Specifications and dimensions subject to change

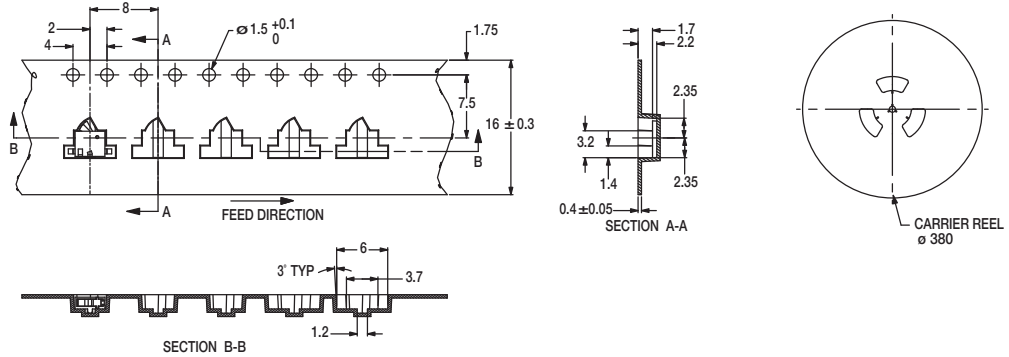


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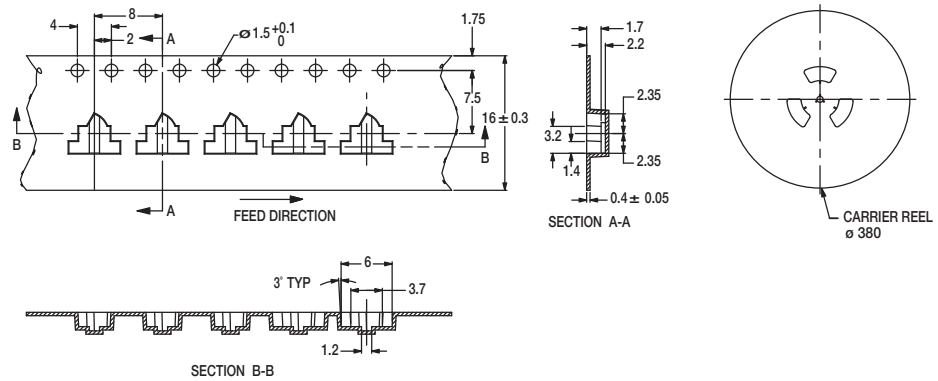
HDS Series Micro Mini Side Actuated Surface Mount Detect Switches

TAPE & REEL

HDS001R



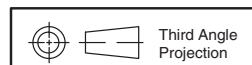
HDS001L



NOTE: Quantity per reel: 5,000 pieces



Detect



Third Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



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GDS Series Ultra Low Profile Micro Mini Side Actuated Detect Switch

NEW!

Features/Benefits

- Ultra low profile package sits just 1.0 mm off PCB
- Design allows x or y axis actuation
- Low actuation force, 30 grams max.
- Pick and place compatible, available in tape & reel packaging
- RoHS compliant and compatible

Typical Applications

- Consumer electronics
- Computers
- Medical devices
- Mobile Communication Devices
- ATCA and MicroTCA devices



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Specifications

CONTACT RATING: 1 mA 5 VDC
 MECHANICAL AND ELECTRICAL LIFE: 50,000 cycles min.
 CONTACT RESISTANCE: 1 Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. between adjacent contacts.
 OPERATING TEMPERATURE: -20°C to + 70°C
 STORAGE TEMPERATURE: -30°C to + 80°C
 PACKAGING: Tape & reel, 5000 pieces per reel
 TRAVEL:
 Pre-travel .3 mm min.
 Overtravel: .9 mm min.
 Total: 1.6 mm min.

Materials

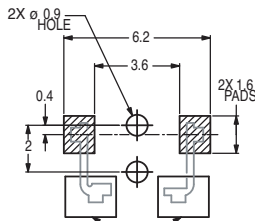
BASE: LCP
 COVER: PA 46 (UL94V-0)
 ACTUATOR: PA 46 (UL94V-0)
 MOVABLE BLADE: Stainless Steel, Ag over Ni plating.
 TERMINALS: Phosphor Bronze, Ag over Ni plating.

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

Build-A-Switch

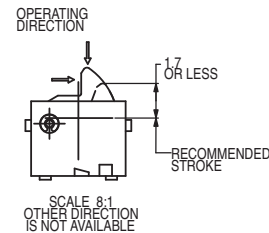
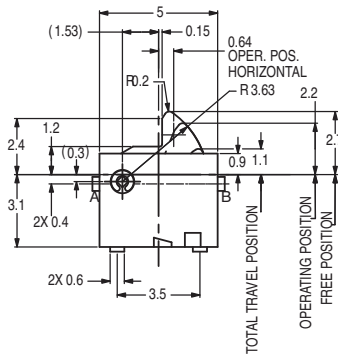
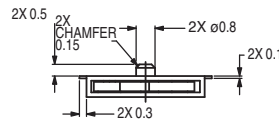
Complete part numbers for GDS Series are shown below.

PART NUMBER	PACKAGING	SCHEMATIC
GDS001	TAPE & REEL 5,000 per reel	

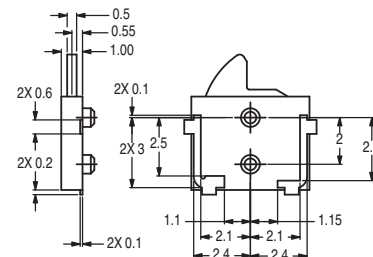


DO NOT SOLDER IN THIS AREA OF FRAME

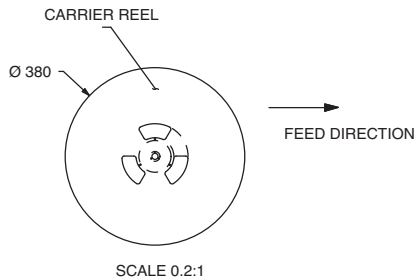
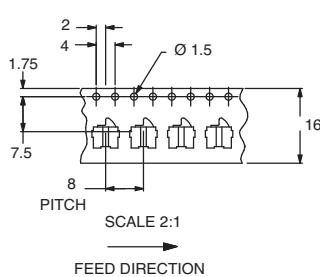
PCB MOUNTING



GDS001



TAPE & REEL



Third Angle Projection

Dimensions are shown: mm
 Specifications and dimensions subject to change

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SDT Series Micro Mini Pendulum Surface Mount Detect Switches



Features/Benefits

- Low profile package sits just 3,30 mm off PCB
- Design allows top or side actuation
- Low actuation force, 30 grams max.
- Pick and place compatible, available in tape & reel packaging
- RoHS compliant and compatible

Typical Applications

- Consumer electronics
- Computers
- Medical devices
- ATCA or MicroTCA devices



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Specifications

CONTACT RATING: 1 mA 5 VDC
 MECHANICAL AND ELECTRICAL LIFE: 100,000 cycles min.
 CONTACT RESISTANCE: 1 Ω max. initial.
 INSULATION RESISTANCE: 10 M Ω min. between adjacent contacts.
 OPERATING TEMPERATURE: -20°C to +70°C
 STORAGE TEMPERATURE: -30°C to +80°C
 PACKAGING: Tape & reel, 2,200 per reel.

Materials

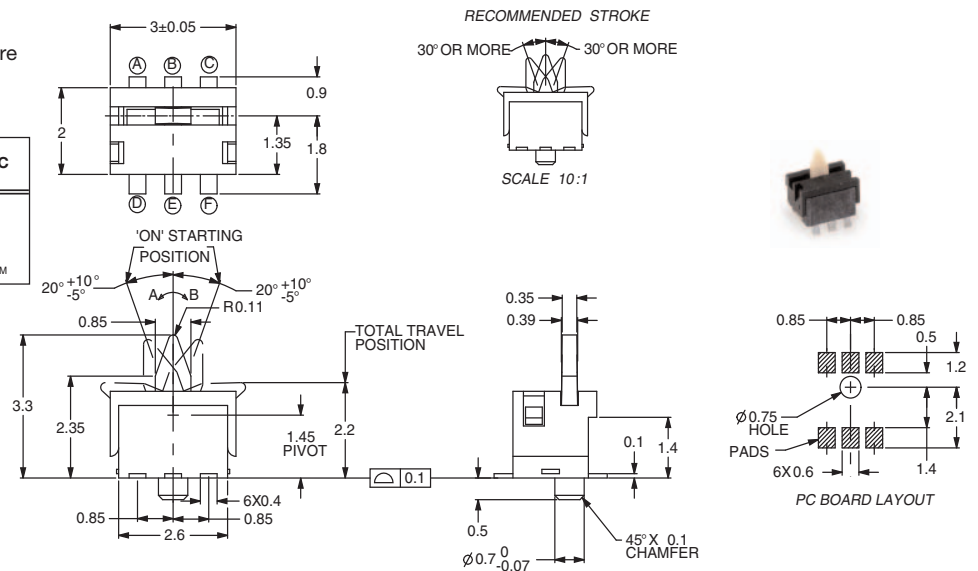
BASE: LCP
 COVER: PA 46
 ACTUATOR: LCP
 MOVABLE BLADE: Silver over nickel plate.
 TERMINALS: Silver over nickel plate.

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

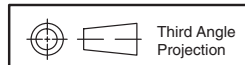
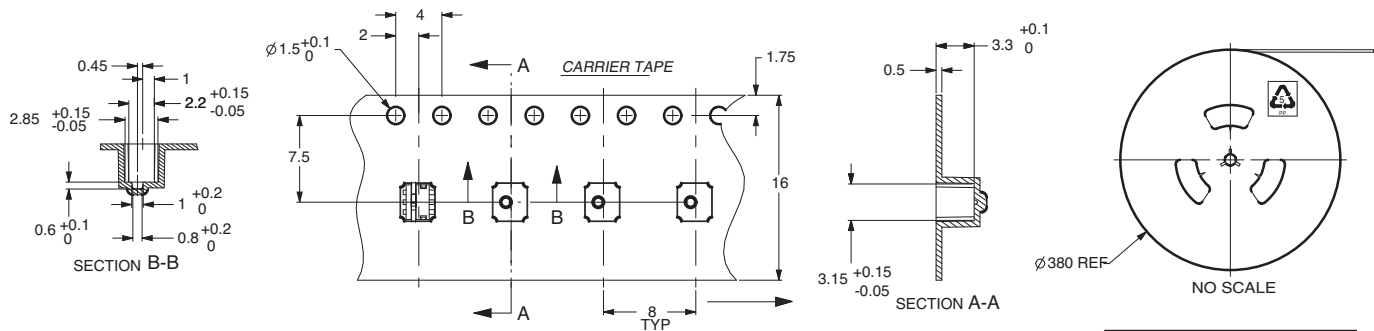
Build-A-Switch

Complete part numbers for SDT Series are shown below.

PART NUMBER	TERMINALS	SCHEMATIC
SDT004	Silver	 CIRCUIT DIAGRAM



TAPE & REEL



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



Detect

SDS Series Side Actuated Detect Switches



Features/Benefits

- Low profile package sits just 2mm off PCB
- 2mm overtravel ideal for detector applications
- Low actuation force (75 grams max.)
- Pick & place compatible, available in tape & reel packaging
- RoHS compliant and compatible

Typical Applications

- Medical devices
- Consumer electronic devices
- PCB lock cam detect
- Smart card detect
- ATCA and MicroTCA



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Specifications

CONTACT RATING: 100 mA @ 12 VDC.
 MECHANICAL & ELECTRICAL LIFE: 50,000 cycles.
 CONTACT RESISTANCE: 100 m Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. @ 100 VDC.
 OPERATING TEMPERATURE: -40°C to +85°C.
 SOLDERABILITY: IR compatible, no wash. 260°C max.
 PACKAGING: Bulk or tape & reel (3000 per reel).

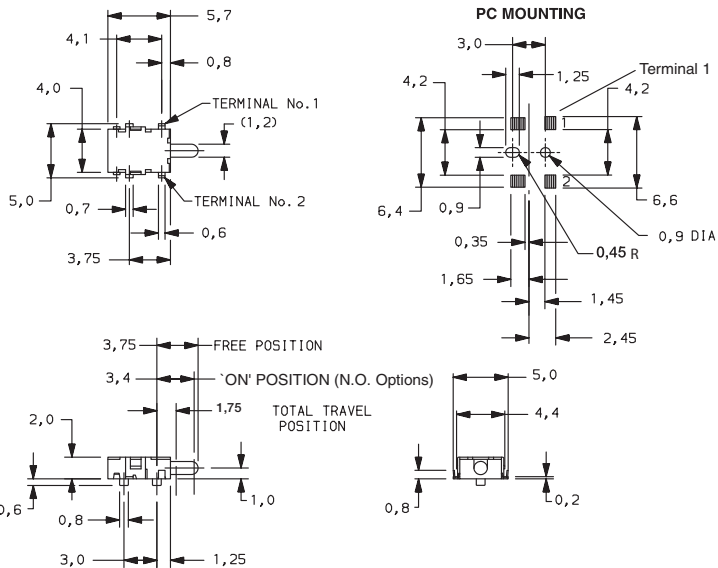
Materials

BASE: Glass filled LCP (UL 94V-0).
 ACTUATOR: Glass Filled Polyamide (UL94V-0).
 SURFACE PLATE: Nickel silver w/silver plate.
 MOVABLE CONTACT: Phosphor bronze, see table for plating.
 TERMINALS: Phosphor bronze, see table for plating.

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

Complete part numbers for SDS Series Switches are shown below.

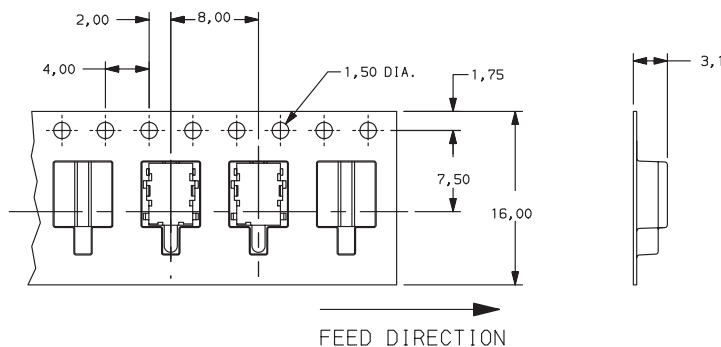


PART NUMBER	HOUSING COLOR	PACKAGING	SCHEMATIC	Contact Plating	Terminal Plating
SDS001	Black	Bulk	N.O. 2 1	Silver Clad	Silver Plate
SDS001R		Tape & Reel			
SDS002	White	Bulk	N.C. 2 1	Silver Clad	Silver Plate
SDS002R		Tape & Reel			
SDS004	Black	Bulk	N.O. 2 1	Gold Flash	Gold Flash
SDS004R		Tape & Reel			
SDS005	White	Bulk	N.C. 2 1	Gold Flash	Gold Flash
SDS005R		Tape & Reel			



SDS001
SPST

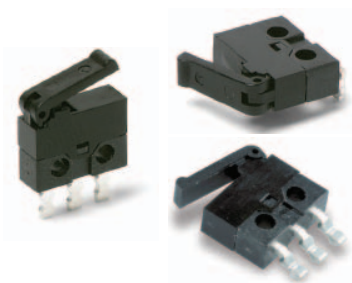
TAPE & REEL



Dimensions are shown: mm
 Specifications and dimensions subject to change



MDS Series Micro Snap-acting Detect Switches



Features/Benefits

- Snap-acting tactile feel
- Small package size
- Available in vertical or right angle PCB mount
- Long total travel of 2,9 mm
- RoHS compliant and compatible

Typical Applications

- Detect the presence of a mechanical device
- Medical devices
- Consumer electronic devices
- ATCA or MicroTCA devices



Specifications

CONTACT RATING: 0.3A @ 6 VDC.
 MECHANICAL & ELECTRICAL LIFE: 10,000 operations.
 CONTACT RESISTANCE: 200 m Ω max.
 OPERATING TEMPERATURE: -25°C to +70°C.
 SOLDERABILITY: According to lead free solder profiles.
 PACKAGING: Available in bulk or tape and reel.
 OPERATING FORCE: 65g Max.
 RELEASE FORCE: 3g Min.

Materials

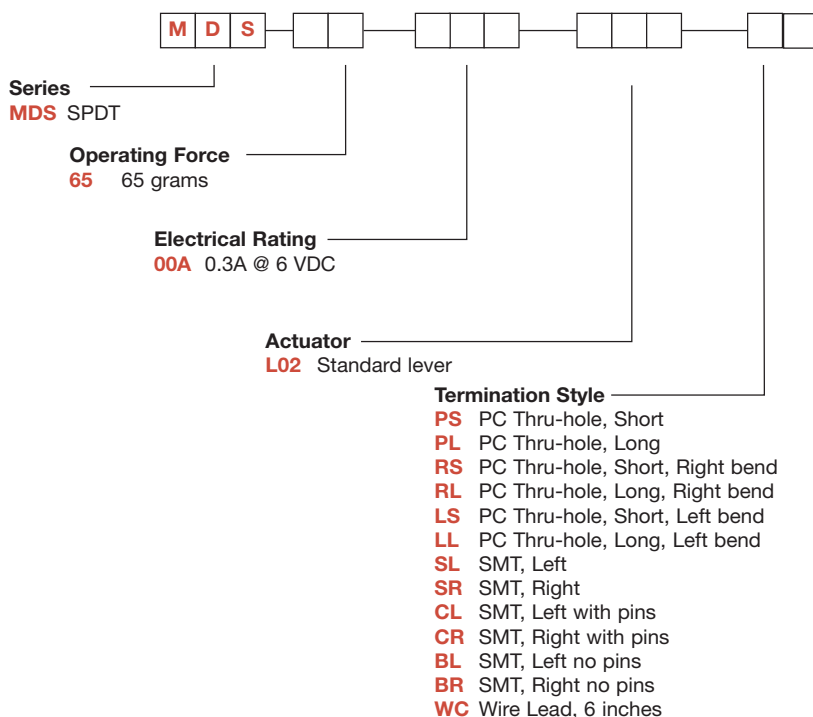
BASE: PA6T
 COVER & ACTUATOR: PA46
 MOVABLE CONTACT: Copper alloy, silver plated.
 STATIONARY CONTACTS: Copper alloy, silver plated.
 TERMINALS: Copper alloy, tin plated.

NOTE: MDS series is RoHS compliant, and compatible. See technical data section of this catalog for RoHS compliant and compatible definitions and specifications.

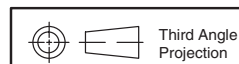
NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages E-14 and E-18. For additional options not shown in catalog, consult Customer Service Center.



Detect

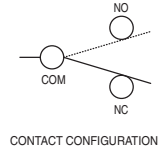
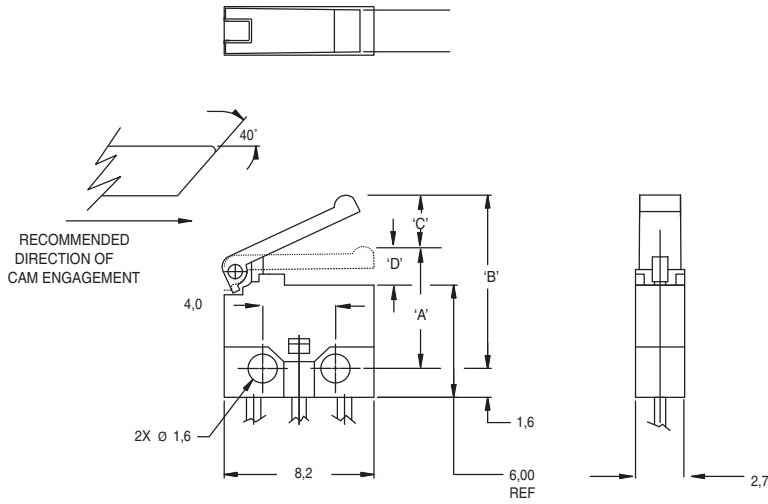


Dimensions are shown: mm
 Specifications and dimensions subject to change



MDS Series Micro Snap-acting Detect Switches

SERIES **MDS**



OPERATING CHARACTERISTICS		
OPERATING POSITION	DIM 'A'	7,0+0,4/-0,5
FREE POSITION	DIM 'B'	9,6 MAX
PRETRAVEL	DIM 'C'	2,5 MAX
OVER TRAVEL	DIM 'D'	0,15 MIN
CONTACT RATING		0.3A 6V DC
OPERATING FORCE		65 gf MAX.

OPERATING FORCE

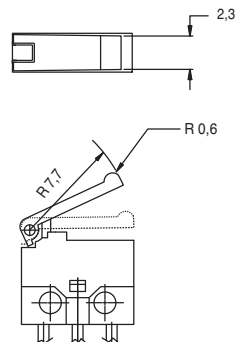
OPTION CODE	OPERATING FORCE
65	65 grams max.

ELECTRICAL RATING

OPTION CODE	ELECTRICAL RATING
00A	0.3A @ 6 V DC

ACTUATOR

L02 STANDARD LEVER



Dimensions are shown: mm
Specifications and dimensions subject to change

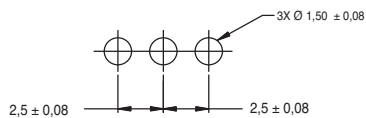


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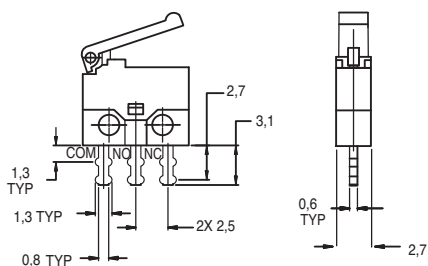
MDS Series Micro Snap-acting Detect Switches

TERMINATIONS

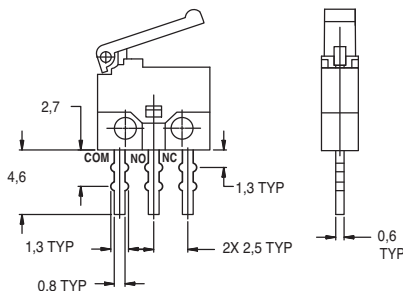
PCB Mounting Pattern



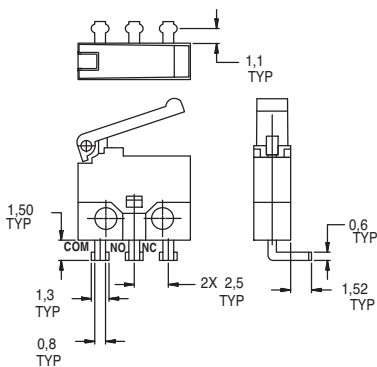
PS PC THRU-HOLE, SHORT STRAIGHT



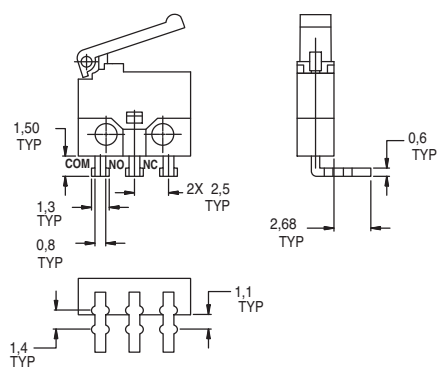
PL PC THRU-HOLE, LONG STRAIGHT



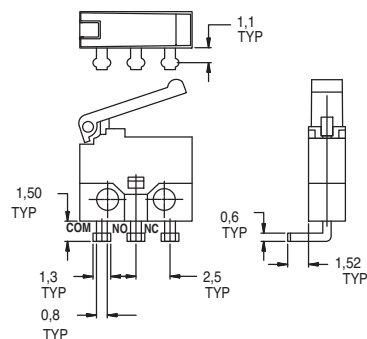
RS PC THRU-HOLE, SHORT RIGHT BEND



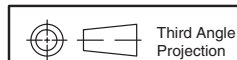
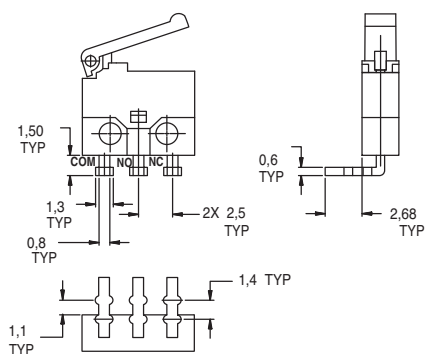
RL PC THRU-HOLE, LONG SHORT BEND



LS PC THRU-HOLE, SHORT LEFT BEND



LL PC THRU-HOLE, LONG LEFT BEND



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

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Detect

MDS Series Micro Snap-acting Detect Switches

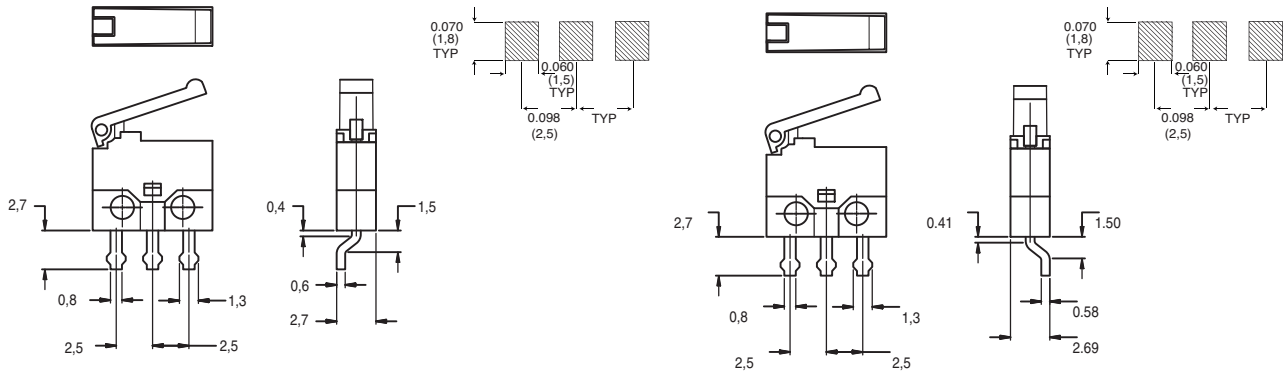
TERMINATIONS

SL SMT, LEFT MOUNT

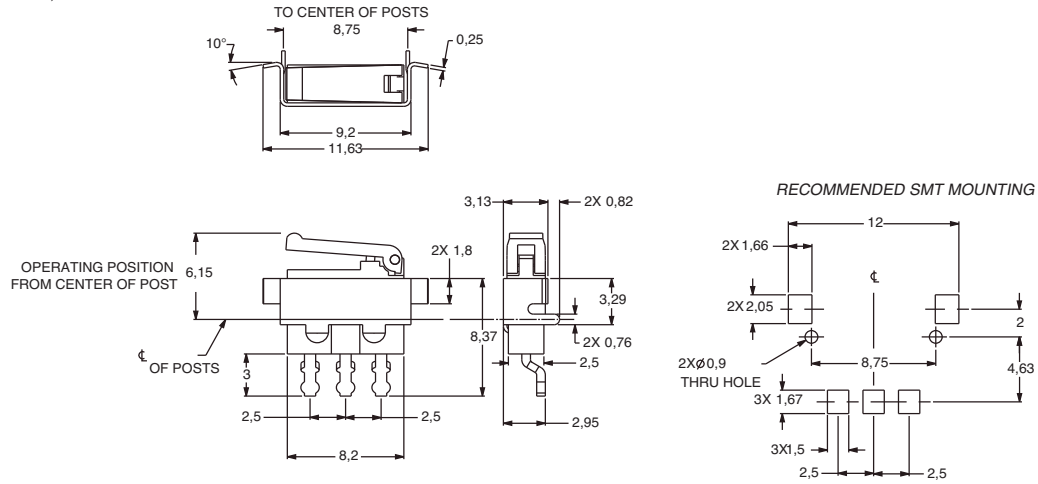
SMT Mounting Pattern

SR SMT, RIGHT MOUNT

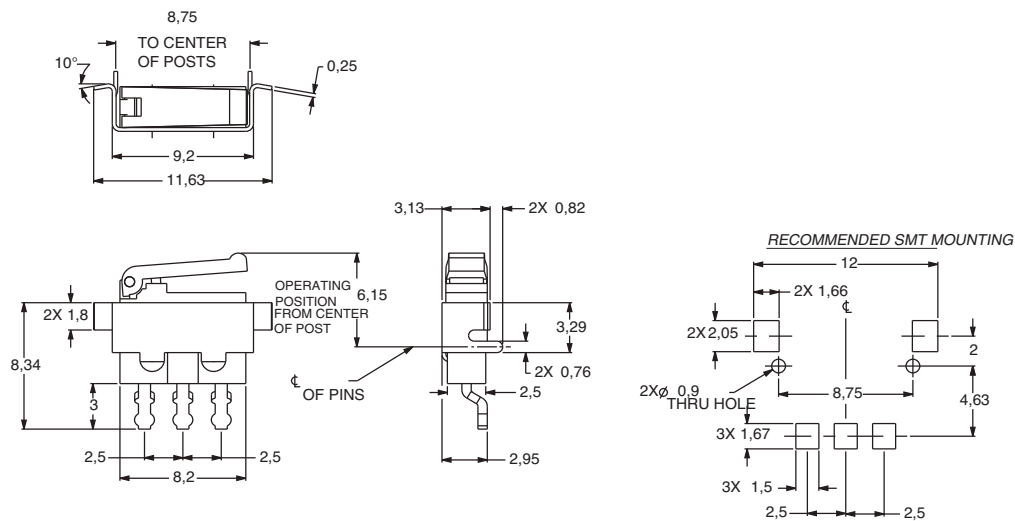
SMT Mounting Pattern



CL SMT, LEFT MOUNT WITH PINS



CR SMT, RIGHT MOUNT WITH PINS



Third Angle Projection

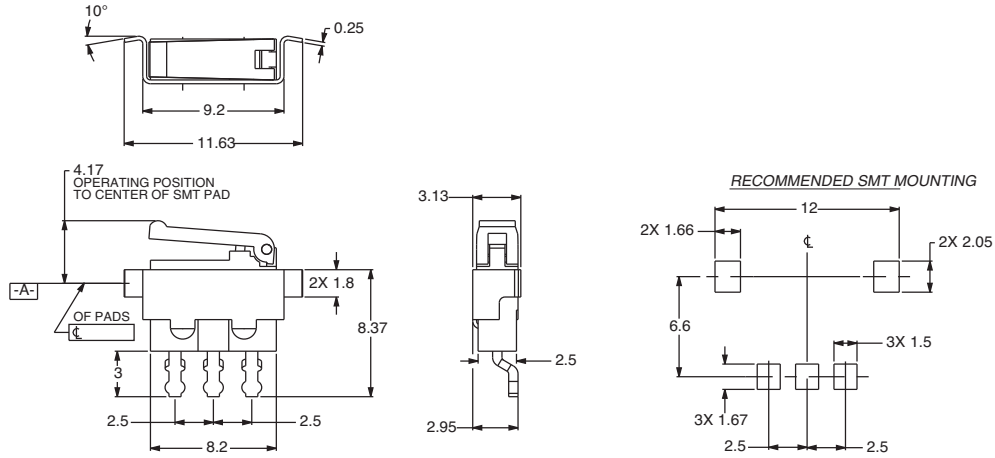
Dimensions are shown: mm
Specifications and dimensions subject to change



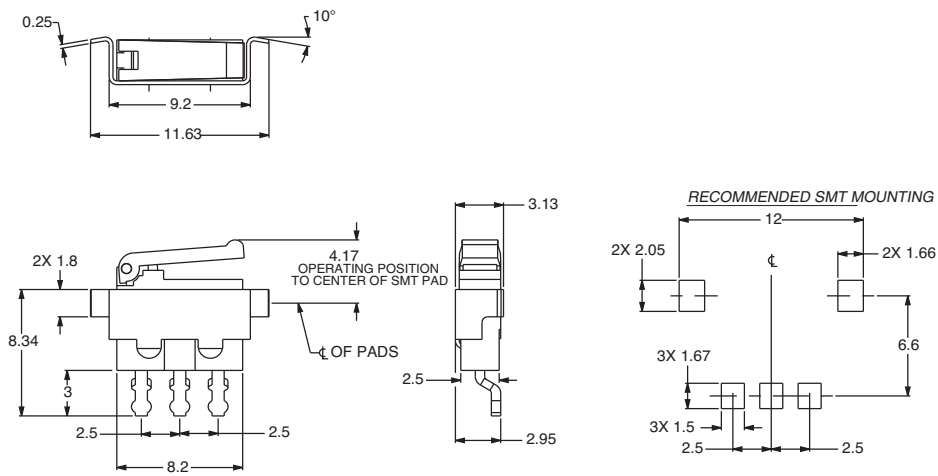
MDS Series Micro Snap-acting Detect Switches

TERMINATIONS

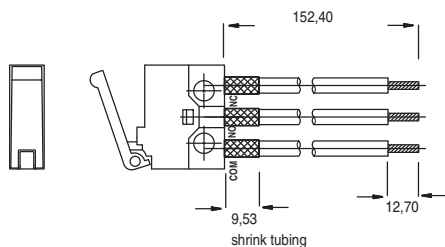
BL SMT, LEFT NO PINS



BR SMT, RIGHT NO PINS



WC WIRE LEADS, 6 INCHES



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

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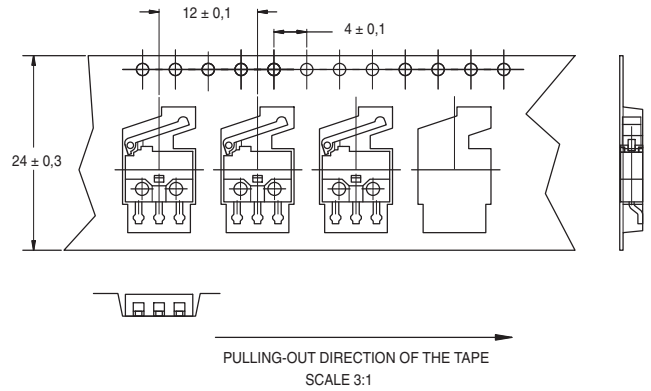
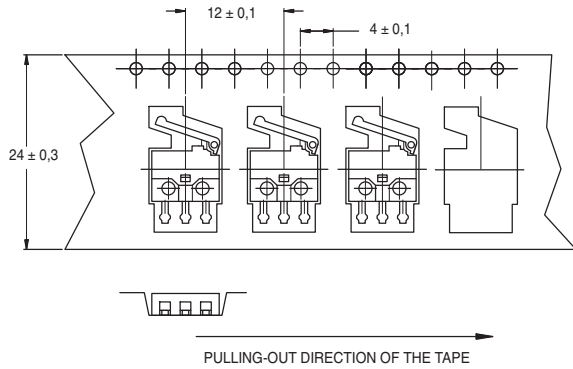
Detect

MDS Series Micro Snap-acting Detect Switches

TAPE & REEL

SL SMT, LEFT MOUNT

SR SMT, RIGHT MOUNT

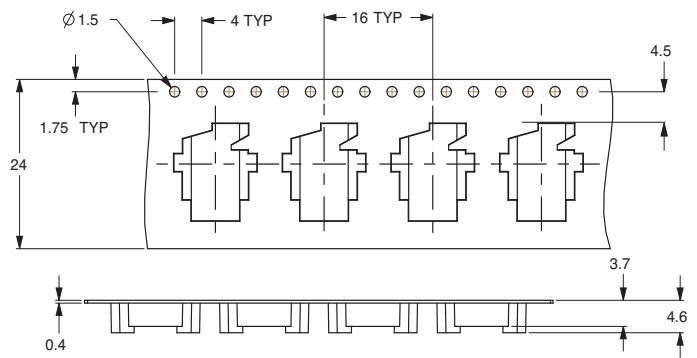
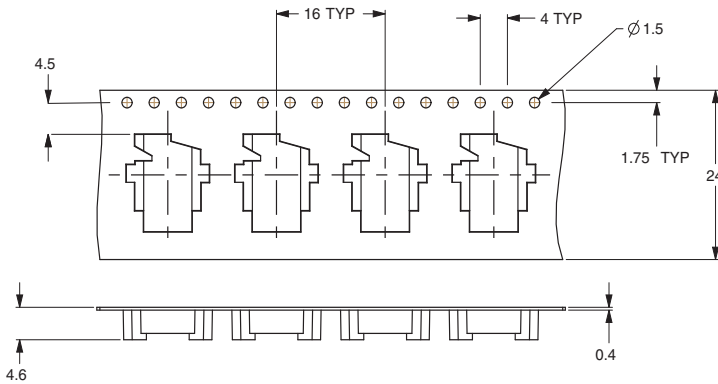


CL SMT, LEFT MOUNT

CR SMT, RIGHT MOUNT

BL SMT, LEFT MOUNT

BR SMT, RIGHT MOUNT

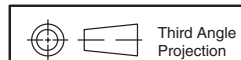


E

Supplied in carrier tape meeting the EIA-481-2 standard for 24mm tape.

Packaging quantity: SL and SR; 1,600 pieces per reel.
CL, CR, BL and BR; 1,000 pieces per reel.

Detect



Third Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



KSU Series

Micro Mini Surface Mount Detect Switches



Features/Benefits

- **New multi contact construction**
- **Metal actuator**
- **Low actuating force**
- **Gold contacts**
- **Compatible with pick and place machines**
- **RoHS compliant and compatible**

Typical Applications

- **Mobile phones and other handheld devices**
- **Portable medical devices**
- **Audio devices**
- **Automotive**
- **Alarm devices**
- **Payment terminals**

Specifications

FUNCTION: Momentary action.
 CONTACT TYPE: SPST Normally open.
 TERMINALS: Gullwing type for SMT.

Mechanical

ACTUATING FORCE:
 W version: 1,1 N \pm 0,8 N
 ST version: 0,7 N \pm 0,5 N

TRAVEL TO MAKE:
 W version: 0,65 mm - 0,45/+0,25 mm
 ST version: 0,45 mm - 0,25/+0,1 mm

MAXIMUM FORCE AT MAXIMUM TRAVEL: 1,8 N
 OPERATING LIFE: 100,000 cycles

Packaging

Switches are delivered on continuous tape, in reels of 1,000 pieces

Electrical

MAXIMUM POWER: 0.2 VA
 MAXIMUM VOLTAGE: 32 VDC
 MINIMUM VOLTAGE: 20 mV
 MAXIMUM CURRENT: 0.01 A
 MINIMUM CURRENT: 0.01 mA
 CONTACT RESISTANCE: \leq 100 m Ω
 INSULATION RESISTANCE: (100 VDC) $10^9 \Omega$
 DIELECTRIC STRENGTH: \geq 250 Vrms
 BOUNCE TIME: \leq 3 ms

Environmental

OPERATING TEMPERATURE: -40°C to +125°C
 STORAGE TEMPERATURE: -55°C to +125°C

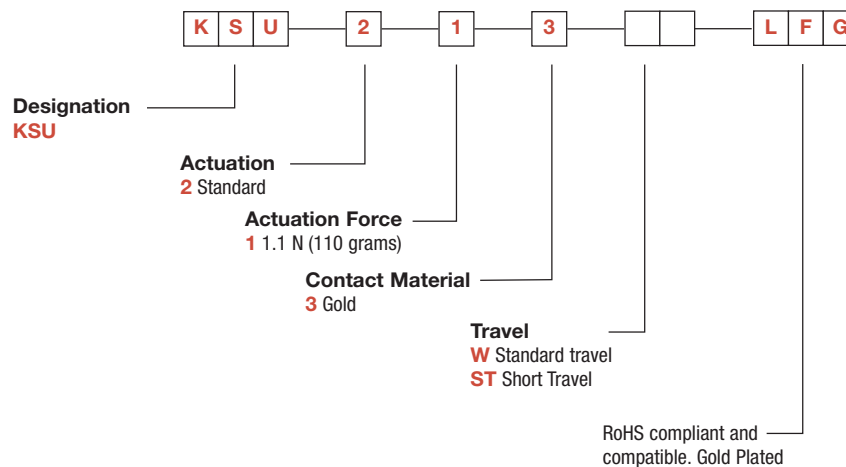
Process

SOLDERING: Compatible with lead free reflow process

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

Build-A-Switch

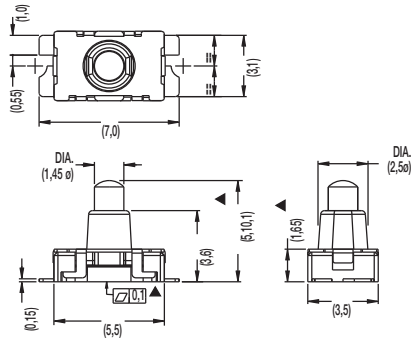
To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on page E-20. For additional options not shown in catalog, consult our Customer Service Center.



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

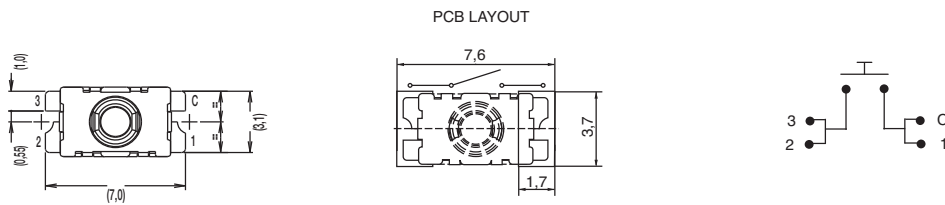
KSU Series Micro Mini Surface Mount Detect Switches

KSU

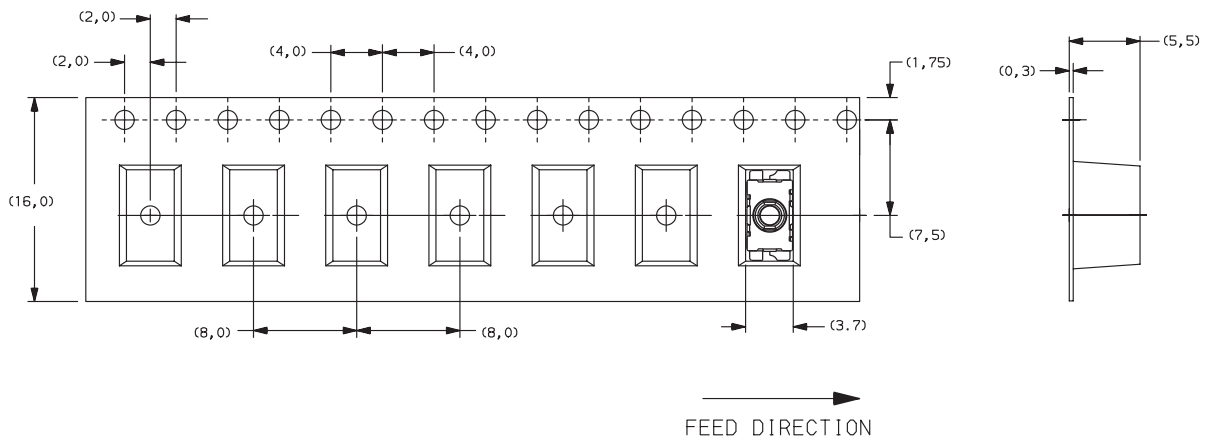


KSU213W
SPST

W GULLWING



TAPE & REEL



Detect



First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



KSR2D Series Subminiature Detect Switch for SMT

Features/Benefits

- Saves PCB space
- G terminations
- Soft actuator
- RoHS compliant and compatible

Typical Applications

- Automotive
- Cellular phones & accessories
- Industrial electronics
- Computers & network equipment



Specification

FUNCTION: momentary action
CONTACT ARRANGEMENT: N.O.
TERMINALS: Gullwing type for SMT

Mechanical

Type	Operating force Newtons (grams)	Operating life (operations)	Travel
KSR2D3MGLFG	1,5 ± 0,5N	100,000	0,3 ± 0,15

Packaging

Switches are delivered on continuous tape, in reels of 2,500 pieces.

For information on specific and custom switches, consult Customer Service Center.

Electrical

MAXIMUM POWER:	Gold
MAXIMUM VOLTAGE:	0.2 VA
MINIMUM VOLTAGE:	32 VDC
MAXIMUM CURRENT DC:	20 mV
MINIMUM CURRENT DC:	10 mA
CONTACT RESISTANCE:	1 mA
INSULATION RESISTANCE	100 mΩ
BOUNCE TIME:	(100 V): 10°Ω
	1 ms

Environmental

OPERATING TEMPERATURE:	Gold
STORAGE TEMPERATURE:	-40°C to 125°C
	-55°C to 125°C

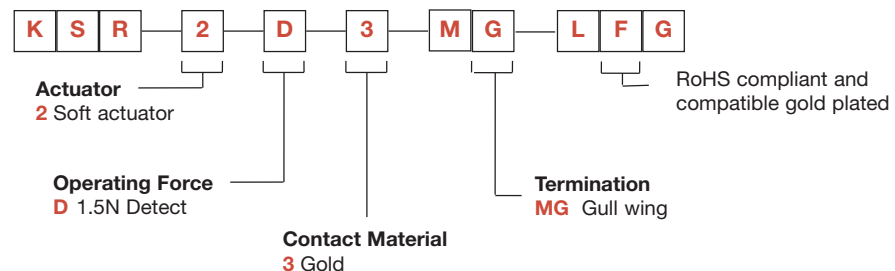
Process

SOLDERING: Compatible with lead free reflow soldering process

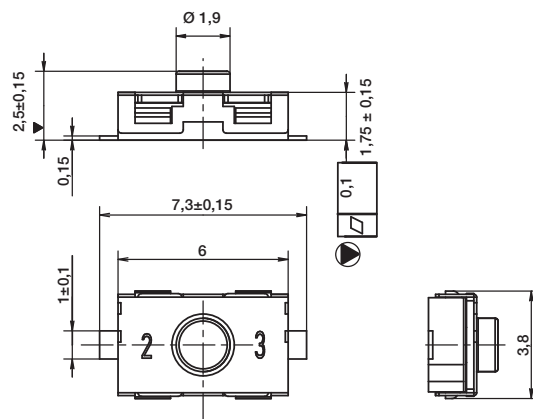
How To Order

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.

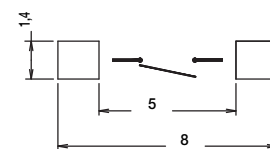
For any part number different from those listed above, please consult your local representative.



KSR2D



PAD LAYOUT NORMALLY OPEN



Dimensions are shown: mm
Specifications and dimensions subject to change



Detect

KSM Series Side Actuated Detect Switches

Features/Benefits

- Low profile – 1,5 mm
- Momentary, normally closed contact
- Thermo-formed tape & reel
- RoHS compliant and compatible

Typical Applications

- Automotive
- Position sensing switch
- Edge card reset switch
- Smart card presence switch detector
- DSL and fiber optic networks



Specifications

FUNCTION: Momentary action

CONTACT TYPE: SPST Normally closed

Mechanical

TRAVEL TO BREAK: $0.3 \text{ mm} \leq T_e \leq 0.70 \text{ mm}$

TOTAL TRAVEL: $1.72 \text{ mm} \leq T_m \leq 2.12 \text{ mm}$

FORCE AT MAXIMUM TRAVEL: $0.99 \text{ N} \leq F_a \leq 1.34 \text{ N}$

OPERATING LIFE: 50,000 cycles

Packaging

Switches are delivered on continuous tape, in reels of 2,000 pieces

Electrical

MAXIMUM POWER:	1.0 VA
MAXIMUM VOLTAGE:	32 VDC
MINIMUM VOLTAGE:	20 mV
MAXIMUM CURRENT DC:	50 mA
MINIMUM CURRENT DC:	1 mA
CONTACT RESISTANCE:	$\leq 900 \text{ m}\Omega$
INSULATION RESISTANCE:	$\geq 10^9 \Omega$
DIELECTRIC STRENGTH:	$\geq 250 \text{ Vrms}$
BOUNCE TIME:	$\leq 3 \text{ ms}$

Environmental

OPERATING TEMPERATURE:	-40°C to +85°C
STORAGE TEMPERATURE:	-55°C to +85°C

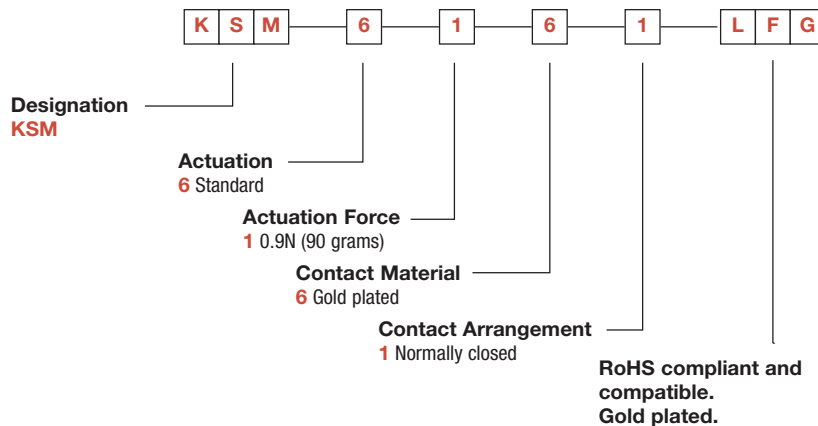
Process

SOLDERING: Compatible with lead free reflow process

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

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on page E-23. For additional options not shown in catalog, consult our Customer Service Center.



Detect



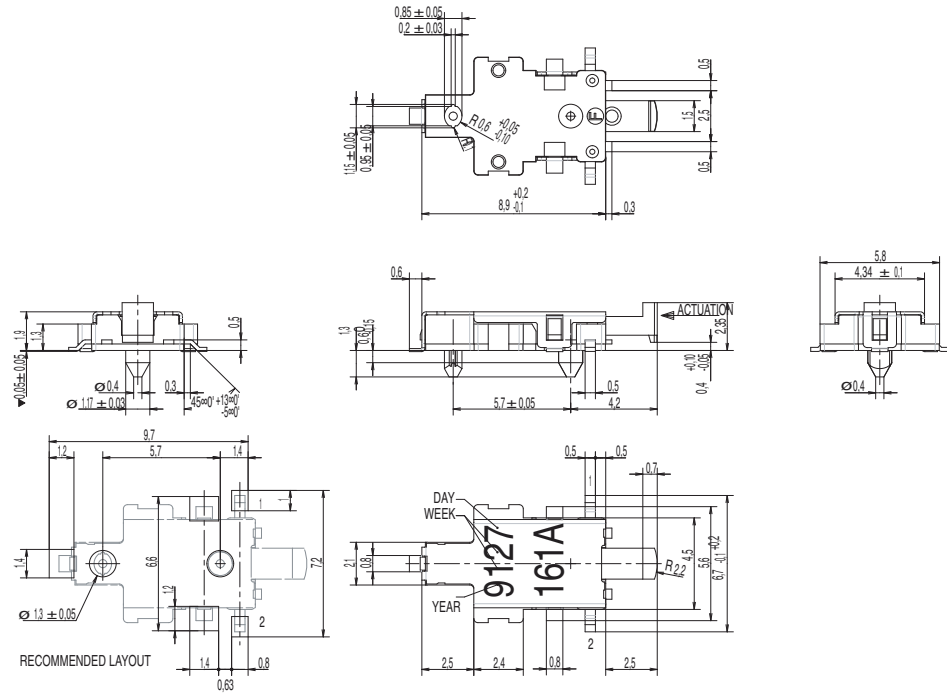
First Angle
Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

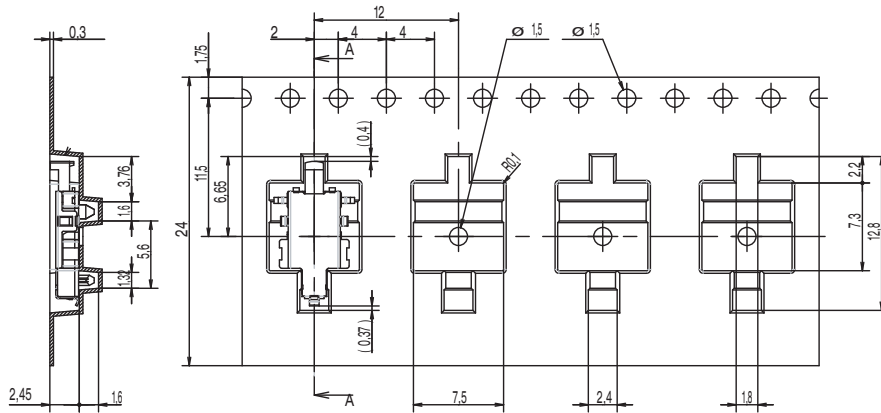


KSM Series Side Actuated Detect Switches

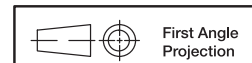
KSM



TAPE & REEL



Detect



Dimensions are shown: mm
Specifications and dimensions subject to change

DDS Series Micro Mini Thru-hole Detect Switches



Features/Benefits

- Vertical or horizontal actuation
- 2mm overtravel—Ideal for detector applications
- Low actuations force (less than 40 grams)
- RoHS compliant and compatible

Typical Applications

- Detect the presence of a mechanical device
- Medical devices
- Consumer electronic devices

Specifications

CONTACT RATING: 0.1A @ 30 VDC.
 MECHANICAL & ELECTRICAL LIFE: 50,000 cycles.
 CONTACT RESISTANCE: 150 m Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. @ 100 VDC.
 OPERATING TEMPERATURE: -20°C to +70°C.
 DIELECTRIC STRENGTH: 100 volts AC @ 60 Hz.
 PACKAGING: Bulk.

Materials

HOUSING: P.P.S.
 ACTUATOR: PA66
 MOVABLE CONTACT: Tin bronze, silver plated.

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

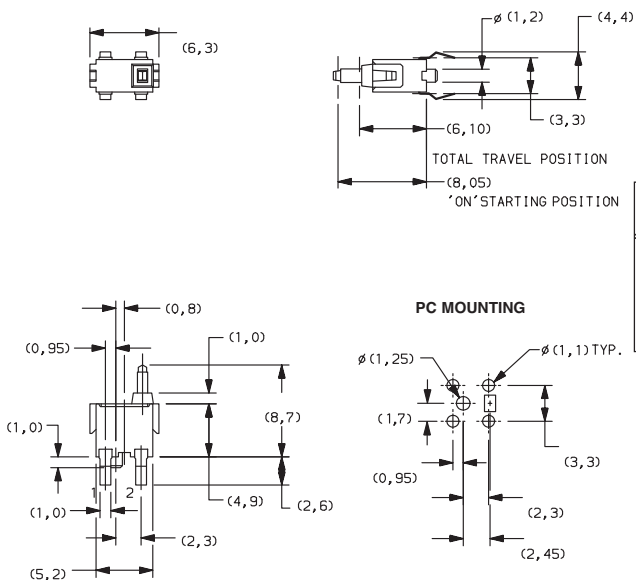
Complete part numbers for DDS Series Switches are shown below.



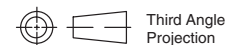
Detect



DDS001
SPST



PART NUMBER	DESCRIPTION	SCHEMATIC
DDS001	Vertical Actuator	 SPST N.O.




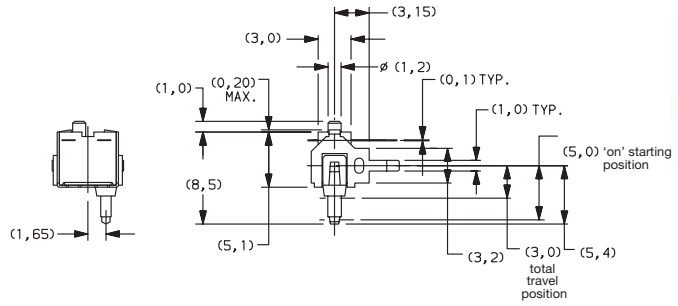
Dimensions are shown: mm
 Specifications and dimensions subject to change



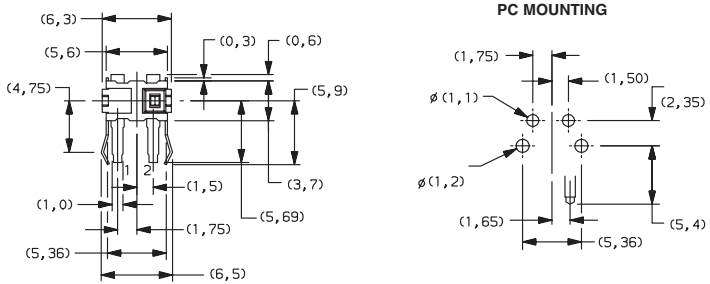
DDS Series Micro Mini Thru-hole Detect Switches




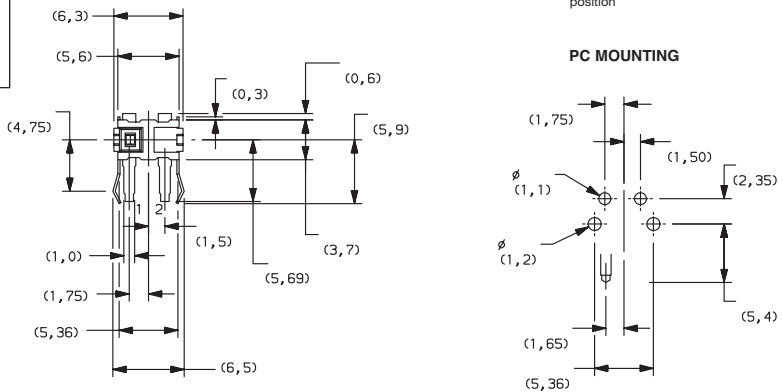
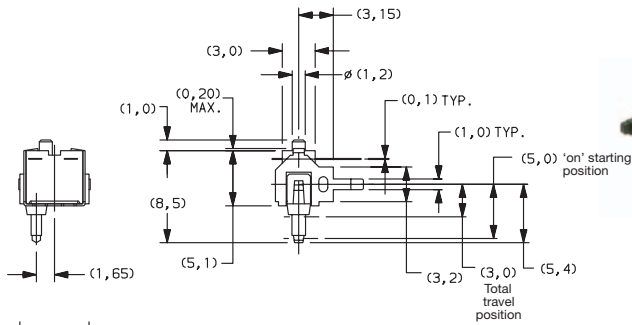
PART NUMBER	DESCRIPTION	SCHEMATIC
DDS002	Right angle, actuator right	 SPST N.O.



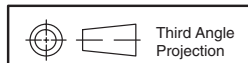
DDS002
SPST



PART NUMBER	DESCRIPTION	SCHEMATIC
DDS003	Right angle, actuator left	 SPST N.O.



Detect



Dimensions are shown: mm
Specifications and dimensions subject to change



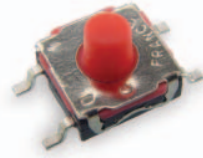
KSC4D Series Sealed Detect Switch for SMT

Features/Benefits

- 6mm Detect
- Soft actuator
- J or G terminations
- Tape & reel
- IP 67
- RoHS compliant and compatible

Typical Applications

- Automotive
- Cellular phones
- Industrial electronics
- Computer infrastructure and IT



Specification

FUNCTION: momentary action
CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.
TERMINALS: J bend & Gullwing type for SMT

Mechanical

Type	Operating force FA ¹ Newtons (grams)	Operating life (operations)	Travel
KSC4D1G	2,0 (200)	500,000	0,60 ± 0,4

¹ Tolerances of operating force FA is ± 1N.

Electrical

MAXIMUM POWER: 1 VA
MAXIMUM VOLTAGE: 32 VDC
MINIMUM VOLTAGE: 20 mV
MAXIMUM CURRENT: 50 mA
MINIMUM CURRENT: 1 mA
DIELECTRIC STRENGTH (50 Hz, 1 min.): 250 V
CONTACT RESISTANCE: < 100 mΩ
INSULATION RESISTANCE (100 V): > 10⁹ Ω
BOUNCE TIME: < 1 ms

NOTE: Part numbers listed above do not represent all possible configurations.
For information on specific and custom switches, consult Customer Service Center.

Electrical

OPERATING TEMPERATURE: -40°C to 85°C
STORAGE TEMPERATURE: -55°C to 85°C

Process

SOLDERING:
- Cleaning according to typical washing processes.
- Infrared Reflow according to free soldering process.

Packaging

Reels of 1,000 pieces. Dimensions of reels according to EIA RS481 or IEC 2863. External diameter 330 mm ± 2 mm.

How To Order

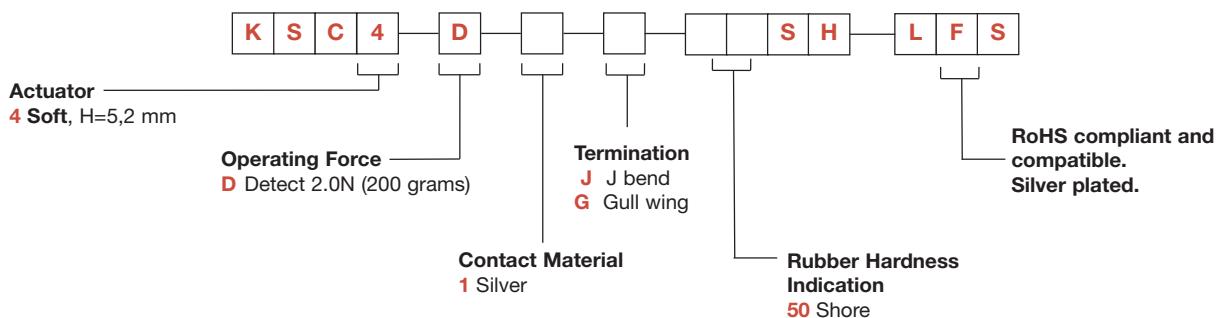
Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.

**However, please note that all the combinations of these options are not feasible.
For any part number different from those listed above, please consult your local representative.**



m

Detect



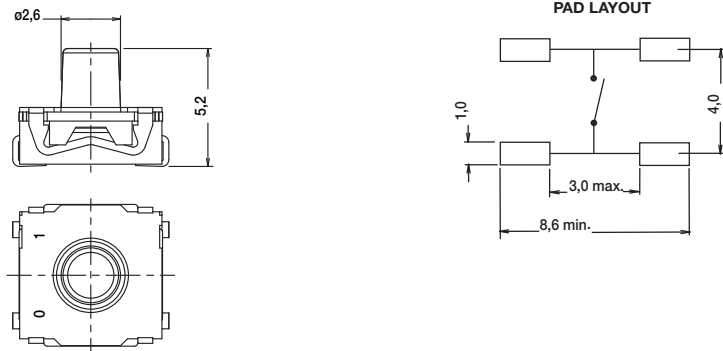
Dimensions are shown: mm

Specifications and dimensions subject to change

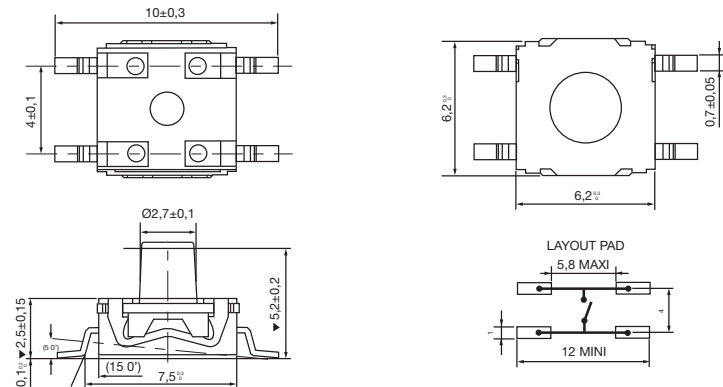


KSC4D Series Sealed Detect Switch for SMT

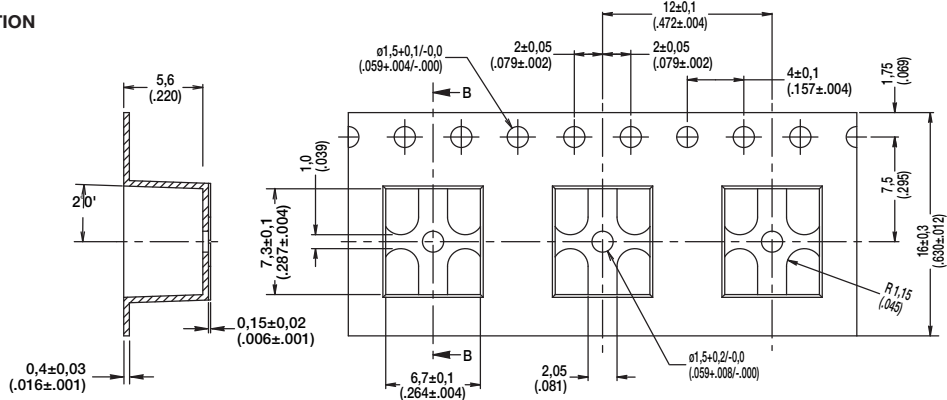
KSC4D1J SOFT, 5,2 mm high



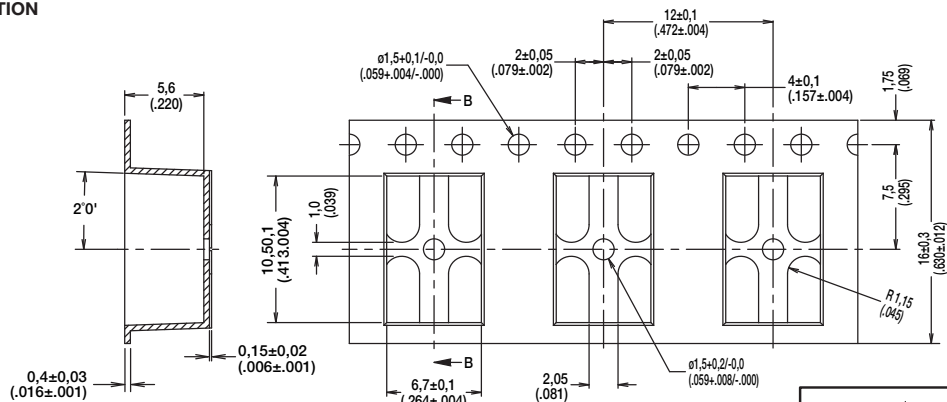
KSC4D1G SOFT, 5,2 mm high



FOR KSC4 FOR J TERMINATION



FOR KSC4 FOR G TERMINATION



Dimensions are shown: mm
Specifications and dimensions subject to change



KSJ Detect Series Spherical Actuator Detect Switches

Features/Benefits

- Straight or vertical detect
- Top or side actuation
- Spherical actuator allows actuation +/- 30°
- High travel
- Adapted for cam actuation

Typical Applications

- Automotive
- Industrial electronics
- Computer infrastructure and IT



Specification

FUNCTION: momentary action

CONTACT ARRANGEMENT: 1 make contact = SPST, N.O.

TERMINALS: PC pins

Mechanical

Type	Operating force FA Newtons (grams)	Operating life (operations)	Travel
KSJ0VD1880SHLFT	6,0 (600)	100,000	0,50 ± 0,25

Electrical

	Silver	Gold
OPERATING TEMPERATURE:	-40°C to 85°C	-40°C to 125°C
STORAGE TEMPERATURE:	-40°C to 85°C	-40°C to 125°C

Process

Wave soldering, compatible with lead free soldering.

Packaging

In boxes of 250 pieces (manual insertion) or tubes of 65 pieces (automatic insertion)

Electrical

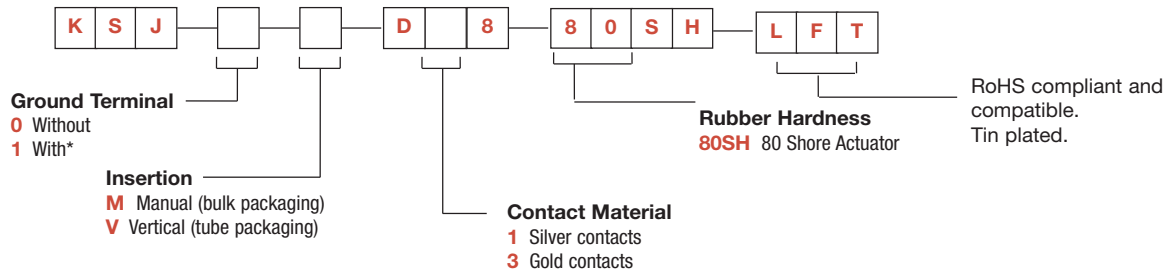
	Silver	Gold
MAXIMUM POWER:	1 VA	0.2 VA
MINIMUM VOLTAGE:	20 mV	20 mV
MAXIMUM VOLTAGE:	32 VDC	32 VDC
MINIMUM CURRENT:	1 mA	1 mA
MAXIMUM CURRENT:	50 mA	50 mA
DIELECTRIC STRENGTH (50 Hz, 1 min.):	250 V	
CONTACT RESISTANCE:	< 100 m ohms	
INSULATION RESISTANCE (100 V):	> 10 ⁹ ohms	
BOUNCE TIME:	< 1 ms	

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.

However, please note that all the combinations of these options are not feasible.

For any part number different from those listed above, please consult your local representative.



*Note: "1" ground terminal option not available with "V" version.
The bracket for the "V" version plays this role.



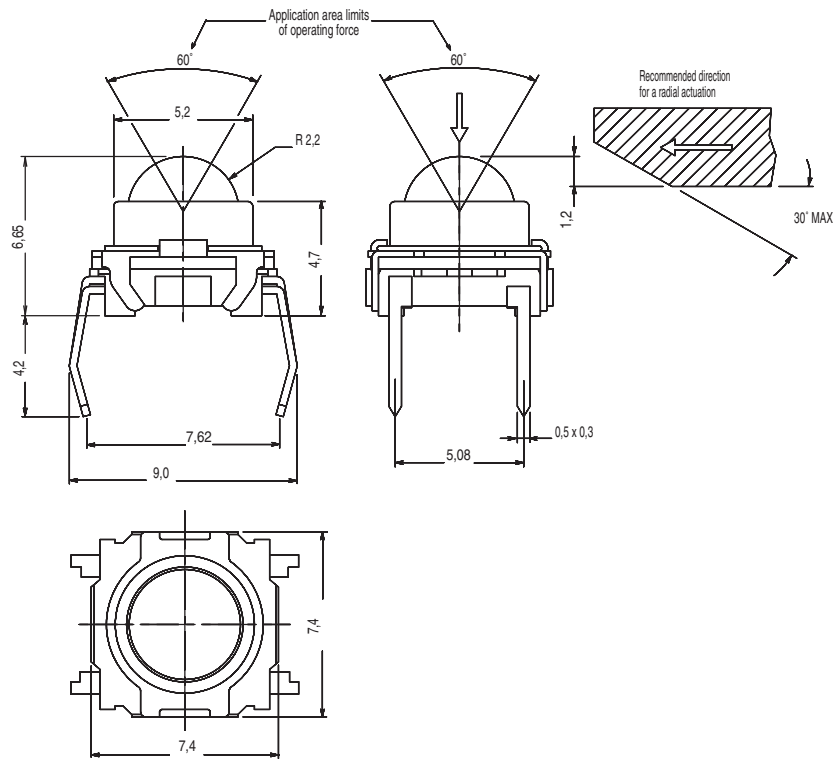
First Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change



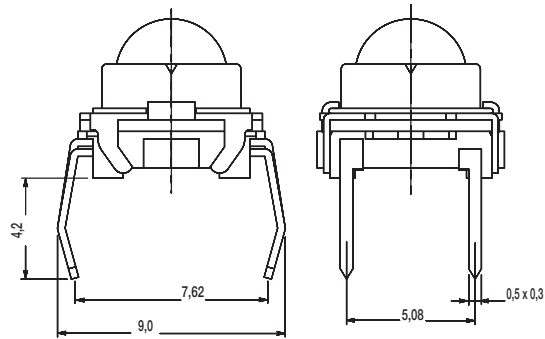
KSJ Detect Series Spherical Actuator Detect Switches

KSJ

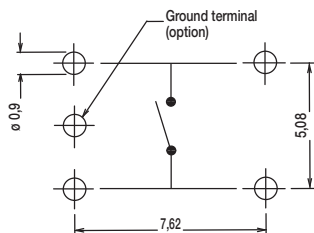
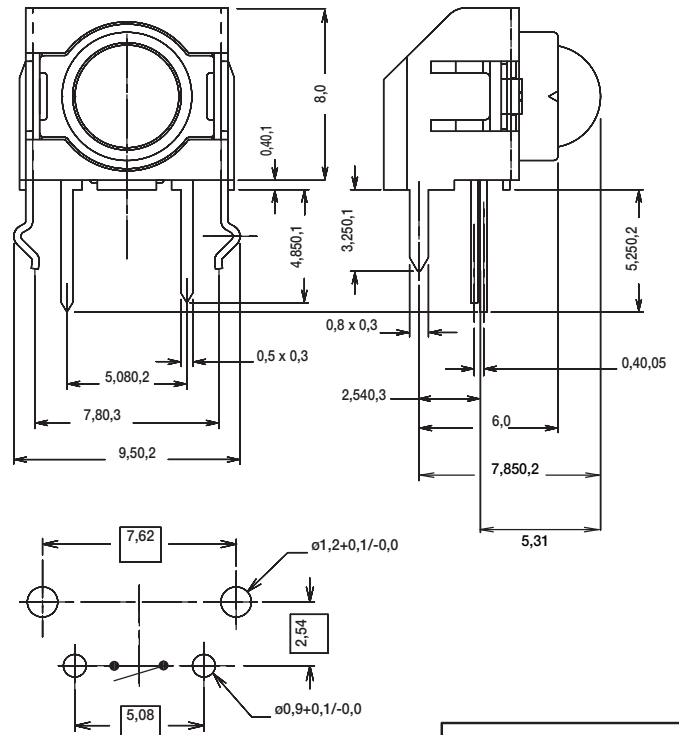


INSERTION

M MANUAL



V VERTICAL



Detect



Dimensions are shown: mm
Specifications and dimensions subject to change

C&K

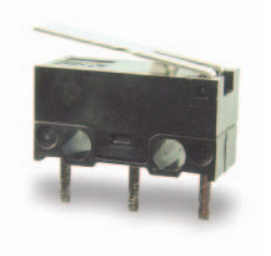
ZMA Series Subminiature Snap-acting Switches

Features/Benefits

- **Reliable snap-acting mechanism**
- **Long electrical and mechanical life**
- **Compact size—Ideal when space is limited**
- **Various PCB terminals and actuators**
- **RoHS compatible**

Typical Applications

- **PCB detection switch**
- **Communication devices**
- **Testing equipment**
- **Security/Alarm systems**
- **Consumer electronics**



Models Available

Specifications

CONTACT RATING: 3A @ 125 V AC / 0.1A @ 30 V DC.
 ELECTRICAL LIFE: 300,000 cycles @ 0.1A / 10,000 cycles @ 3A.
 INSULATION RESISTANCE: 100 M ohm min.
 DIELECTRIC STRENGTH: 500 Vrms.
 OPERATING TEMPERATURE: -40°C to +85°C.
 OPERATING FORCE: 80 or 150 grams.

* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max.
 @ 20 V AC or DC max.

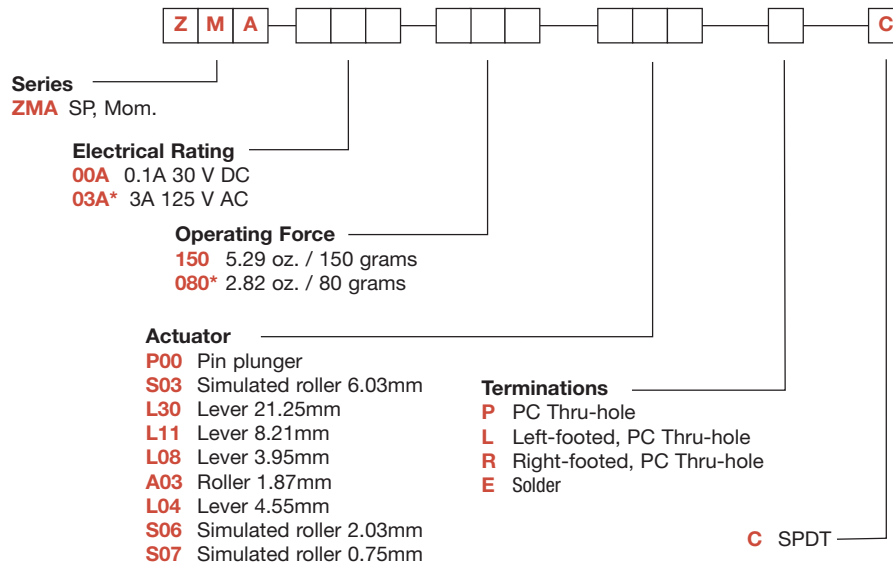
Materials

CASE: PBT
 COVER/ACTUATOR: Nylon 6/6
 MOVABLE CONTACTS: Silver.
 STATIONARY CONTACTS: Silver.
 TERMINALS: Brass, silver plated.

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

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages E-31 thru E-32. For additional options not shown in catalog, consult Customer Service Center.



*Electrical rating 03A is not available with Operating Force rating of 080.



Detect



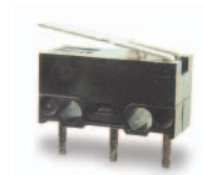
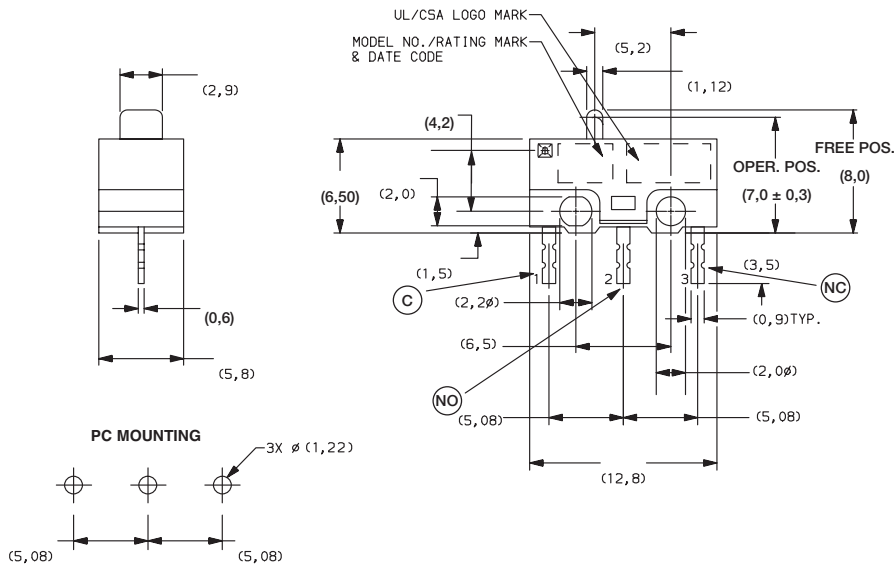
Dimensions are shown: mm
 Specifications and dimensions subject to change



ZMA Series Subminiature Snap-acting Switches

SERIES **MDS**

ZMA SUBMINIATURE SNAP-ACTING SWITCHES – SP MOMENTARY



ZMA03A150L04PC
SPDT

ELECTRICAL RATING

OPTION CODE	CONTACT MATERIAL		ELECTRICAL RATING
	MOVABLE CONTACT	STATIONARY CONTACT	
00A	SILVER PLATED	SILVER PLATED	0.1 AMP @ 30 V DC
03A*	FINE SILVER	FINE SILVER	3 AMPS @ 125 V AC

All models with all options.

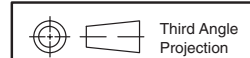
Consult Customer Service center for availability and delivery of nonstandard ratings.

*Electrical rating 03A is not available with Operating Force rating of 080.

OPERATING FORCE

OPTION CODE	BASIC SWITCH OPERATING FORCE (OZ./GRAMS)
150	5.29 150
080*	2.82 80

*Electrical rating 03A is not available with Operating Force rating of 080.



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

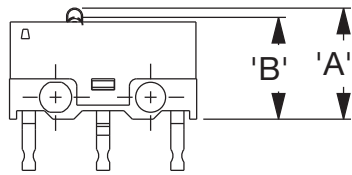


Detect

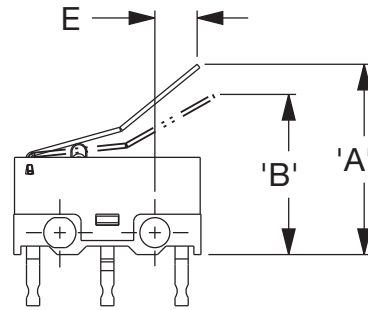
ZMA Series Subminiature Snap-acting Switches

ACTUATOR 

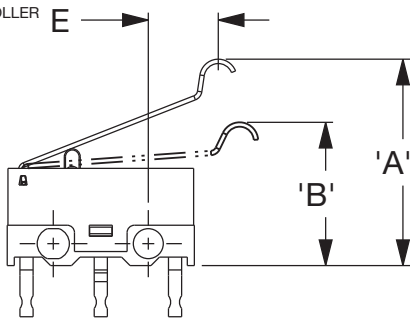
P00 PIN PLUNGER



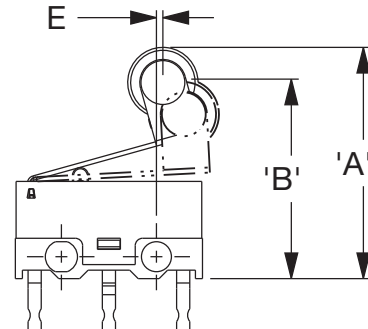
L08 LEVER
3.95MM



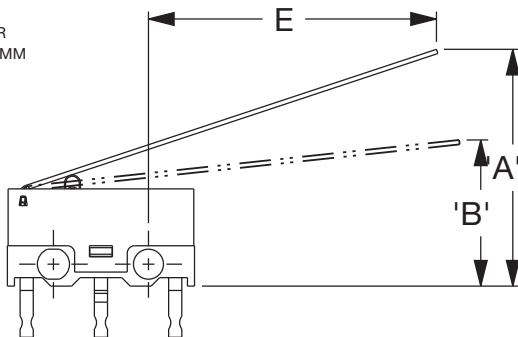
S03 SIMULATED ROLLER
6.03MM



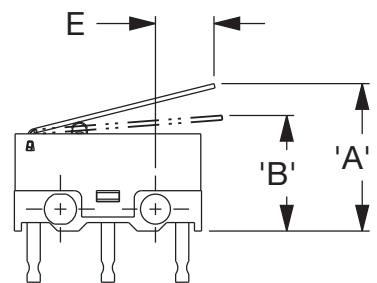
A03 ROLLER
1.87MM



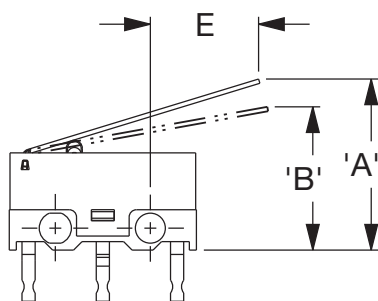
L30 LEVER
21.25MM



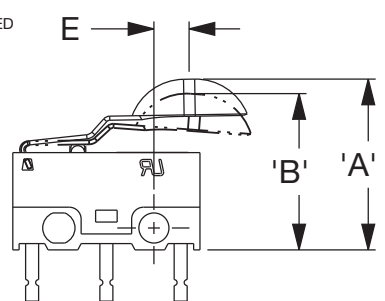
L04 ROLLER
4.55MM



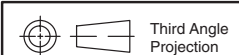
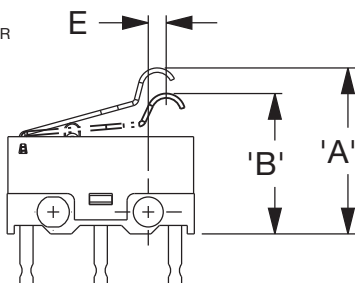
L11 LEVER
8.21MM



S06 SIMULATED ROLLER
2.03MM



S07 SIMULATED ROLLER
0.75MM



Dimensions are shown: mm
Specifications and dimensions subject to change

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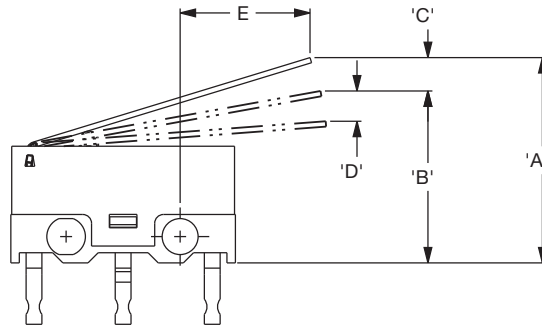
C&K


Detect

ZMA Series Subminiature Snap-acting Switches

SWITCH CHARACTERISTICS

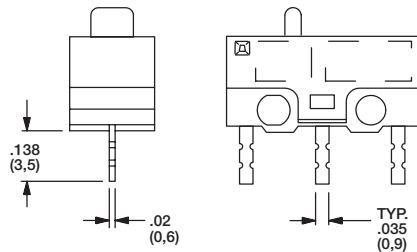
CODE	OPER. FORCE MAX. (GRAMS)		REL. FORCE MIN. (GRAMS)		'A' FP MAX. (MM)	'B' OP MAX. (MM)	'C' PT MAX. (MM)	'D' OT MIN. (MM)	'E' MIN. (MM)
P00	80	150	21	35	8.0	7.0 ±0.3	0.62	0.2	
S03	25	43	5	7	14.2	9.8 ±0.9	3.5	0.7	6.24
L30	13	21	2	3	16.8	10 ±1.9	6.9	1.4	21.25
L11	25	39	4	6	11.7	8.7 ±1	4.4	0.6	8.21
L08	32	48	5	7	12.0	9.25 ±0.8	3.5	0.3	3.95
A03	34	65	6	10	16.6	13.7 ±1	3.9	0.5	1.87
L04	30	50	5	8	11.0	8.4 ±0.8	3.0	0.6	3.9
S06	33	49	5	11	12.43	10.7 ±0.8	1.43	1.25	2.03
S07	40	65	2	5	13.0	9.7 ±1	4.3	0.5	0.75



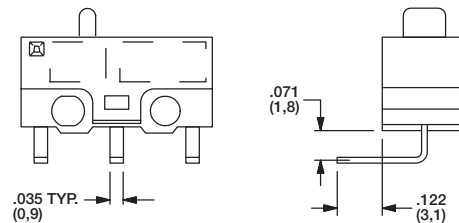
TERMINATIONS



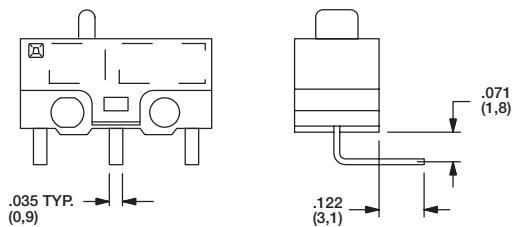
P PC THRU-HOLE



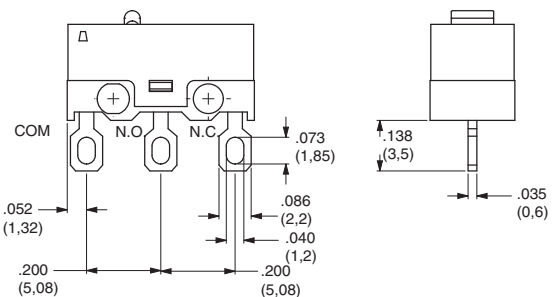
L LEFT FOOTED, PC THRU-HOLE



R RIGHT FOOTED, PC THRU-HOLE



E SOLDER



Dimensions are shown: mm
Specifications and dimensions subject to change



Detect

KDS Series Intrusion Switches



Features/Benefits

- Slot mount into chassis to reduce installation cost
- Wire harness length & connector easily customized
- Available in N.O. or N.C. configuration
- RoHS compliant

Typical Applications

- Intrusion/Alarm switch in network desktop PC
- Intrusion/Alarm switch in telecommunication equipment
- Intrusion/Alarm switch in cellular base station

Specifications

CONTACT RATING: 0.4 VA max. @ 20 V AC or DC.
 MECHANICAL & ELECTRICAL LIFE: 10,000 actuations min. at full load.
 CONTACT RESISTANCE: 200 m Ω max. initial @ 2-4 V DC, 100mA.
 INSULATION RESISTANCE: 10⁹ Ω min.
 OPERATING TEMPERATURE: -40°C to +85°C
 TRAVEL: Pretravel: 0.050 max. Overtravel: 0.375 ±.025"
 DIELECTRIC STRENGTH: 500 Vrms min. @ sea level.
 PACKAGING: Bulk packaging.

Materials

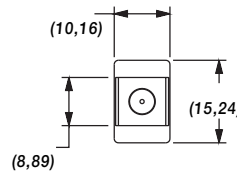
HOUSING: Nylon 6/6 (UL 94V-0)
 ACTUATOR: Nylon 6/6 (UL 94V-0)
 MOVABLE CONTACT: Copper alloy, gold plate over nickel plate.
 FIXED CONTACT: Brass, gold plate over nickel plate.
 WIRE: UL 1061-24 AWG.

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

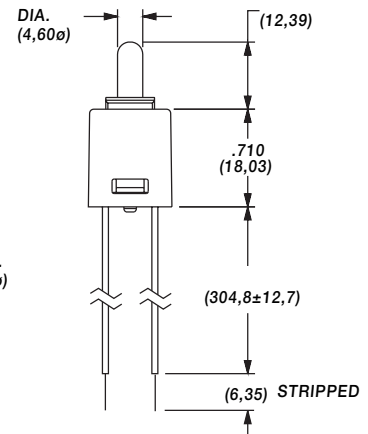
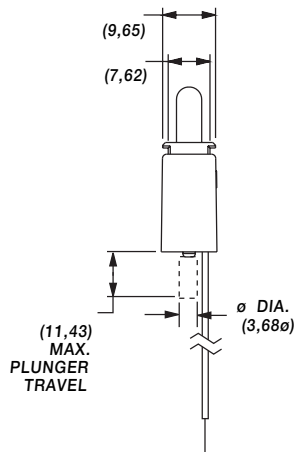
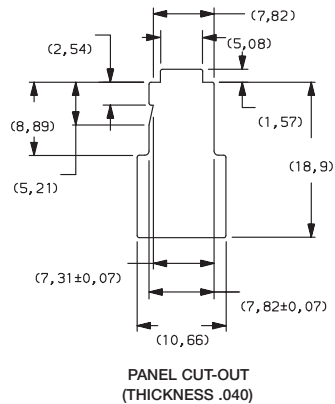
How To Order

Complete part numbers for KDS Series Switches are shown below.

PART NUMBER	SWITCH FUNCTION		SCHEMATIC
	POS. 1	POS. 2	
KDS11	OFF	MOM.	SPST N.O.
KDS33	ON	OFF	SPST N.C.



KDS33



m

Detect



Dimensions are shown: mm
 Specifications and dimensions subject to change

MPS Series Magnetic Proximity Sensors

Features/Benefits

- Long life—4M operations
- Sealed contacts
- Quality construction
- Quick and easy installation

Typical Applications

- Automotive sensors and indicators
- Industrial sensors
- Factory automation equipment



Specifications

CONTACT RATINGS: 3.0 W max. @ 30 V DC or 30 V AC max. @ 0.3 AMP max.; 1.0 msec. max. operate time (including bounce); 1.0 AMP max. carry current.

CONTACT RESISTANCE: 100 m Ω max. initial.

DIELECTRIC STRENGTH: 200 V DC min.

ELECTRICAL CIRCUIT: SPST NO (Contact Form A). Reed switch opens when magnet is removed from proximity. Contacts are held closed when magnet is within actuation range.

OPERATING TEMPERATURE: -40°F to 212°F (-40°C to 100°C).

OPERATING DISTANCE/ALIGNMENT: Operate (pull-in or make) points are nominal values with ± 10% tolerance. Release points are 110% to 150% of the operating points.

MECHANICAL & ELECTRICAL LIFE: 4 million operations.

PACKAGING: Bulk packaging, 10 switch and magnet pairs per package.

Materials

HOUSING/SPACER/COVER: ABS plastic (UL94V-0), white.

REED SWITCH: Rhodium coated reed contacts in hermetically sealed, nitrogen filled glass capsule. Closed when magnet is in close proximity. Used in closed loop circuits.

WIRE LEADS: UL 1061, 22 AWG wire: stranded, made of copper or aluminum; Length: 12 in. with ends stripped; Color: white.

POTTING (around wires): Epoxy.

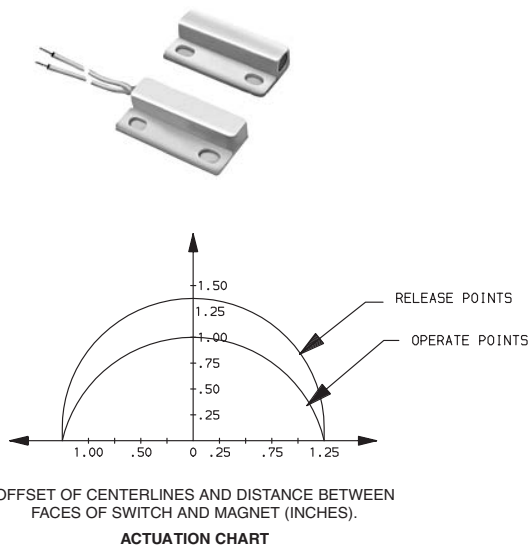
MAGNETS: Alnico V (all models, except MPS80WG) and Ceramic Ferrite 8 (MPS80WG model only).

ADHESIVE MOUNTING: Foam-backed, pressure-sensitive adhesive with release liner (MPS45WGW model only).

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

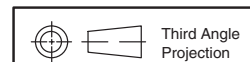
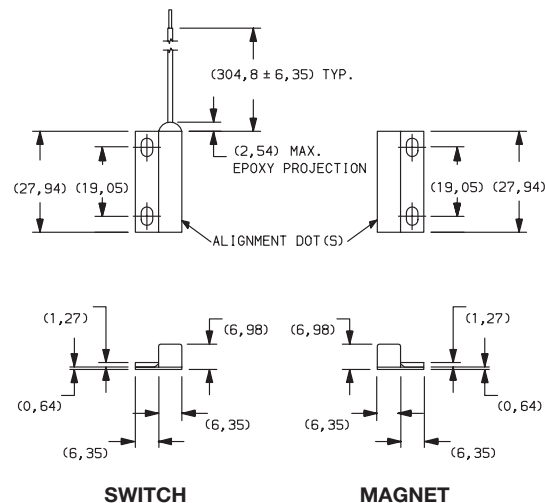
Complete part numbers for MPS Series Magnetic Proximity Sensors are shown on pages E-35 thru E-39.



NOTE: UL 61058-2 Rating

PART NUMBER	SWITCH TYPE
MPS45WGW	Subminiature surface mount (adhesive or flange), side exit leads, 1" make gap.

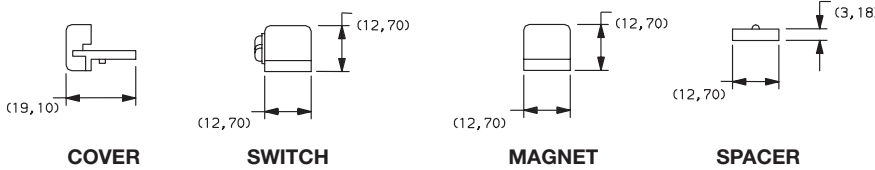
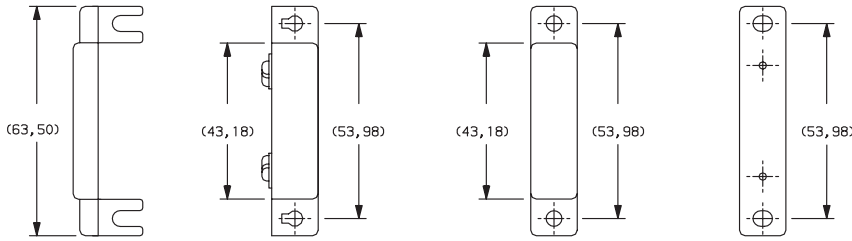
UL 61058-2



Dimensions are shown: mm
Specifications and dimensions subject to change



MPS Series Magnetic Proximity Sensors

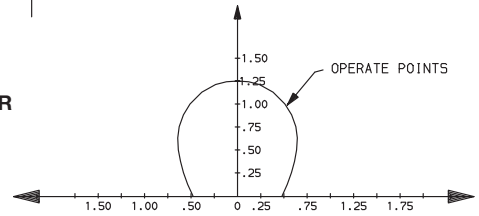


COVER

SWITCH

MAGNET

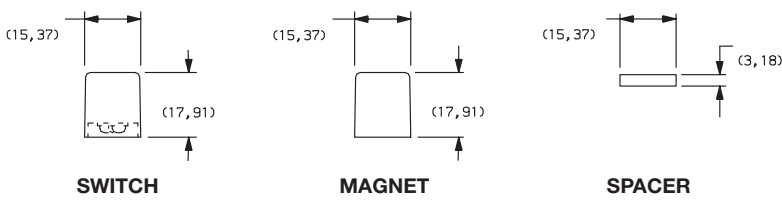
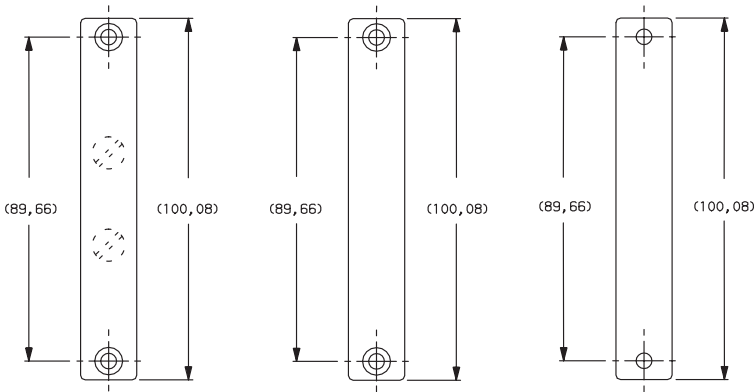
SPACER



OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).

ACTUATION CHART

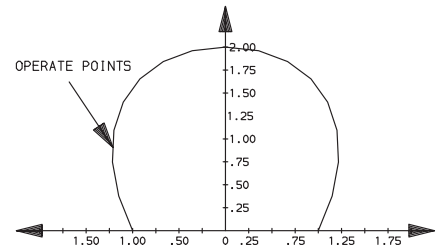
PART NUMBER	SWITCH TYPE
MPS20WGW	Standard surface mount, screw terminals, 1 1/4" make gap.



SWITCH

MAGNET

SPACER



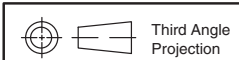
OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).

ACTUATION CHART

PART NUMBER	SWITCH TYPE
MPS80WGW	Industrial surface mount, concealed screw terminals, 2" make gap.



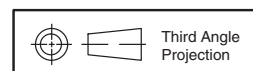
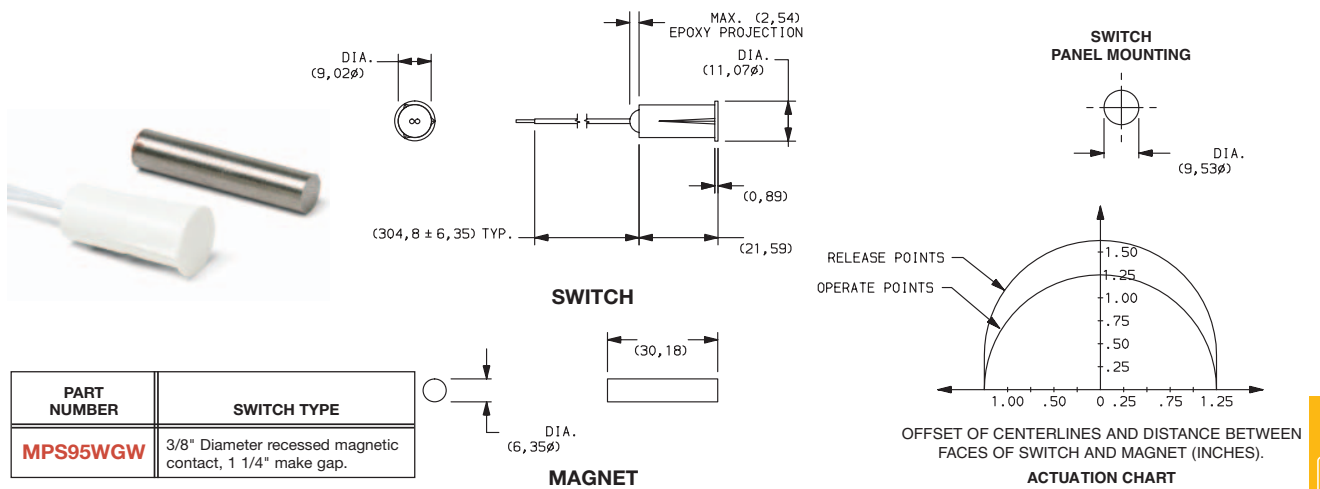
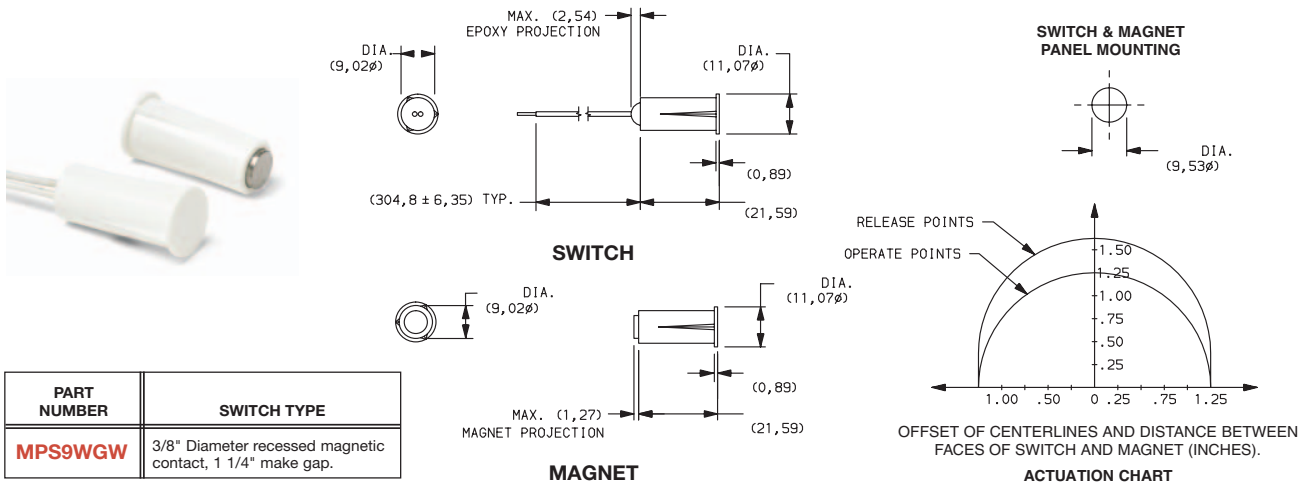
Detect



Dimensions are shown: mm
Specifications and dimensions subject to change



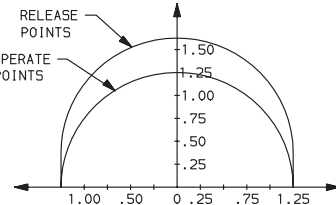
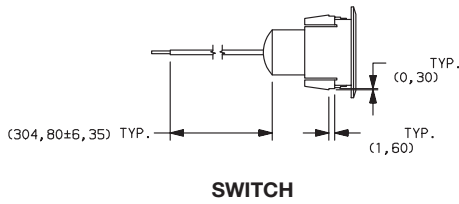
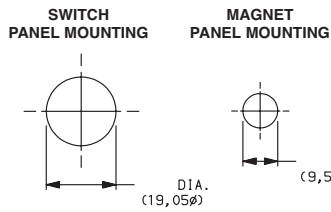
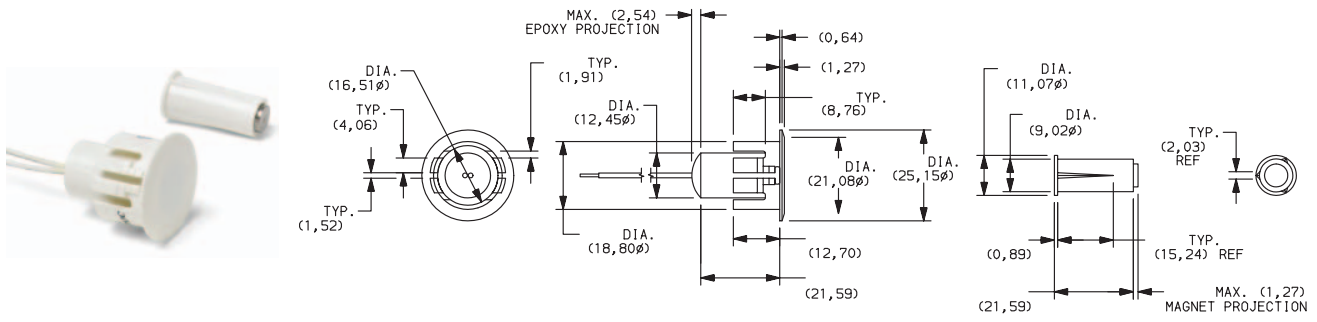
MPS Series Magnetic Proximity Sensors



Dimensions are shown: mm
Specifications and dimensions subject to change

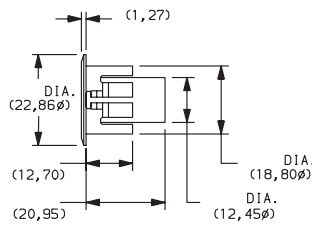
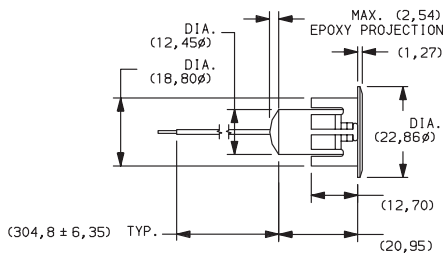
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MPS Series Magnetic Proximity Sensors



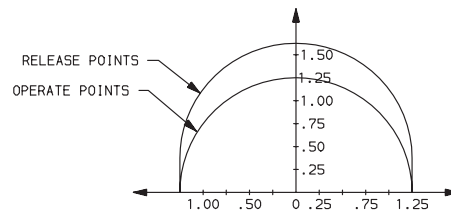
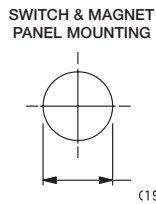
OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).
ACTUATION CHART

PART NUMBER	SWITCH TYPE
MPS73WGW	3/4" Diameter recessed magnetic contact, 1 1/4" make gap.



SWITCH

MAGNET

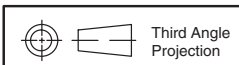


OFFSET OF CENTERLINES AND DISTANCE BETWEEN FACES OF SWITCH AND MAGNET (INCHES).
ACTUATION CHART

PART NUMBER	SWITCH TYPE
MPS70WGW	3/4" Diameter recessed magnetic contact, 1 1/4" make gap.



Detect



Dimensions are shown: mm
 Specifications and dimensions subject to change



MPS Series Magnetic Proximity Sensors

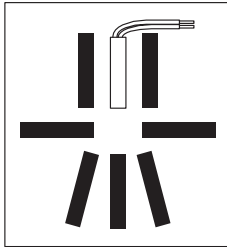
Actuating Positions

When installing recessed and surface mount contacts, magnet position is very important. The switch and magnet must always be parallel or end to end, and never in a 'T' configuration.

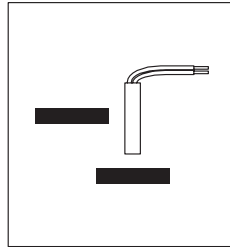
Gap Distance

Gap distance is a combination of the horizontal and vertical plane separation of the switch and magnet. Example: if a recessed magnet is 1/4" off the centerline of the switch, the make gap is reduced by 1/4"

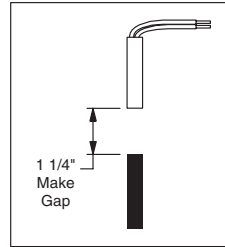
Correct Configuration



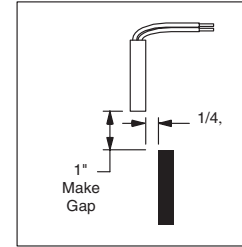
Incorrect Configuration



Center Alignment



Off Center Alignment



RS05 Series Miniature Surface Mount Magnetic Detect Switches

Features/Benefits

- **Low profile package sits just 2,3 mm off PCB**
- **Design allows top or side actuation**
- **Omni-polar**
- **Pick and place compatible**
- **RoHS compliant and compatible**

Typical Applications

- **Consumer electronics**
- **Computers**
- **Medical devices**
- **Servers**
- **Security**
- **Factory automation equipment**



Specifications

FUNCTION: Normally Open
 SWITCHING CURRENT: 0.35A max.
 CARRY CURRENT: 0.5A max.
 SWITCHING VOLTAGE: 100VDC max.
 BREAKDOWN VOLTAGE: 150VDC min.
 CONTACT RATING: 5.0 W or VA.
 MECHANICAL AND ELECTRICAL LIFE: 1,000,000 cycles
 CONTACT RESISTANCE: 200 m Ω max. initial.
 INSULATION RESISTANCE: 100 M Ω min. between adjacent contacts.
 OPERATING TEMPERATURE: -40°C to + 140°C
 STORAGE TEMPERATURE: -40°C to + 140°C
 PACKAGING: Tape & reel, 2,500 per reel
 MAGNETIC DATA:
 Magnetic Orientation to Operate: Omni-polar (operates with either pole of a magnet)
 AT Range: 20-40 Ampere Turns

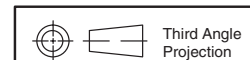
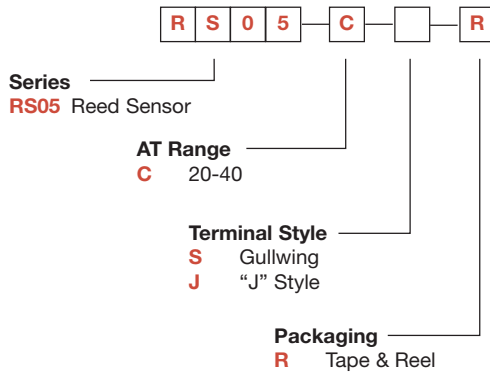
Materials

CONTACT TERMINALS:
 Base Metal: Proprietary Iron Alloy
 Contact Surface: Ruthenium
 External Surface Plating: Matte Tin Plate
 MOLDED EXTERIOR PACKAGING: PA 66 (UL V-0)

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

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on the following pages. For additional options not shown in catalog, consult Customer Service Center.



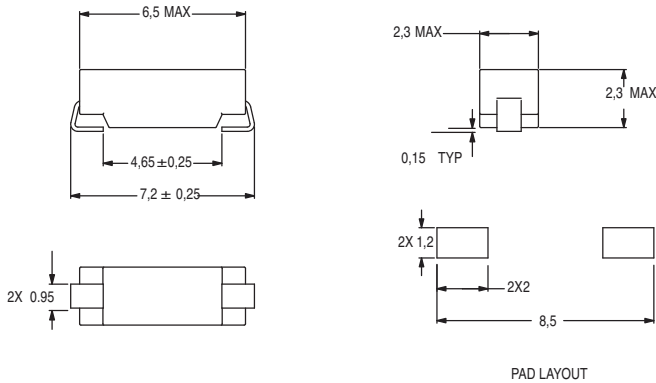
Dimensions are shown: mm

Specifications and dimensions subject to change

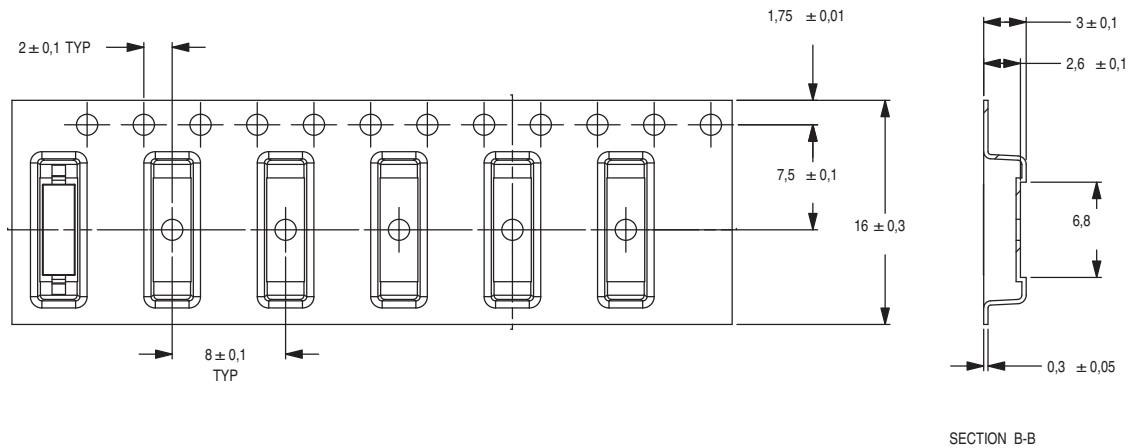
RS05 Series Miniature Surface Mount Magnetic Detect Switches

TERMINAL STYLE

J "J" STYLE

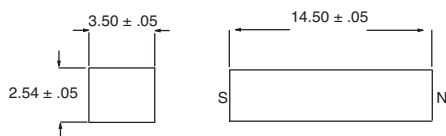


TAPE & REEL

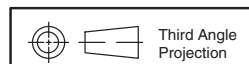


MAGNET

829D00000 MAGNET



MATERIAL: PLATED SINTERED NEODYMIUM MAGNET
PACKAGING: 2,500 PIECES PER BOX



Dimensions are shown: mm
Specifications and dimensions subject to change

www.ck-components.com

C&K



D

Detect

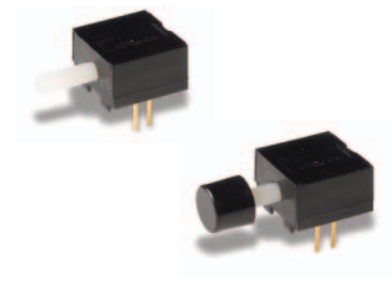
KM Series Subminiature Detect Switches

Features/Benefits

- **Reliable contact design**
- **Available with pretravel and overtravel**
- **RoHS compliant**

Typical Applications

- **Alarm systems**
- **Computers**
- **Detector switch application**



Models Available

Specifications

CONTACT RATING: Q contact material: 0.25 AMPS @ 125 V AC or DC (UL). See page F-39 for additional ratings.

ELECTRICAL LIFE: 10,000 actuations min. at full load.

CONTACT RESISTANCE: Below 30 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: 10⁹Ω min.

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

OPERATING TEMPERATURE: -30°C to 85°C.

CAP INSTALLATION FORCE: 10 lbs. max. permissible.

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

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

Materials

HOUSING & BUSHING: 6/6 nylon (UL94V-2), black.

ACTUATOR: 6/6 nylon (UL 94V-2), natural.

MOVABLE CONTACT: B contact material: Bronze or copper, with gold plate over nickel plate. See page F-39 for additional contact materials.

STATIONARY CONTACTS & TERMINALS: B contact material: Copper, with gold plate over nickel plate. See page F-39 for additional contact materials.

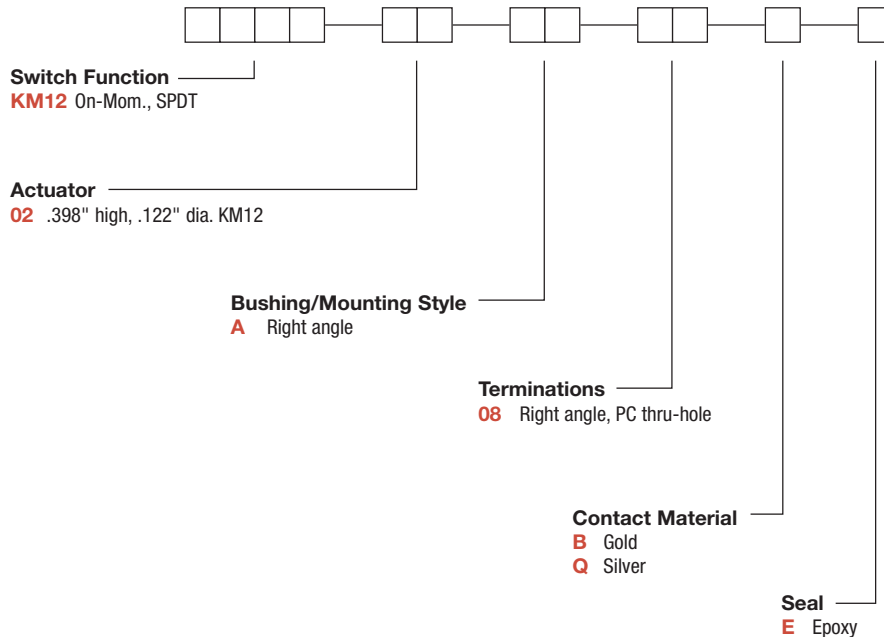
RETURN SPRING: Music wire, phosphor coated.

MOUNTING NUT: Brass, nickel plated.

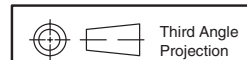
TERMINAL SEAL: Epoxy.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages E-43 and E-44. For additional options not shown in catalog, consult Customer Service Center.



Detect



Dimensions are shown: mm

Specifications and dimensions subject to change



KM Series Subminiature Detect Switches

SWITCH FUNCTION

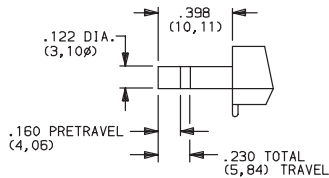


NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS. 1	POS. 2	POS. 1	POS. 2	
SP	KM12	ON	MOM.	2-1	4-3	<p>SPDT</p>
<p>SPDT</p> <p>Part number shown: KM1202A08BE</p>						

ACTUATOR



02 .398" HIGH, .122" DIA.

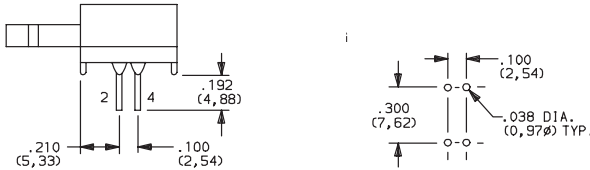


NOTE: Caps available for plunger options, see page E-43.

BUSHING/ MOUNTING STYLE



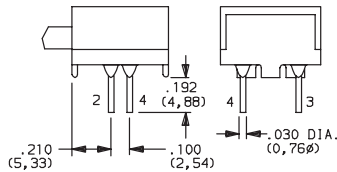
A RIGHT ANGLE



TERMINATIONS



08 RIGHT ANGLE, PC THRU-HOLE



Dimensions are shown: mm
Specifications and dimensions subject to change



Detect

KM Series Subminiature Detect Switches

CONTACT MATERIAL

OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	CONTACT AND TERMINAL MATERIAL	RATINGS	
B	YES	YES	GOLD ¹	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
Q	YES	YES	SILVER ²	POWER	0.25 AMPS @ 125 V AC OR DC (KM11, KM12) (UL) 1 AMP @ 125 V AC OR 28 V DC (KM33).


* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

¹ STATIONARY CONTACTS & TERMINALS: Copper, with gold plate over nickel plate.
MOVABLE CONTACT: Phosphor bronze or beryllium copper, with gold plate over nickel plate.

² STATIONARY CONTACTS & TERMINALS: Copper, silver plated (standard with all termination options).
MOVABLE CONTACT: Phosphor bronze or beryllium copper, silver plated.

³ STATIONARY CONTACTS & TERMINALS: Copper, with gold plate over nickel plate over silver plate.
MOVABLE CONTACT: Phosphor bronze or beryllium copper, with gold plate over nickel plate over silver plate.

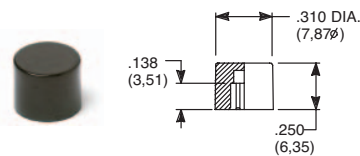
NOTE: Any models supplied with Q or B contact material are RoHS compliant.

KM12 models  when ordered with 'Q' contact material.

SEAL

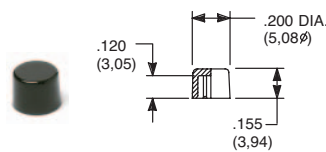
E EPOXY SEAL

AVAILABLE HARDWARE



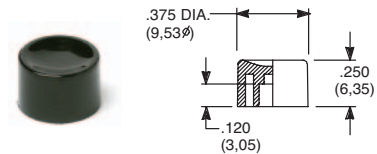
PART NO.
801801000 WHITE
801802000 BLACK
801803000 RED

Material: Nylon
Finish: Gloss



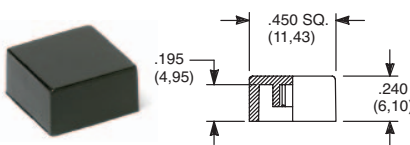
PART NO.
708901000 WHITE
708902000 BLACK
708903000 RED

Material: Nylon
Finish: Gloss



PART NO.
752701000 WHITE
752702000 BLACK
752703000 RED

Material: Nylon
Finish: Gloss



PART NO.
484601000 WHITE
484602000 BLACK
484603000 RED

PART NO.
798201000 WHITE
798202263 BLACK
798203000 RED

Material: Nylon
Finish: Gloss

Material: Nylon
Finish: Matte

NOTE: Other cap colors available, consult Customer Service Center.



E

Detect



Third Angle Projection

Dimensions are shown: mm
Specifications and dimensions subject to change

C&K