

DIP

Product Selection Guide



DIP

DIP										
Series	TDP	TDA	SDA	SD	BD	BPA	SPA	RTE	CD	CRD
Switch Type	Half-pitch .050" Side actuated	Half-pitch .050"	Low Profile	Low Profile	Standard Profile	Side Actuated	Single In-line Package	Rotary & Coded	8 mm Coded Rotary	10 mm Coded Rotary
No. of Positions	2,4,8	2-10 (even only)	2-12 (except 11)	2-12 (except 11)	1-12 (except 11)	2-10 (except 3)	2, 4, 6 8, 10	2, 3, 4 10,16	8, 10 & 16	10 & 16
Contact Style	SPST	SPST	SPST	SPST	SPST	SPST	SPST SP3T SP4T Coded	SPDT	Coded	Coded
Profile off PCB	.161 (4,1)	.090 (2,3)	.189 (4,80) Thru-hole .175 (4,45) SMT	.168 (4,27) Thru-hole .160 (4,06) SMT	.300 (7,62)	.293 (7,44) Thru-hole .274 (6,96) SMT	.168 (4,27)	.169 (4,25) Thru-hole .168 (4,27) SMT	.256 (6,50) Thru-hole .271 (6,88) SMT	.196 (4,98) Vertical .169 (4,29) Rt. angle
Process Sealed	washable with tape	washable with tape seal	washable (tape not required)	washable with tape	washable (tape not required)	washable (tape not required)	washable (tape not required)	washable (tape not required)	washable (tape not required)	washable (tape not required)
Extended Actuator	.		.	.	.	.	.	.	.	.
Flush Actuator	.	.	.	.			.	.	.	.
Thru-hole			.	.	.	.	.	.	.	.
Vertical		.	.	.	.		.	.	.	.
Right Angle	.					.	.	.	.	.
Surface Mount	.	.	.	.		.	.	.	.	.
Tape & Reel (SMT only)		.	.	.		.	.	.	.	.
Maximum Current	100mA	100mA	100mA	100mA	100mA	100mA	0.4VA	100mA	0.4VA	0.4VA
Retention Feature							.	.	.	.
Page No.	I-3	I-6	I-8	I-11	I-14	I-16	I-19	I-21	I-28	I-32

NEW!

TDP Series Ultra-miniature Surface Mount Half-pitch Side-Actuated DIP Switches



DIP

Features/Benefits

- **World's first ultra-miniature SMT half-pitch side-actuated DIP**
- **Side actuation allows visual indication of on/off position in horizontal applications**
- **Process sealed for surface mount soldering and washable processing**
- **RoHS compliant**
- **Lead free**

Typical Applications

- **Hand-held electronic devices**
- **Portable computer and electronic devices**
- **Instrumentation and controls**



How To Order

Complete part numbers for TDP Series are shown below. All switches supplied in "OFF" position.

Specifications

SWITCH FUNCTION: SPST — 2, 4, 6, 8, 10 positions.

CONTACT RATING:

24 V DC, 25 mA (switching).

50 V DC, 100 mA (steady state).

MECHANICAL AND ELECTRICAL LIFE: 1,000 cycles.

CONTACT RESISTANCE: 100 milliohms max.

INSULATION RESISTANCE: 100 megohms @ 100 V DC min.

DIELECTRIC STRENGTH: 300 V AC min.

STORAGE TEMPERATURE: -40°C to 85°C.

OPERATING TEMPERATURE: -20°C to 85°C.

OPERATING FORCE: 4,9N max.

SOLDERABILITY: Per MIL-STD-202F method 208D, or

EIA RS-186E method 9 (1 hour steam aging).

PACKAGING: Switches supplied in rigid dispensing tubes in full tube quantities only, this may affect order quantity. Tape and reel packaging also available.

Materials

CASE & COVER: glass filled PPS (UL94V-0).

ACTUATOR: PA6T (UL94V-0).

CONTACTS: Copper alloy with gold plate over nickel plate.

TERMINALS: Copper alloy, with gold over nickel plate.

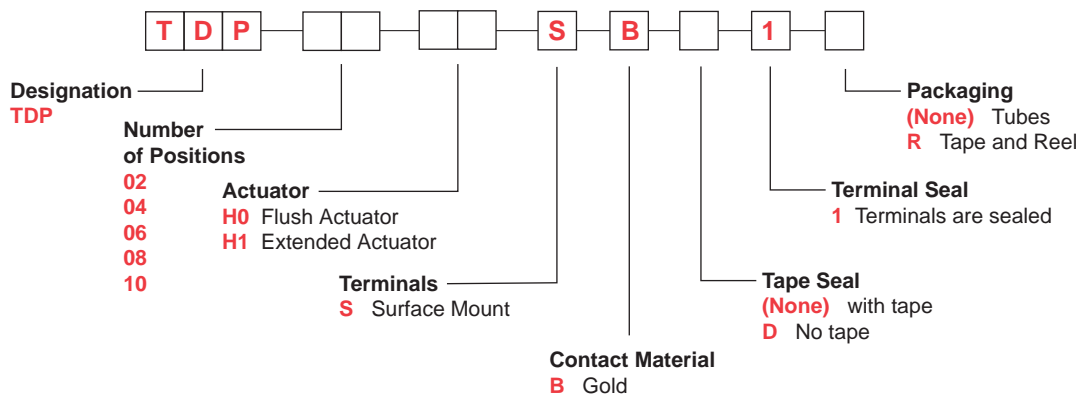
All terminals are insert molded.

TAPE SEAL: Polyimide.

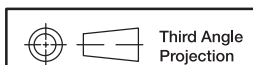
Note: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



Note: Tape seal is not available with H1 Extended Actuators.

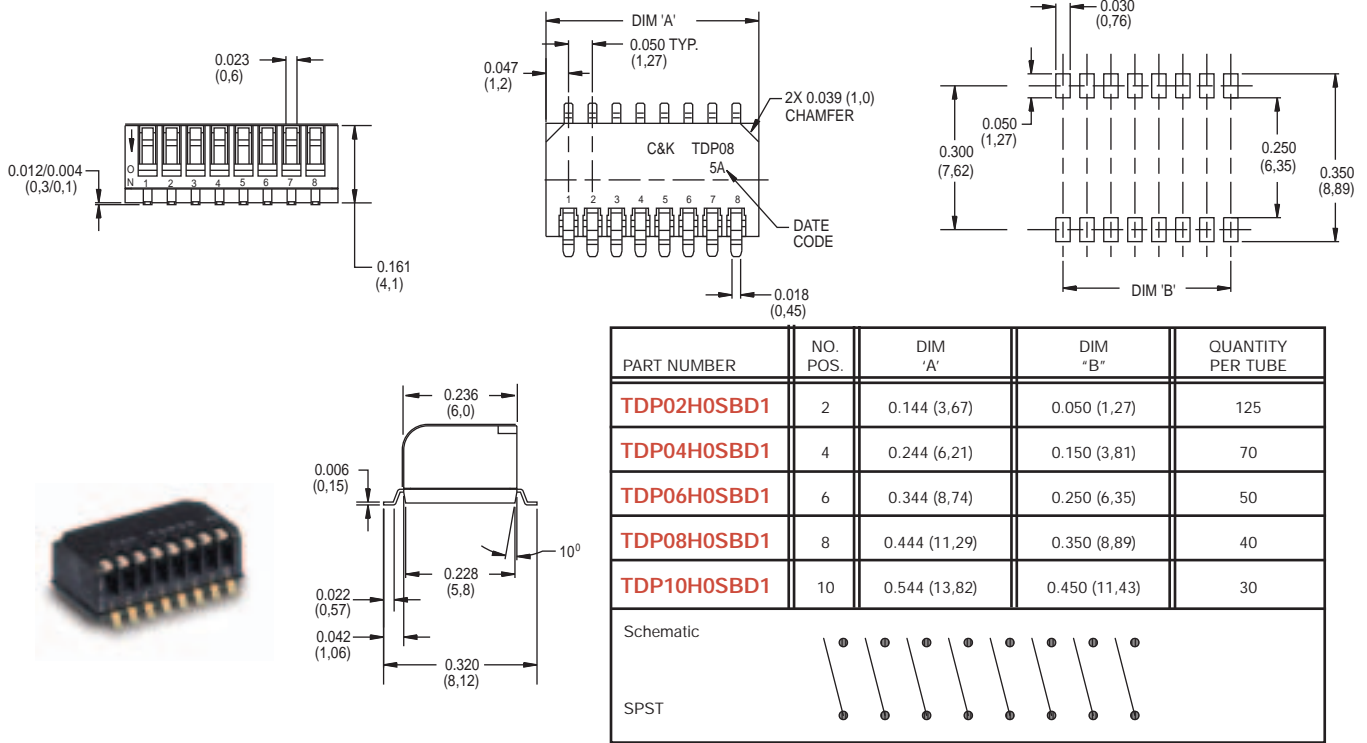


Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

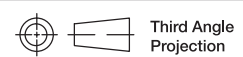
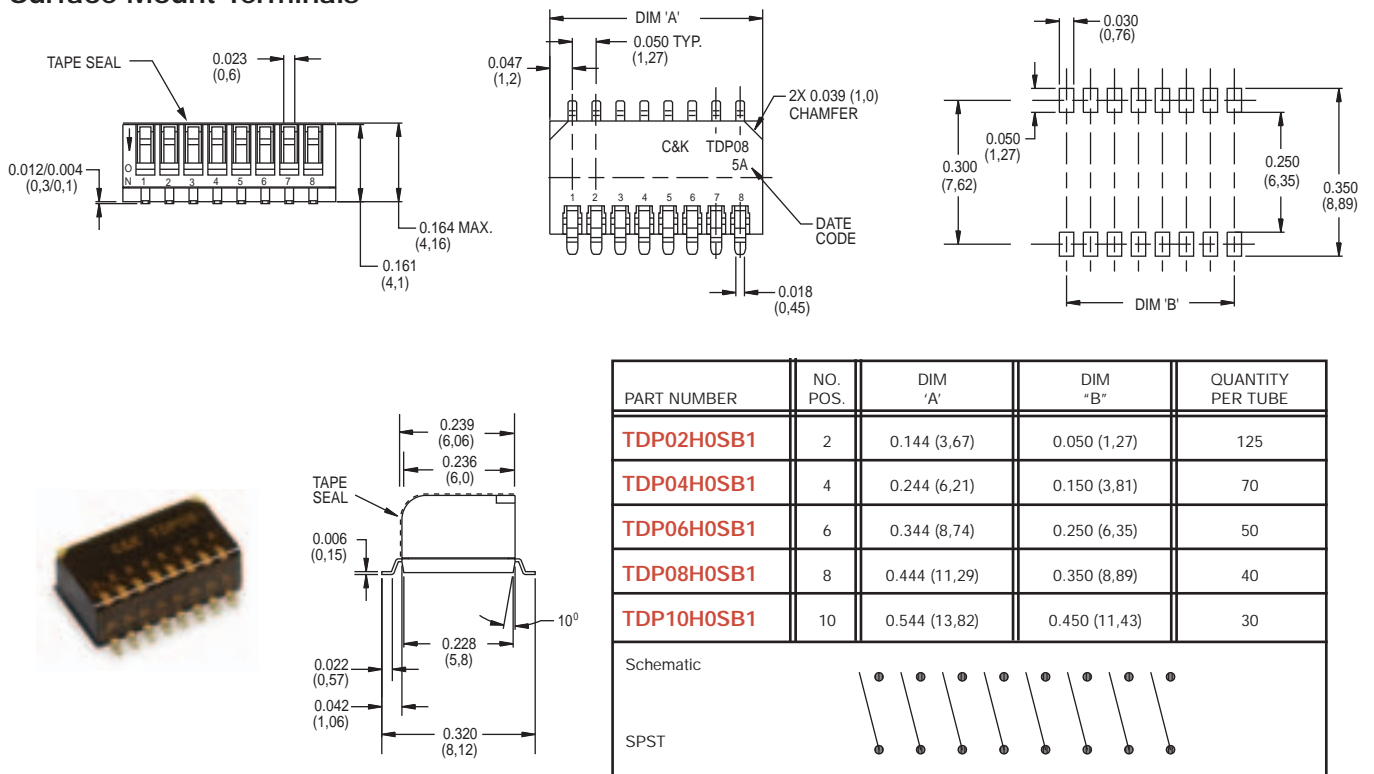


TDP Series Ultra-miniature Surface Mount Half-pitch Side-Actuated DIP Switches

Flush Actuator-No Top Tape,
Surface Mount Terminals



Flush Actuator-with Top Tape,
Surface Mount Terminals



Third Angle
Projection

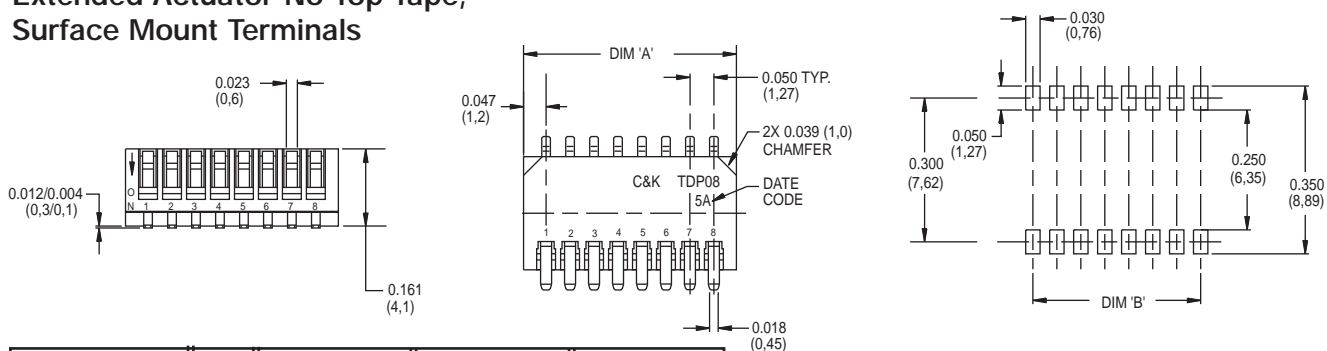
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



TDP Series Ultra-miniature Surface Mount Half-pitch Side-Actuated DIP Switches



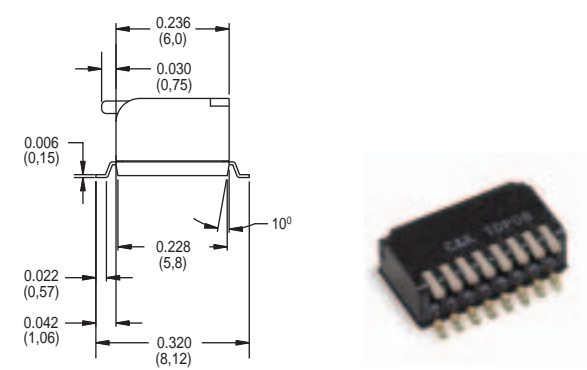
Extended Actuator-No Top Tape, Surface Mount Terminals



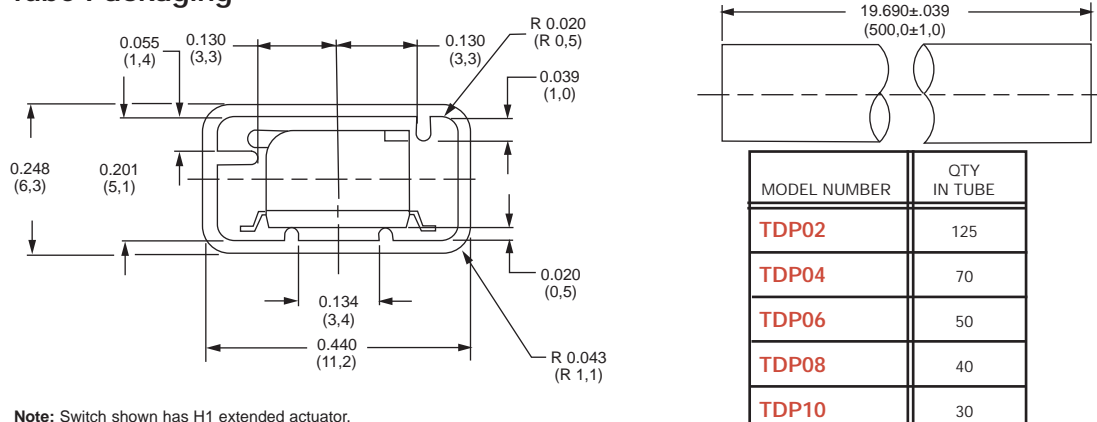
PART NUMBER	NO. POS.	DIM 'A'	DIM 'B'	QUANTITY PER TUBE
TDP02H1SBD1	2	0.144 (3,67)	0.050 (1,27)	125
TDP04H1SBD1	4	0.244 (6,21)	0.150 (3,81)	70
TDP06H1SBD1	6	0.344 (8,74)	0.250 (6,35)	50
TDP08H1SBD1	8	0.444 (11,29)	0.350 (8,89)	40
TDP10H1SBD1	10	0.544 (13,82)	0.450 (11,43)	30

Schematic

SPST



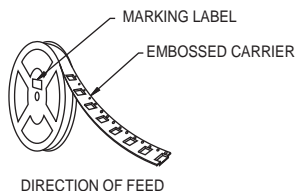
Tube Packaging



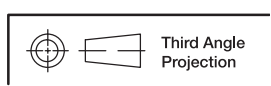
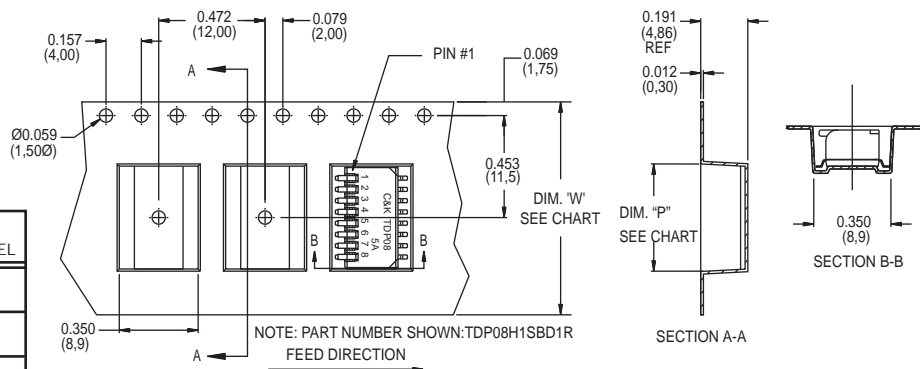
MODEL NUMBER	QTY IN TUBE
TDP02	125
TDP04	70
TDP06	50
TDP08	40
TDP10	30

Note: Switch shown has H1 extended actuator.

Tape and Reel Packaging



DIM PART NUMBER	DIM. 'W'	DIM 'P'	PER REEL
TDP02	0.630 (16,0)	0.175 (4,45)	1,000
TDP04	0.630 (16,0)	0.276 (7,0)	1,000
TDP06	0.630 (16,0)	0.376 (9,55)	1,000
TDP08	0.945 (24,0)	0.476 (12,1)	1,000
TDP10	0.945 (24,0)	0.576 (14,65)	1,000



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



TDA Series

Ultra-miniature Surface Mount Half-pitch DIP Switches



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DIP



Features/Benefits

- **Bifurcated contact for increased electrical reliability**
- **Process sealed for surface mount soldering and washable processing**
- **RoHS compliant**

Typical Applications

- **Hand-held electronic devices**
- **Portable computer and electronic devices**
- **Instrumentation and controls**

Specifications

SWITCH FUNCTION: SPST – 2, 4, 6, 8 & 10 positions.

CONTACT RATING:

24 V DC, 25 mA (switching).

50 V DC, 100 mA (steady state).

MECHANICAL AND ELECTRICAL LIFE: 1,000 cycles.

CONTACT RESISTANCE: 100 milliohms max.

INSULATION RESISTANCE: 100 megohms @ 100 V DC min.

DIELECTRIC STRENGTH: 300 V AC min.

STORAGE TEMPERATURE: -40°C to 85°C.

OPERATING TEMPERATURE: -40°C to 85°C.

OPERATING FORCE: 4,9N max.

SOLDERABILITY: Per MIL-STD-202F method 208D, or

EIA RS-186E method 9 (1 hour steam aging).

PACKAGING: Switches supplied in rigid dispensing tubes in full tube quantities only, this may affect order quantity. Numbers of switches per tube varies with model. Tape and reel packaging is 2,000 per reel.

Materials

CASE & COVER: PPS (UL94V-0)

ACTUATOR: LCP (UL94V-0).

CONTACTS: Copper alloy, with gold plate over nickel plate.

TERMINALS: Copper alloy, with gold flash over nickel plate.

All terminals are insert molded.

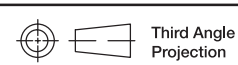
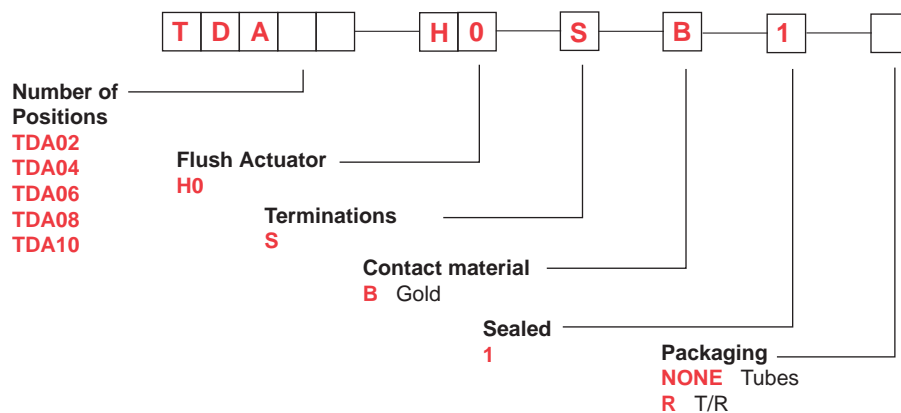
TAPE SEAL: Polyimide.

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

Note: All switches supplied in "OFF" position.

How To Order

Complete part numbers for TDA Series are shown below.



Third Angle Projection

Dimensions are shown: Inch (mm)
 Specifications and dimensions subject to change



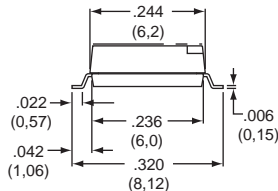
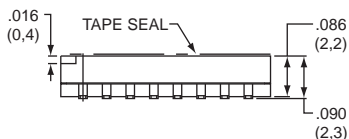
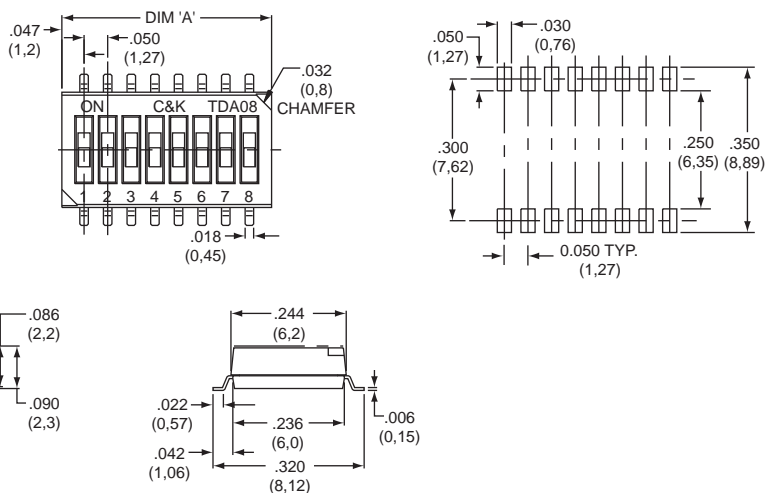
TDA Series Ultra-miniature Surface Mount Half-pitch DIP Switches



DIP



TDA08H0SB1

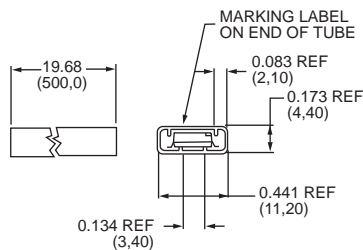


Tube Package

ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
TDA02H0SB1	2	.144 (3,67)	125
TDA04H0SB1	4	.244 (6,21)	70
TDA06H0SB1	6	.344 (8,75)	50
TDA08H0SB1	8	.444 (11,29)	40
TDA10H0SB1	10	.544 (13,83)	30

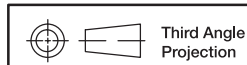
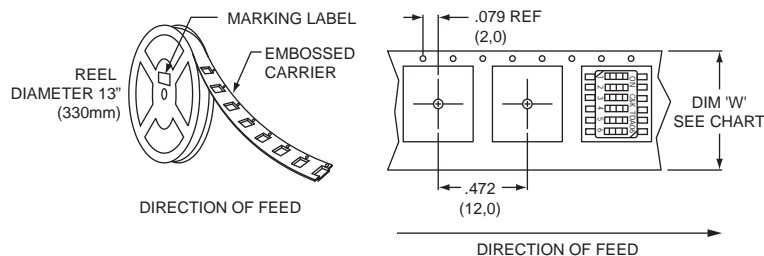
Schematic

SPST



Tape & Reel Package

ROHS PART NUMBER	NO. POS.	DIM. 'W'	QUANTITY PER REEL
TDA02H0SB1R	2	.630 (16,0)	2000
TDA04H0SB1R	4	.630 (16,0)	2000
TDA06H0SB1R	6	.630 (16,0)	2000
TDA08H0SB1R	8	.945 (24,0)	2000
TDA10H0SB1R	10	.945 (24,0)	2000



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



SDA Series Low Profile DIP Switches



DIP

Features/Benefits

- Low profile design saves space
- Thru-hole and surface mount models
- High pressure contact does not require tape seal for washing
- Tape and reel packaging available
- RoHS compliant

Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications



How To Order

Complete part numbers for SDA Series are shown on pages I-7 through I-9. All switches supplied in "OFF" position.

Specifications

CONTACT RATING: 25 mA @ 24 V DC or 100 mA @ 50 V DC.
 MECHANICAL AND ELECTRICAL LIFE: 1,000 cycles at rated loads.
 CONTACT RESISTANCE: 50 milliohms max. initial.
 INSULATION RESISTANCE: 100 megohms between terminals.
 DIELECTRIC WITHSTANDING VOLTAGE: 300 V DC min. for 1 minute.
 STORAGE TEMPERATURE: -40°C to 85°C.
 OPERATING TEMPERATURE: -40°C to 85°C.
 OPERATING FORCE: 800 grams max.
 SOLDERABILITY: Dip and look solderability testing per C&K spec. #448. Unplated edges of terminals permitted.
 PACKAGING: Switches supplied in rigid dispensing tubes in full-tube quantities only, this may affect order quantity. Numbers of switches per tube varies with model. Tape and reel packaging also available for surface mount options.

Materials

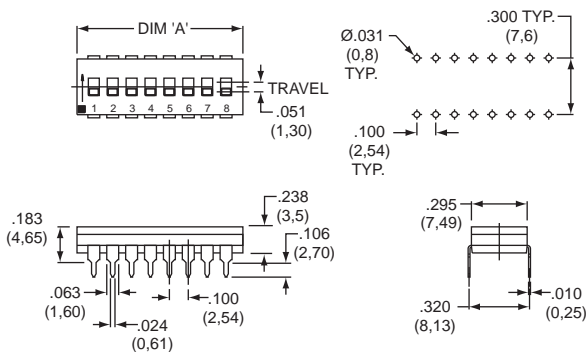
HOUSING: PPS, color black (UL94V-0).
 COVER: PPS, color black (UL94V-0).
 ACTUATOR: PA6T (UL94-0)
 CONTACTS: Gold plated Beryllium copper.
 TERMINALS: Gold plate over nickel plated brass.
 TAPE SEAL: Polyimide.

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

Flush Actuator – No Tape, Thru-hole Terminals

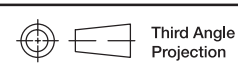


SDA08H0BD



ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H0BD	1	.178 (4,52)	100
SDA02H0BD	2	.278 (7,06)	60
SDA03H0BD	3	.378 (9,60)	45
SDA04H0BD	4	.476 (12,10)	35
SDA05H0BD	5	.578 (14,68)	30
SDA06H0BD	6	.676 (17,18)	25
SDA07H0BD	7	.778 (19,76)	20
SDA08H0BD	8	.876 (22,26)	20
SDA09H0BD	9	.978 (24,84)	15
SDA10H0BD	10	1.076 (27,34)	15
SDA12H0BD	12	1.279 (32,50)	14

Schematic
SPST



Dimensions are shown: Inch (mm)
 Specifications and dimensions subject to change



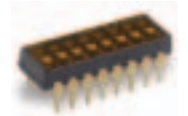
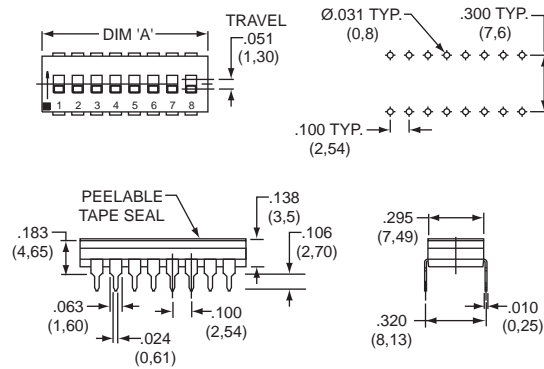
SDA Series Low Profile DIP Switches

Flush Actuator – With Top Tape, Thru-hole Terminals

ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H0B	1	.178 (4,52)	100
SDA02H0B	2	.278 (7,06)	60
SDA03H0B	3	.378 (9,60)	45
SDA04H0B	4	.476 (12,10)	35
SDA05H0B	5	.578 (14,68)	30
SDA06H0B	6	.676 (17,18)	25
SDA07H0B	7	.778 (19,76)	20
SDA08H0B	8	.876 (22,26)	20
SDA09H0B	9	.978 (24,84)	15
SDA10H0B	10	1.076 (27,34)	15
SDA12H0B	12	1.279 (32,50)	14

Schematic

SPST



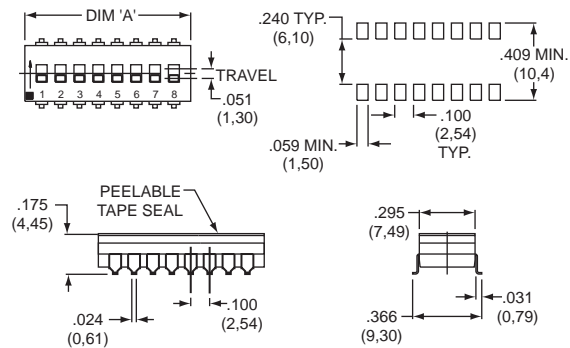
SDA08H0B

Flush Actuator – With Top Tape, Surface Mount Terminals

ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H0SB	1	.178 (4,52)	100
SDA02H0SB	2	.278 (7,06)	60
SDA03H0SB	3	.378 (9,60)	45
SDA04H0SB	4	.476 (12,10)	35
SDA05H0SB	5	.578 (14,68)	30
SDA06H0SB	6	.676 (17,18)	25
SDA07H0SB	7	.778 (19,76)	20
SDA08H0SB	8	.876 (22,26)	20
SDA09H0SB	9	.978 (24,84)	15
SDA10H0SB	10	1.076 (27,34)	15
SDA12H0SB	12	1.279 (32,50)	14

Schematic

SPST



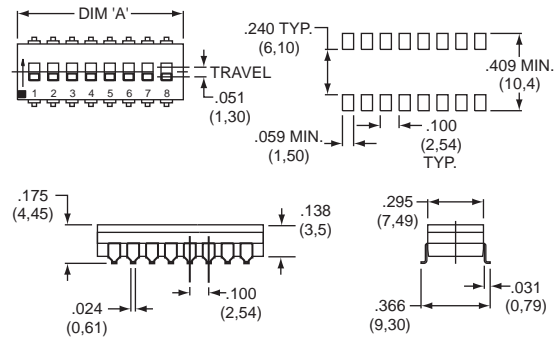
SDA08H0SB

Flush Actuator – No Tape, Surface Mount Terminals

ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H0SBD	1	.178 (4,52)	100
SDA02H0SBD	2	.278 (7,06)	60
SDA03H0SBD	3	.378 (9,60)	45
SDA04H0SBD	4	.476 (12,10)	35
SDA05H0SBD	5	.578 (14,68)	30
SDA06H0SBD	6	.676 (17,18)	25
SDA07H0SBD	7	.778 (19,76)	20
SDA08H0SBD	8	.876 (22,26)	20
SDA09H0SBD	9	.978 (24,84)	15
SDA10H0SBD	10	1.076 (27,34)	15
SDA12H0SBD	12	1.279 (32,50)	14

Schematic

SPST



SDA08H0SBD



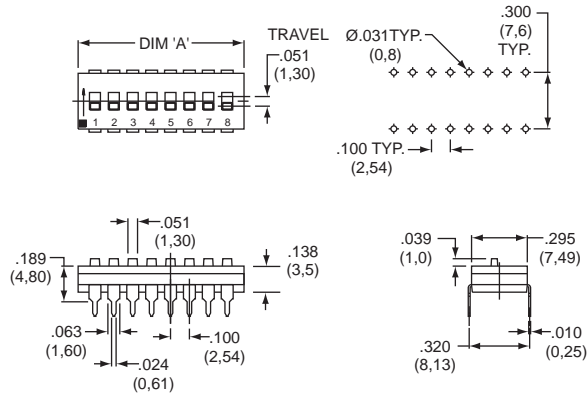
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

SDA Series Low Profile DIP Switches

Extended Actuator - No Top Tape, Thru-hole Terminals



SDA08H1BD



ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H1BD	1	.178 (4,52)	100
SDA02H1BD	2	.278 (7,06)	60
SDA03H1BD	3	.378 (9,60)	45
SDA04H1BD	4	.476 (12,10)	35
SDA05H1BD	5	.578 (14,68)	30
SDA06H1BD	6	.676 (17,18)	25
SDA07H1BD	7	.778 (19,76)	20
SDA08H1BD	8	.876 (22,26)	20
SDA09H1BD	9	.978 (24,84)	15
SDA10H1BD	10	1.076 (27,34)	15
SDA12H1BD	12	1.279 (32,50)	14

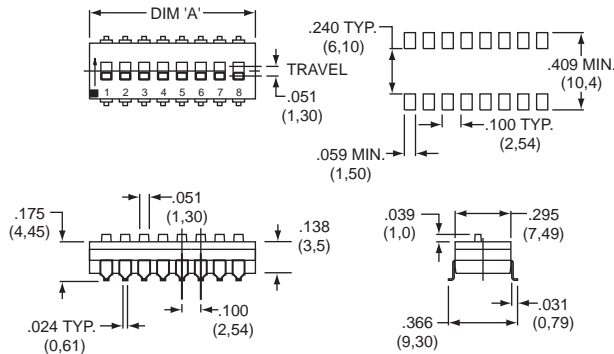
Schematic

SPST

Extended Actuator - No Top Tape, Surface Mount Terminals



SDA08H1SBD

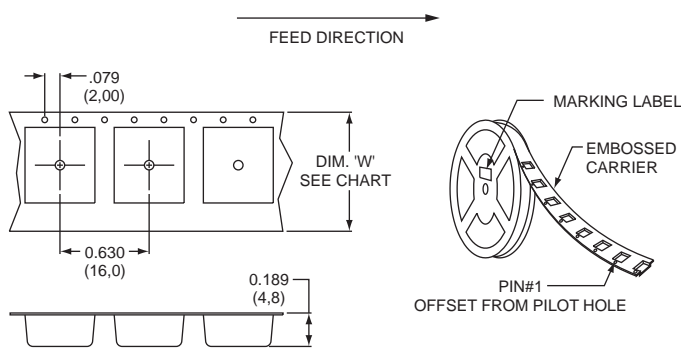


ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SDA01H1SBD	1	.178 (4,52)	100
SDA02H1SBD	2	.278 (7,06)	60
SDA03H1SBD	3	.378 (9,60)	45
SDA04H1SBD	4	.476 (12,10)	35
SDA05H1SBD	5	.578 (14,68)	30
SDA06H1SBD	6	.676 (17,18)	25
SDA07H1SBD	7	.778 (19,76)	20
SDA08H1SBD	8	.876 (22,26)	20
SDA09H1SBD	9	.978 (24,84)	15
SDA10H1SBD	10	1.076 (27,34)	15
SDA12H1SBD	12	1.279 (32,50)	14

Schematic

SPST

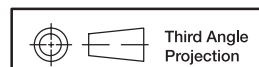
Tape & Reel Packaging - Surface Mount Options only



ROHS PART NUMBER	DIM. 'W'	QUANTITY PER REEL
SDA01H0SBR	.945 (24,0)	1500
SDA02H0SBR	.945 (24,0)	750
SDA03H0SBR	.945 (24,0)	750
SDA04H0SBR	.945 (24,0)	750
SDA05H0SBR	.945 (24,0)	750
SDA06H0SBR	1.26 (32,0)	750
SDA07H0SBR	1.26 (32,0)	750
SDA08H0SBR	1.73 (44,0)	750
SDA09H0SBR	1.73 (44,0)	750
SDA10H0SBR	1.73 (44,0)	750
SDA12H0SBR	1.73 (44,0)	750

Schematic

SPST



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change





Features/Benefits

- Low profile design saves space
- Thru-hole and surface mount models
- Tape and reel packaging available
- Sealed with top tape
- RoHS compliant

Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications

How To Order

Complete part numbers for SD Series are shown on pages I-10 through I-12. All switches supplied in "OFF" position in rigid dispensing tubes or tape and reel packaging.

Specifications

SWITCH FUNCTION: SPST - 2, 3, 4, 5, 6, 7, 8, 9, 10 & 12 positions

CONTACT RATING:

Carry: 100 mA @ 50 V DC max.

Switch: 0.1 mA @ 5 V DC min to 100 mA @ 25 V DC max.

MECHANICAL AND ELECTRICAL LIFE: 2,000 make-and-break cycles at full load, each circuit.

CONTACT RESISTANCE: Below 50 milliohms typ. initial @ 2-4 V DC, 100mA.

INSULATION RESISTANCE: 10⁹ ohms min.

DIELECTRIC STRENGTH: 500 V RMS min. @ sea level between adjacent terminals.

STORAGE TEMPERATURE: -40°C to 85°C.

OPERATING TEMPERATURE: -20°C to 85°C.

OPERATING FORCE: 100-700g initial.

PACKAGING: Thru-hole switches supplied in rigid dispensing tubes in full-tube quantities only: this may effect order quantity. Surface mount switches available in tape and reel packaging by added 'R' to end of part number; 1,000 pieces per reel. Switch position 1 denotes pin number 1. All switch actuators in 'OFF' position, standard.

Materials

CASE & COVER: Thru-hole: polyester (PBT). Surface mount: (PPA), flame retardant (UL 94V-0).

ACTUATOR: Nylon, flame retardant (UL 94V-0)

CONTACTS: Copper alloy with gold plate.

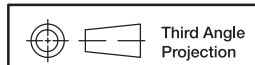
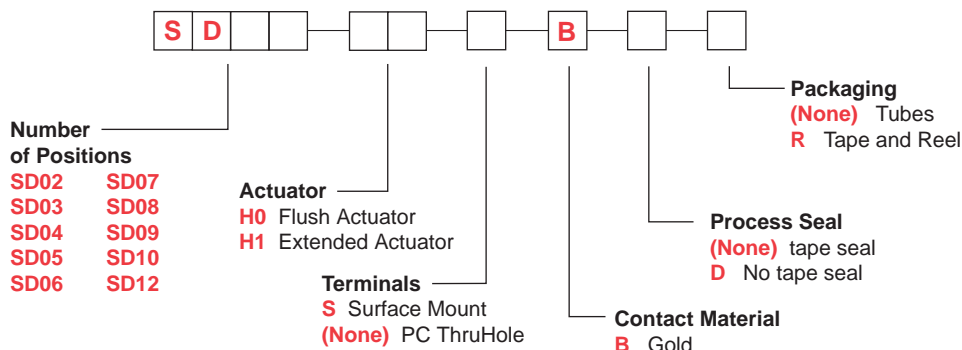
TERMINALS: Bright tin-plated BeCu.

TERMINAL SEAL: All terminals insert molded.

TAPE SEAL: Polyester

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



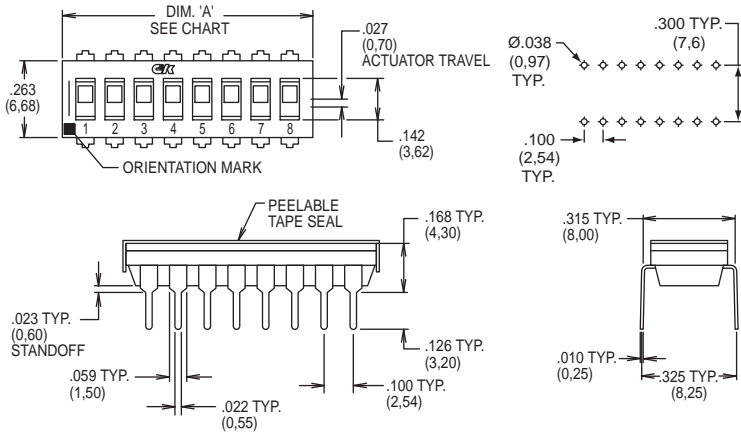
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



SD Series Low Profile DIP Switches

Sealed Flush Actuator - With Top Tape, Thru-hole Terminals

Process sealed - withstands soldering and cleaning processes

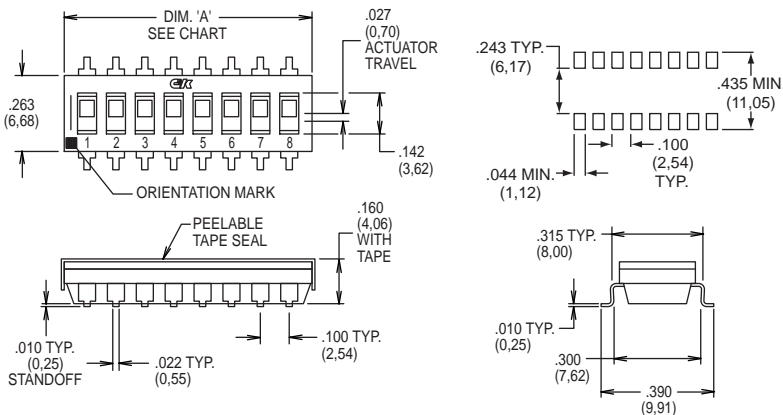


ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SD02H0B	2	.258 (6,55)	85
SD03H0B	3	.358 (9,09)	60
SD04H0B	4	.458 (11,63)	45
SD05H0B	5	.558 (14,17)	40
SD06H0B	6	.658 (16,71)	30
SD07H0B	7	.758 (19,25)	25
SD08H0B	8	.858 (21,79)	25
SD09H0B	9	.958 (24,33)	20
SD10H0B	10	1.058 (26,87)	20
SD12H0B	12	1.258 (31,95)	15

Schematic

SPST

Sealed Flush Actuator - With Top Tape, Surface Mount Terminals

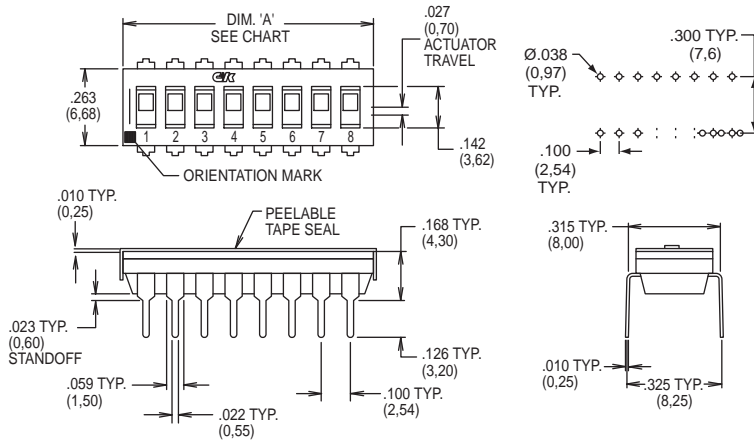


RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SD02H0SB	2	.258 (6,55)	85
SD03H0SB	3	.358 (9,09)	60
SD04H0SB	4	.458 (11,63)	45
SD05H0SB	5	.558 (14,17)	40
SD06H0SB	6	.658 (16,71)	30
SD07H0SB	7	.758 (19,25)	25
SD08H0SB	8	.858 (21,79)	25
SD09H0SB	9	.958 (24,33)	20
SD10H0SB	10	1.058 (26,87)	20
SD12H0SB	12	1.258 (31,95)	15

Schematic

SPST

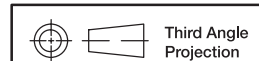
Sealed Extended Actuator - With Top Tape, Thru-hole Terminals



RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SD02H1B	2	.258 (6,55)	85
SD03H1B	3	.358 (9,09)	60
SD04H1B	4	.458 (11,63)	45
SD05H1B	5	.558 (14,17)	40
SD06H1B	6	.658 (16,71)	30
SD07H1B	7	.758 (19,25)	25
SD08H1B	8	.858 (21,79)	25
SD09H1B	9	.958 (24,33)	20
SD10H1B	10	1.058 (26,87)	20
SD12H1B	12	1.258 (31,95)	15

Schematic

SPST



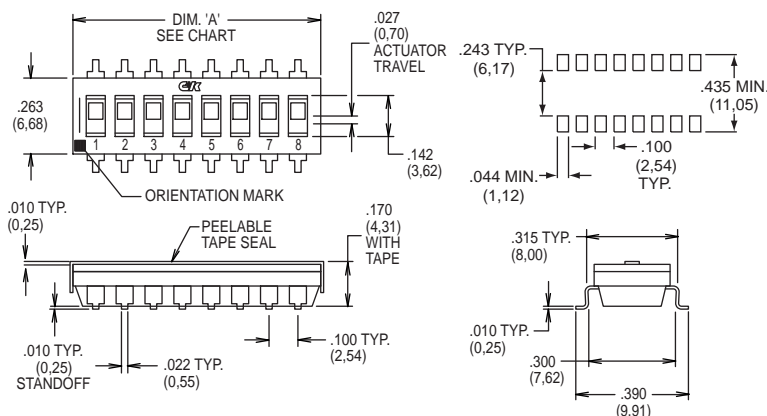
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

Sealed Extended Actuator – With Top Tape, Surface Mount Terminals

RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE
SD02H1SB	2	.258 (6,55)	85
SD03H1SB	3	.358 (9,09)	60
SD04H1SB	4	.458 (11,63)	45
SD05H1SB	5	.558 (14,17)	40
SD06H1SB	6	.658 (16,71)	30
SD07H1SB	7	.758 (19,25)	25
SD08H1SB	8	.858 (21,79)	25
SD09H1SB	9	.958 (24,33)	20
SD10H1SB	10	1.058 (26,87)	20
SD12H1SB	12	1.258 (31,95)	15

Schematic

SPST

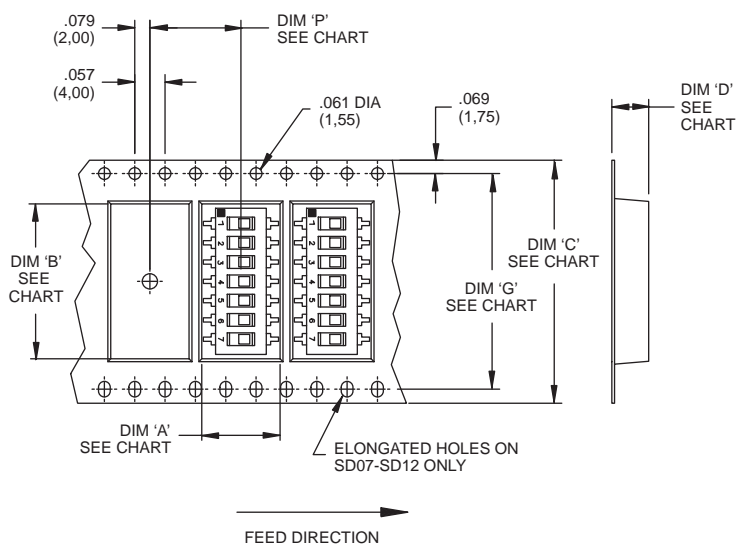


TAPE & REEL PACKAGING – SURFACE MOUNT OPTIONS ONLY

RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER REEL
SD02H0SBR	2	.258 (6,55)	1000
SD03H0SBR	3	.358 (9,09)	1000
SD04H0SBR	4	.458 (11,63)	1000
SD05H0SBR	5	.558 (14,17)	1000
SD06H0SBR	6	.658 (16,71)	1000
SD07H0SBR	7	.758 (19,25)	1000
SD08H0SBR	8	.858 (21,79)	1000
SD09H0SBR	9	.958 (24,33)	1000
SD10H0SBR	10	1.058 (26,87)	1000
SD12H0SBR	12	1.258 (31,95)	1000

Schematic

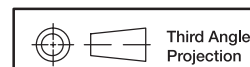
SPST



SWITCH NO.	DIM 'A' POCKET LENGTH @ BOTTOM	DIM 'B' POCKET LENGTH @ BOTTOM	DIM 'C' TAPE WIDTH	DIM 'D' POCKET DEPTH	DIM 'G' SPROCKET HOLE SPACING	DIM 'P' PITCH BETWEEN POCKETS
SD02	.413(10,5)	.315(8,0)	.630(16,0)	.177(4,5)	N/A	.472(12,0)
SD03	.406(10,3)	.406(10,3)	.630(16,0)	.177(4,5)	N/A	.472(12,0)
SD04	.429(10,9)	.476(12,1)	.954(24,0)	.177(4,5)	N/A	.472(12,0)
SD05	.406(10,3)	.602(15,3)	.954(24,0)	.177(4,5)	N/A	.472(12,0)
SD06	.406(10,3)	.701(17,8)	.954(24,0)	.177(4,5)	N/A	.472(12,0)
SD07	.406(10,3)	.803(20,4)	1.260(32,0)	.177(4,5)	1.118(28,4)	.472(12,0)
SD08	.406(10,3)	.854(21,7)	1.732(44,0)	.177(4,5)	1.591(40,4)	.472(12,0)
SD09	.406(10,3)	1.028(26,1)	1.732(44,0)	.177(4,5)	1.591(40,4)	.472(12,0)
SD10	.406(10,3)	1.055(26,8)	1.732(44,0)	.177(4,5)	1.591(40,4)	.472(12,0)
SD12	.406(10,3)	1.303(33,1)	1.732(44,0)	.177(4,5)	1.591(40,4)	.472(12,0)

Reel Information

Outside diameter 13.00 (333,0)
Pilot hole .512 (13,0)



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

BD Series Standard Profile DIP Switches

DIP

Features/Benefits

- Traditional full profile DIP switch
- Extended actuator for easy actuation
- Open bottom construction allows for solder washing without the need for tape seal
- RoHS compliant

Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications



Specifications

SWITCH FUNCTION: SPST - 1 thru 12 position available
(except 11 position).

CONTACT RATING:

Carry: 100 mA max. @ 50 V DC.

Switch: 100 mA max. @ 5 V DC or 25 mA max. @ 25 V DC.

MECHANICAL AND ELECTRICAL LIFE: 10,000 make-and-break cycles at full load, each circuit.

CONTACT RESISTANCE: Below 50 milliohms typ. initial
@ 2-4 V DC 100mA.

INSULATION RESISTANCE: 10^9 ohms min.

DIELECTRIC STRENGTH: 500 V RMS min. @ sea level between adjacent terminals.

CAPACITANCE: 5pF max. between adjacent terminals.

STORAGE & OPERATING TEMPERATURE: -40°C to 85°C.

SHOCK: Withstands 20g 11 ms sawtooth waveform with no contact opening greater than 10 microseconds.

VIBRATION: No contact opening greater than 10 microseconds and no contact closure when exposed to vibration .06 in DA or 5g, whichever is less, from 10 to 55 Hz, and 10g from 55 to 500 Hz.

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

PACKAGING: Switches supplied in rigid dispensing tubes in full-tube quantities only: this may effect order quantity. Number of switches per tube varies with model. Switch position 1 denotes pin number 1. All switch actuators in 'OFF' position, standard.

Materials

CASE & COVER: Glass filled polyester (PBT),
flame retardant (UL 94V-0).

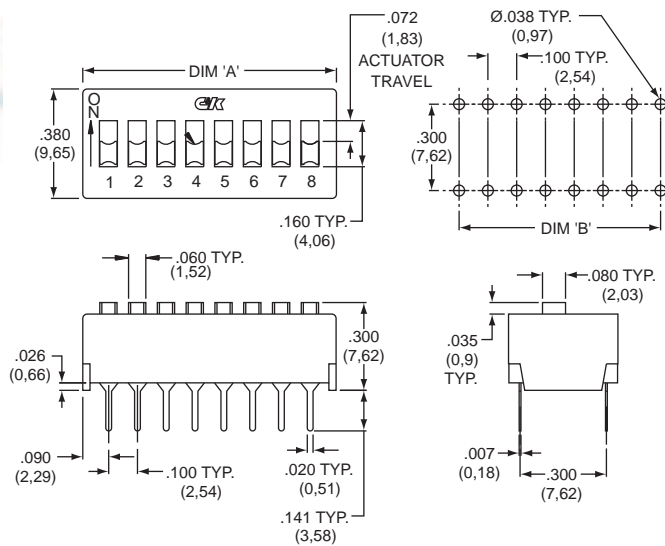
ACTUATOR: Glass filled nylon 6/6, flame retardant,
heat stabilized (UL 94V-0)

CONTACTS: Gold over nickel over phosphor bronze.

TERMINALS: Matte-tin over nickel over phosphor bronze.

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

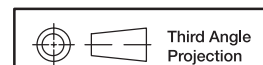
Vertical Full Profile DIP



PART NUMBER	NO.POS.	DIM. 'A'	QUANTITY PER TUBE
BD01	1	.180 (4,57)	115
BD02	2	.280 (7,11)	74
BD03	3	.380 (9,65)	54
BD04	4	.480 (12,19)	43
BD05	5	.580 (14,73)	35
BD06	6	.680 (17,27)	30
BD07	7	.780 (19,81)	26
BD08	8	.880 (22,35)	23
BD09	9	.980 (24,89)	21
BD10	10	1.080 (27,43)	19
BD12	12	1.280 (32,51)	16

Schematic

SPST



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

BD Series Standard Profile DIP Switches

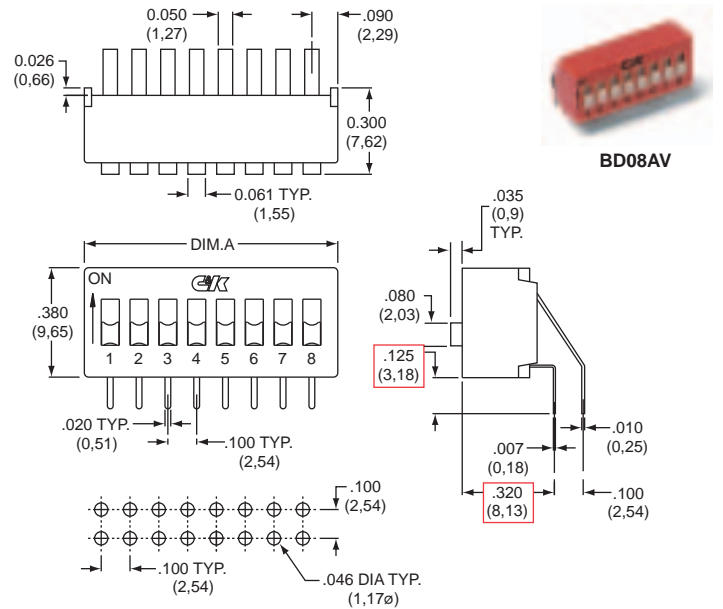
Open Base and AV Right Angle Terminal Style

PART NUMBER	NO.POS.	DIM. 'A'	QUANTITY PER TUBE
BD02AV	2	.280 (7,11)	72
BD03AV	3	.380 (9,65)	52
BD04AV	4	.480 (12,19)	42
BD05AV	5	.580 (14,73)	35
BD06AV	6	.680 (17,27)	29
BD07AV	7	.780 (19,81)	26
BD08AV	8	.880 (22,35)	23
BD09AV	9	.980 (24,89)	20
BD10AV	10	1.080 (27,43)	18
BD12AV	12	1.280 (32,51)	15

Schematic

SPST

NOTE: Box dimensions show difference between AV and AV2 terminal styles.



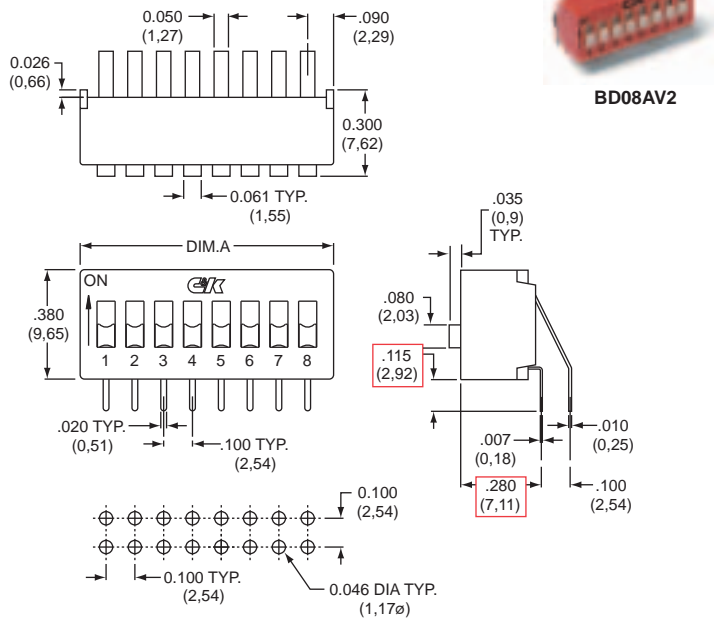
Open Base and AV2 Right Angle Terminal Style

PART NUMBER	NO.POS.	DIM. 'A'	QUANTITY PER TUBE
BD02AV2	2	.280 (7,11)	72
BD03AV2	3	.380 (9,65)	52
BD04AV2	4	.480 (12,19)	42
BD05AV2	5	.580 (14,73)	35
BD06AV2	6	.680 (17,27)	29
BD07AV2	7	.780 (19,81)	26
BD08AV2	8	.880 (22,35)	23
BD09AV2	9	.980 (24,89)	20
BD10AV2	10	1.080 (27,43)	18
BD12AV2	12	1.280 (32,51)	15

Schematic

SPST

NOTE: Box dimensions show difference between AV and AV2 terminal styles.



Installation, Soldering and Cleaning

All BD Series Standard Profile DIP Switches can be hand soldered or machine soldered without the use of boot, caps, tapes or special attention. Open base washable models have unique design, allowing solvent cleaners and water/detergent solutions to flush and clean the electrical contacts of the contaminants and fluxes. For best results, follow these directions:

- 1) Wave soldering recommended at 500° F (260°C) solder temperature.
- 2) Hand solder using 30 watt small tip iron controlled at 500° F (260°C), 10 seconds max./terminal.
- 3) Open base washable models: Clean flux using forced rinse, high agitation or triple bath cleaning method.
DO NOT mask or cover switch in any way during cleaning. Switch is designed for easy solvent flush out.
- 4) All switch actuators must be in 'OFF' position during soldering and cleaning processes.



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



BPA Series Side Actuated DIP Switches

DIP

Features/Benefits

- Side actuated contacts
- Available in thru-hole or SMT models
- High pressure contact system does not require tape seal for washing
- RoHS compliant & compatible

Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications



How To Order

Complete part numbers for BPA Series are shown on pages I-16 thru I-18. All switches supplied in "OFF" position.

Specifications

SWITCH FUNCTION: 1 thru 10 position available.
 CONTACT RATING: 100 mA max. @ 5 V DC or 25 mA max. @ 24 V DC.
 MECHANICAL AND ELECTRICAL LIFE: 1,000 cycles min. @ 5 V DC 10mA.
 CONTACT RESISTANCE: 50 milliohms initial max.
 INSULATION RESISTANCE: 100 V DC 100 megohms min.
 DIELECTRIC WITHSTAND VOLTAGE: 300 V AC for 1 minute.
 STORAGE TEMPERATURE: -40°C to 85°C.
 OPERATING TEMPERATURE: -20°C to 85°C.
 OPERATING FORCE: 800 grams max.
 SOLDERABILITY: Flow solderable and washable (soldering: 260°C for 10 sec. max.)

PACKAGING: Switches supplied in rigid dispensing tubes in full-tube quantities only, this may affect order quantity. Numbers of switches per tube varies with model. Tape and reel packaging available for SMT options.

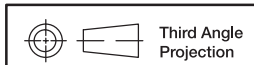
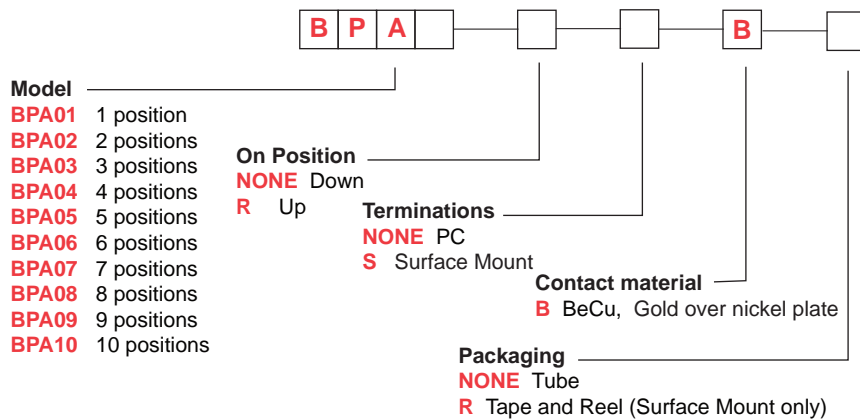
Materials

HOUSING: PPS, color black (UL94V-0).
 COVER: PPS, color black (UL94V-0).
 ACTUATOR: PA-6T UL94V-0).
 CONTACTS: Beryllium Copper with Gold over Nickel plate.
 TERMINALS: Beryllium Copper, Gold 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.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



Dimensions are shown: Inch (mm)
 Specifications and dimensions subject to change



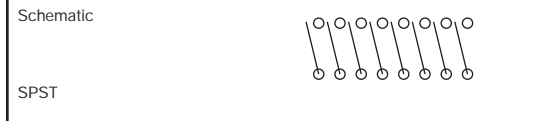
BPA Series Side Actuated DIP Switches

Side Actuator – Thru-hole Terminals

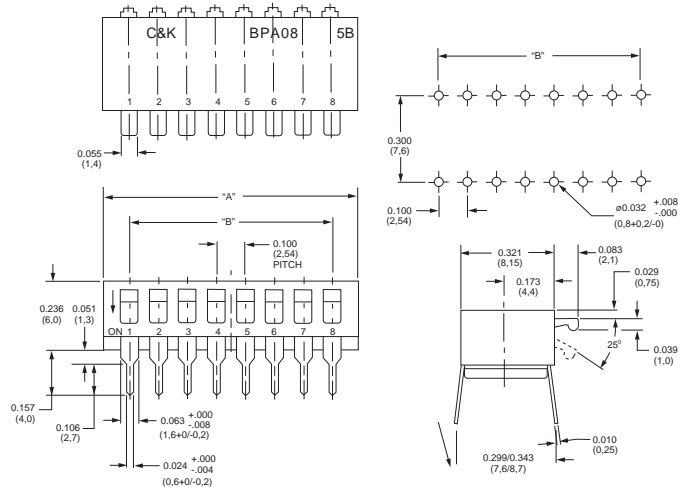
ROHS PART NUMBER	NO. POS.	DIM. 'A'	DIM. 'B'	QUANTITY PER TUBE
BPA01B	1	.176 (4,48)	N/A	100
BPA02B	2	.276 (7,0)	.100 (2,54)	60
BPA03B	3	.376 (9,6)	.200 (5,08)	45
BPA04B	4	.476 (12,1)	.300 (7,62)	35
BPA05B	5	.575 (14,6)	.400 (10,16)	30
BPA06B	6	.677 (17,2)	.500 (12,70)	25
BPA07B	7	.776 (19,7)	.600 (15,24)	20
BPA08B	8	.878 (22,3)	.700 (17,78)	20
BPA09B	9	.976 (24,8)	.800 (20,32)	15
BPA10B	10	1.075 (27,3)	.900 (22,56)	15



BPA08B



NOTE: Reverse throw available, contact C&K for P/N and quote.

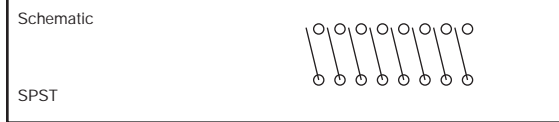


Side Actuator – Surface Mount Terminals

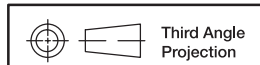
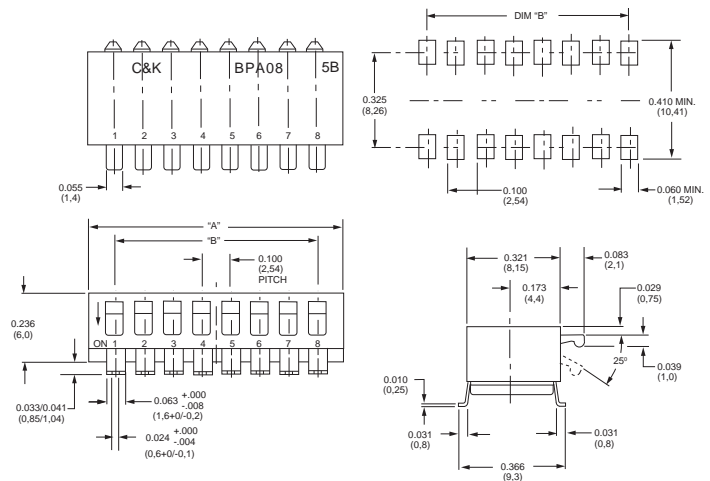
ROHS PART NUMBER	NO. POS.	DIM. 'A'	DIM. 'B'	QUANTITY PER TUBE
BPA01SB	1	.176 (4,48)	N/A	100
BPA02SB	2	.276 (7,0)	.100 (2,54)	60
BPA03SB	3	.376 (9,6)	.200 (5,08)	45
BPA04SB	4	.476 (12,1)	.300 (7,62)	35
BPA05SB	5	.575 (14,6)	.400 (10,16)	30
BPA06SB	6	.677 (17,2)	.500 (12,70))	25
BPA07SB	7	.776 (19,7)	.600 (15,24)	20
BPA08SB	8	.878 (22,3)	.700 (17,78)	20
BPA09SB	9	.976 (24,8)	.800 (20,32)	15
BPA10SB	10	1.075 (27,3)	.900 (22,56)	15



BPA08SB



NOTE: Tape and reel packaging available by adding "R" to end of project number.



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



BPA Series Side Actuated DIP Switches

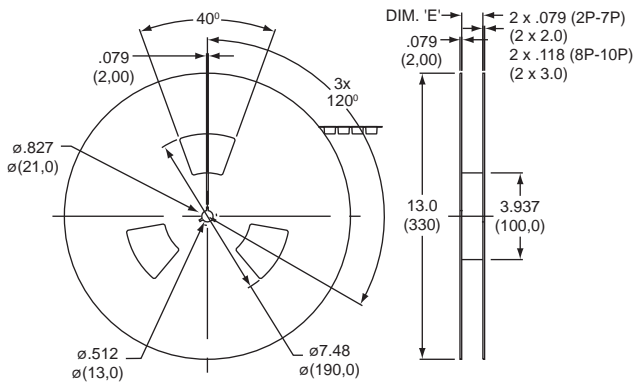


DIP

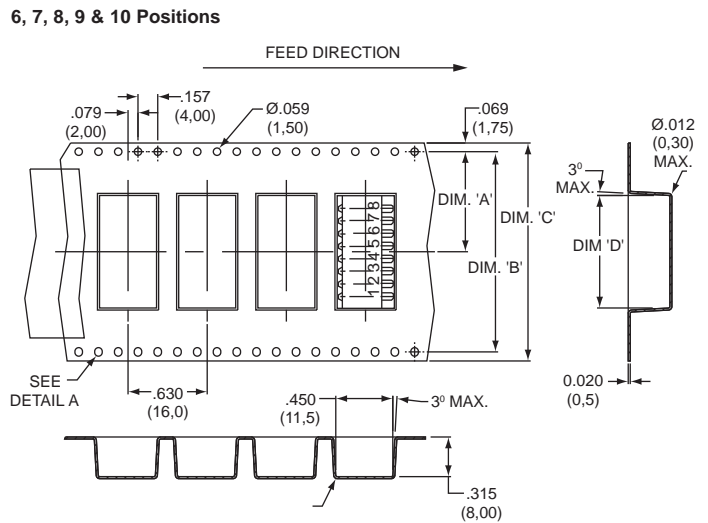
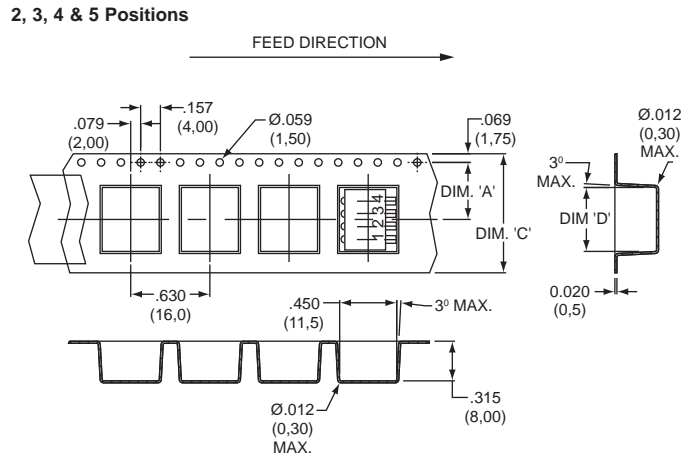
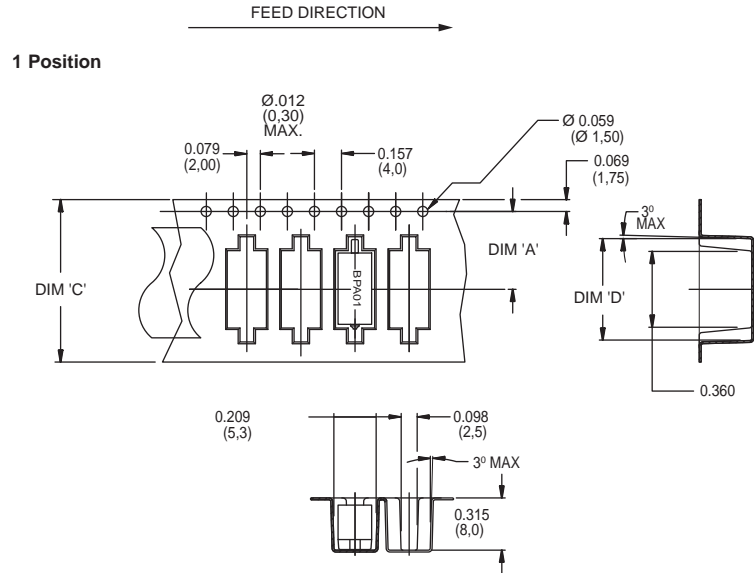
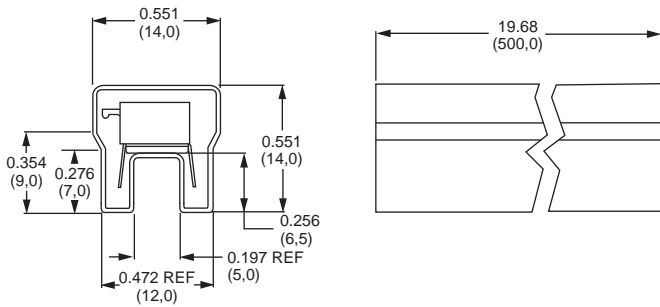
Tape & Reel Packaging – Surface Mount Options Only

QTY/ REEL	POLES	DIM. 'A'	DIM. 'B'	DIM. 'C'	DIM. 'D'	DIM. 'E'
1000	1	.453 (11,5)	—	.945 (24,0)	.530 (13,45)	.960 (24,4)
500	2	.453 (11,5)	—	.945 (24,0)	.311 (7,9)	.960 (24,4)
500	3	.453 (11,5)	—	.945 (24,0)	.409 (10,4)	.960 (24,4)
500	4	.453 (11,5)	—	.945 (24,0)	.508 (12,9)	.960 (24,4)
500	5	.453 (11,5)	—	.945 (24,0)	.606 (15,4)	.960 (24,4)
500	6	.559 (14,2)	1.118 (28,4)	1.260 (32,0)	.709 (18,0)	1.275 (32,4)
500	7	.559 (14,2)	1.118 (28,4)	1.260 (32,0)	.807 (20,5)	1.275 (32,4)
500	8	.795 (20,2)	1.590 (40,4)	1.732 (44,0)	.894 (22,7)	1.748 (44,4)
500	9	.795 (20,2)	1.590 (40,4)	1.732 (44,0)	1.004 (25,5)	1.748 (44,4)
500	10	.795 (20,2)	1.590 (40,4)	1.732 (44,0)	1.106 (28,1)	1.748 (44,4)

Note: For tape and reel packaging, add 'R' to end of part number.



Tube Packaging



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



SPA Series Single In-line Package Switches



DIP

Features/Benefits

- **Thin Single In-line Packaging saves PCB space**
- **Retention feature holds part to PCB prior to soldering**
- **Available in vertical or right angle models**
- **High pressure contact system does not require tape sealing**
- **RoHS compliant**

Typical Applications

- **Address switch for industrial controls**
- **Logic switching for computers and peripherals**
- **Function controlling for numerous applications**



How To Order

Complete part numbers for SPA Series standard profile SIP Switches are shown on pages I-21 thru I-22.

Specifications

CONTACT RATING:

Carry: 100 mA
Switching: 10 mA

MECHANICAL AND ELECTRICAL LIFE: 1,000 cycles min.

CONTACT RESISTANCE: 50 mΩ max. @ 20 V DC 10mA.

INSULATION RESISTANCE: 100 MΩ min. @ 100 V DC.

DIELECTRIC STRENGTH: 1 minute @ 300 V AC.

CAPACITANCE: 5pF max. between adjacent terminals.

OPERATING TEMPERATURE: -30°C to 85°C.

STORAGE TEMPERATURE: -40°C to 85°C.

OPERATING FORCE: 4 Newtons

SOLDERABILITY: Dip & look solderability testing per C&K spec. #448. Unplated edges of terminals permitted.

PACKAGING: Switches supplied in rigid dispensing tubes in full-tube quantities only, this may affect order quantity. Numbers of switches per tube varies with model.

Materials

BASE: PPS (UL94V-0).

COVER: PBT (UL94V-0).

ACTUATOR: 4/6 Nylon (UL 94V-0).

MOVABLE CONTACT: Beryllium copper alloy, gold over nickel plate.

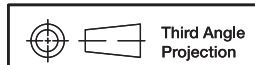
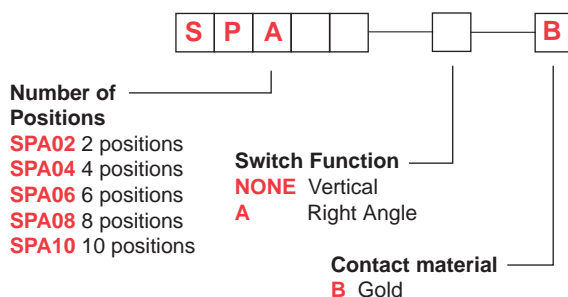
FIXED CONTACT: Copper alloy, gold over nickel plate.

CLIP: Phosphor bronze wire. Phosphor bronze, Tin 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.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

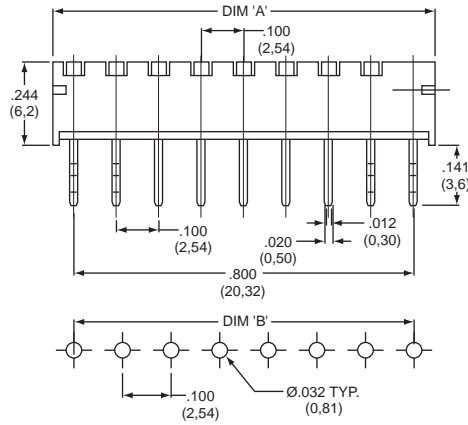
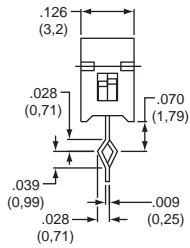


SPA Series Single In-line Package Switches

Vertical



SPA08B



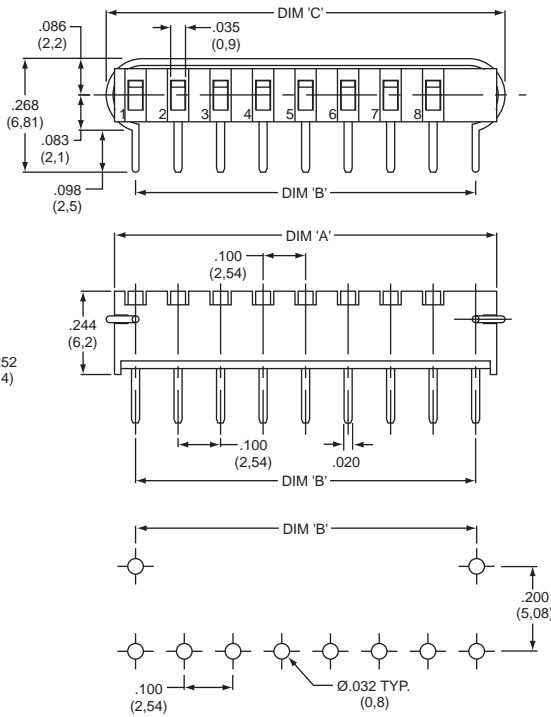
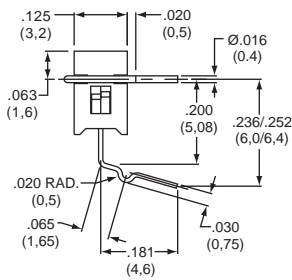
ROHS PART NUMBER	NO. POS.	DIM. 'A'	DIM. 'B'	QUANTITY PER TUBE
SPA02B	2	.326 (8,28)	.200 (5,08)	50
SPA04B	4	.526 (13,36)	.400 (10,16)	30
SPA06B	6	.726 (18,44)	.600 (15,24)	25
SPA08B	8	.926 (23,52)	.800 (20,32)	20
SPA10B	10	1.126 (28,60)	1.000 (25,40)	15

Schematic

SPST



SPA08AB



ROHS PART #	NO. POS.	DIM. 'A'	DIM. 'B'	QUANTITY DIM. 'C'	PER TUBE
SPA02AB	2	.326 (8,28)	.200 (5,08)	.339 (8,6)	50
SPA04AB	4	.526 (13,36)	.400 (10,16)	.540 (13,7)	30
SPA06AB	6	.726 (18,44)	.600 (15,24)	.736 (18,7)	25
SPA08AB	8	.926 (23,52)	.800 (20,32)	.937 (23,8)	20
SPA10AB	10	1.126 (28,60)	1.000 (25,40)	1.138 (28,9)	15

Schematic

SPST



Third Angle Projection

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



RTE Series Low Profile Rotary DIP Switches

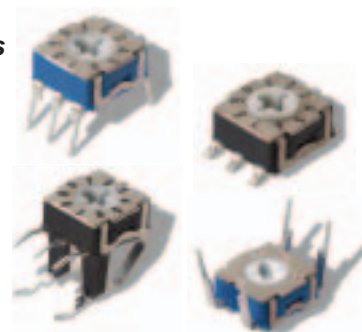
DIP

Features/Benefits

- Thru-hole and surface mount models
- Miniature size with robust stainless steel cover
- Rotary SPDT, SP3T, SP4T functions
- Rotary binary-decimal and hexadecimal coding
- RoHS compliant

Typical Applications

- Timers, automation components
- Computer and peripherals
- Alarms, access control
- Instrumentation



Specifications

CONTACT RATING:

Gold: 100 mA max. 10 μ A min. 30 V DC max. 20 mVDC min.

Silver: 100 mA max. 1 mA min. 50 V DC max. 2 VDC min.

MECHANICAL LIFE: RTE02/03: 1,500 actuations; RTE04/10/16: 20,000 actuations

CONTACT RESISTANCE: 100 m Ω max. initial; 150 m Ω after life

INSULATION RESISTANCE: RTE02/03: 10¹³ Ω min.

RTE04/10/16: 10¹⁰ Ω min. initial

DIELECTRIC STRENGTH: RTE 02/03: 500 Vrms;

RTE 10/16; 300 Vrms

OPERATING TEMPERATURE: -25°C to 85°C.

STORAGE TEMPERATURE: -40°C to 85°C.

PACKAGING: N or R terminations in tube.

V termination in box. G termination in reel, 750 pieces per reel.

G termination with flush actuator, 1250 pieces per reel.

Materials

COVER & BASE: Thermoplastic PPS

ACTUATOR: LCP

KNOB: Thermoplastic

MOVABLE CONTACTS: Brass, gold or silver plated.

STATIONARY CONTACTS: Brass, gold or silver plated.

TERMINALS: See page I-25 to I-26

O-RING: Silicone

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

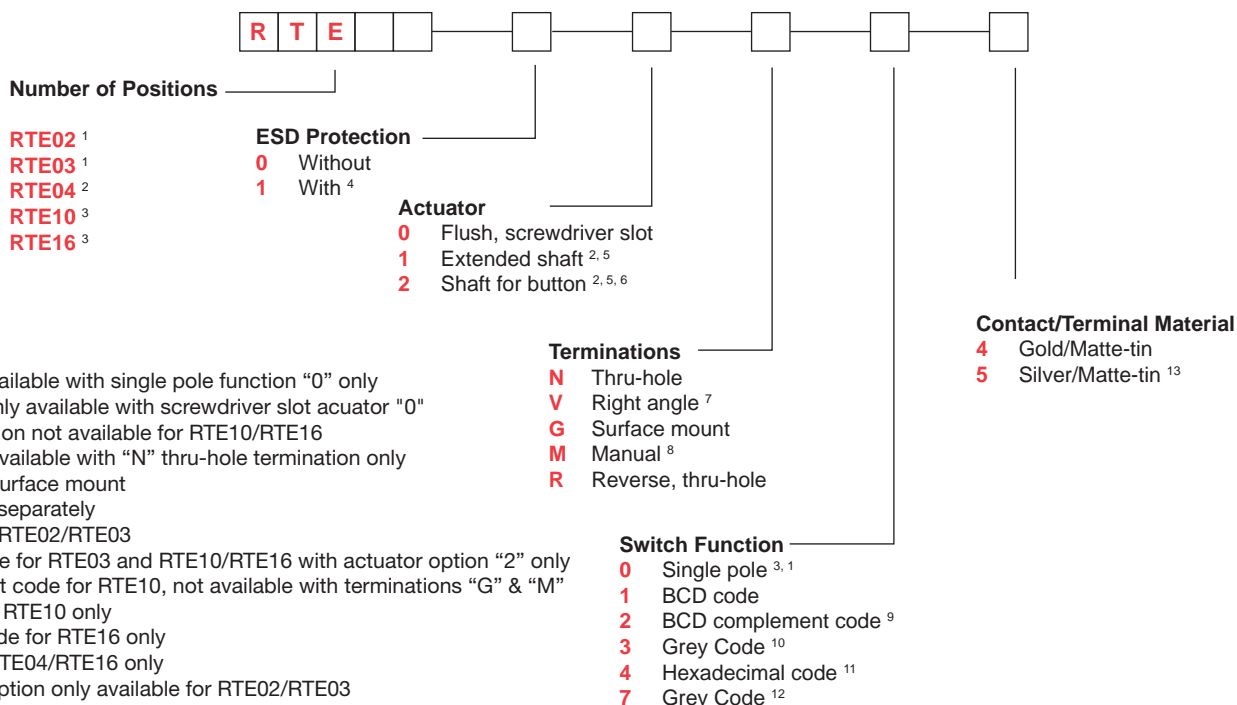
For availability of Gold/Tin - Lead options please contact Customer Service Center.

Solderability: Wave soldering 260°/2s.

SMT are reflow compatible according to CECC 00802-NORM.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



- 1 - RTE02/RTE03 available with single pole function "0" only
- 2 - RTE04 version only available with screwdriver slot acuator "0"
- 3 - Single pole function not available for RTE10/RTE16
- 4 - ESD protection available with "N" thru-hole termination only
- 5 - Not available in surface mount
- 6 - Buttons ordered separately
- 7 - Not available for RTE02/RTE03
- 8 - Manual - available for RTE03 and RTE10/RTE16 with actuator option "2" only
- 9 - BCD complement code for RTE10, not available with terminations "G" & "M"
- 10 - Grey Code - for RTE10 only
- 11 - Hexidecimal code for RTE16 only
- 12 - Grey code for RTE04/RTE16 only
- 13 - Silver contact option only available for RTE02/RTE03



Third Angle
Projection

Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

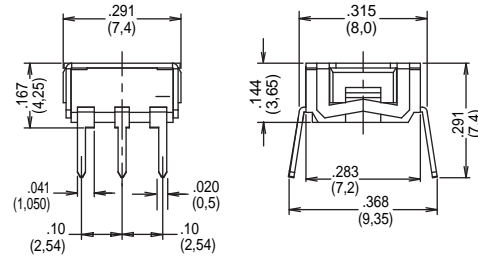


RTE Series Low Profile Rotary DIP Switches

SWITCHES WITH STANDARD OPTIONS

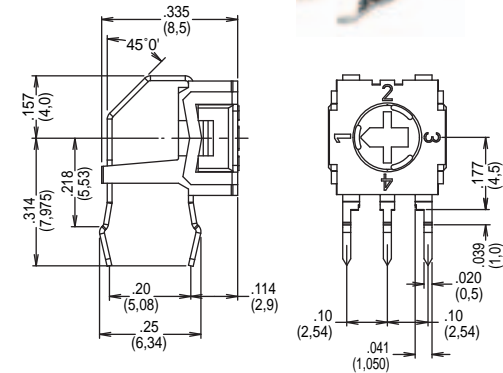
PC Mount-Terminal Option N

PART NUMBER WITHOUT ESD PIN	WITH ESD PIN	NO. POS.	FUNCTION	QTY PER TUBE
RTE0200N04	RTE0210N04	2	SPDT	65
RTE0300N04	RTE0310N04	3	SP3T	65
RTE0400N04	RTE0410N04	4	SP4T	65
RTE1000N14	RTE1010N14	10	BCD	65
RTE1600N44	RTE1610N44	10	HEXADECIMAL	65



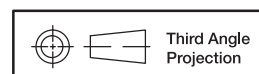
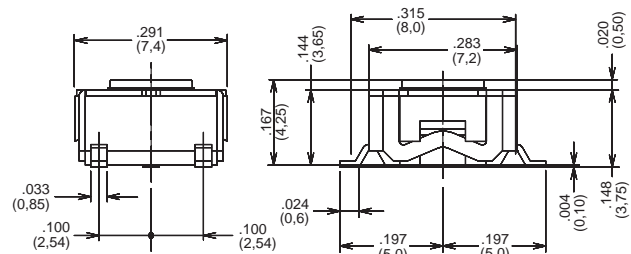
Right Angle Mount-Terminal Option V

PART NUMBER	NO. POS.	FUNCTION	QUANTITY
RTE0400V04	4	SP4T	150 per box
RTE1000V14	10	BCD	150 per box
RTE1600V44	16	HEXADECIMAL	150 per box



Surface Mount-Terminal Option G

PART NUMBER	NO. POS.	FUNCTION	QUANTITY PER REEL
RTE0200G04	02	SPDT	1250
RTE0300G04	03	SPDT	1250
RTE0400G04	04	SP4T	1250
RTE1000G14	10	BCD	1250
RTE1600G44	16	HEXADECIMAL	1250

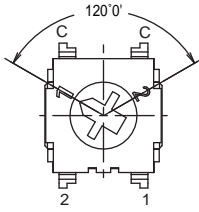


Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

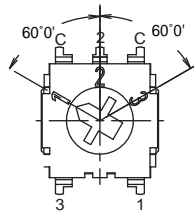
RTE Series Low Profile Rotary DIP Switches

NUMBER OF POSITIONS

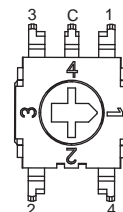
RTE02* 2 POSITION



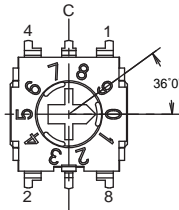
RTE03 3 POSITION



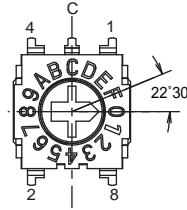
RTE04 4 POSITION



RTE10 10 POSITION

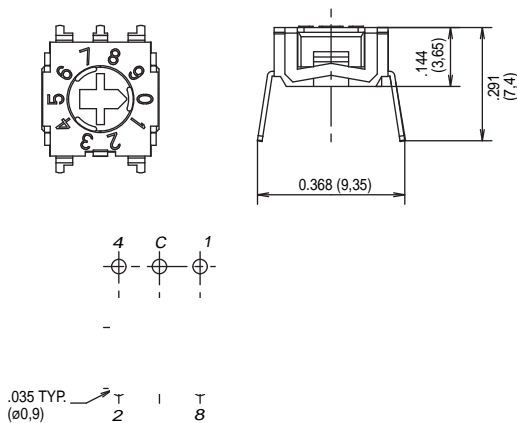


RTE16 16 POSITION

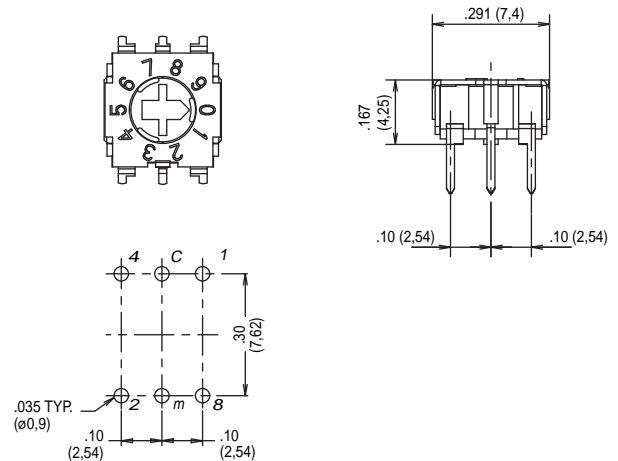


ESD PROTECTION

0 WITHOUT

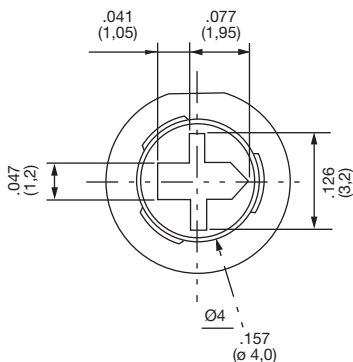


1 WITH

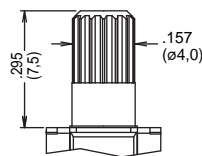


ACTUATOR

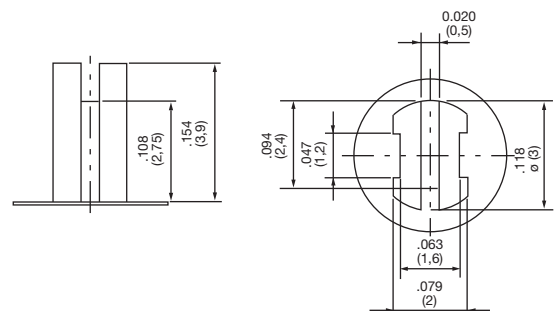
0 FLUSH, SCREWDRIVER SLOT



1 EXTENDED SHAFT
(not available in surface mount)



2 SHAFT FOR BUTTON



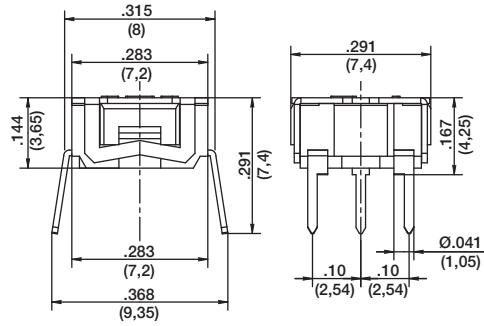
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

RTE Series Low Profile Rotary DIP Switches

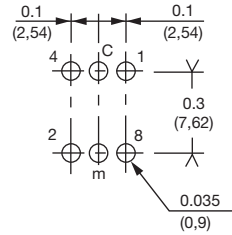
TERMINATIONS



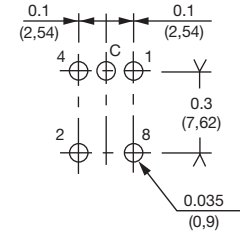
N THRU-HOLE



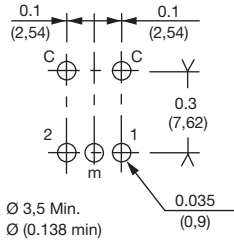
RTE10, RTE 04 or RTE16
with ground terminal



RTE10, RTE 04 or RTE16
without ground terminal

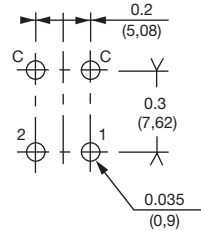


RTE02 with
ground terminal

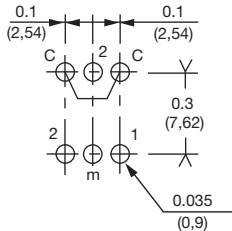


Ø 3,5 Min.
Ø (0.138 min)

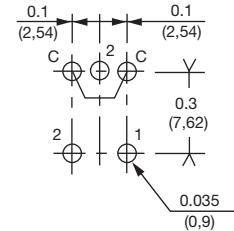
RTE02 without
ground terminal



RTE03 with
ground terminal

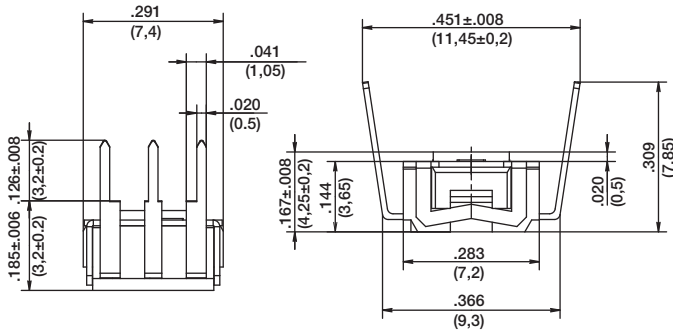


RTE03 without
ground terminal

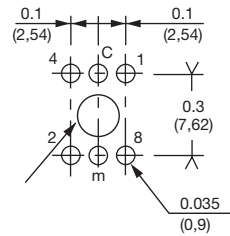


Ø in PC Board for screw driver operation must be 3.5 mm

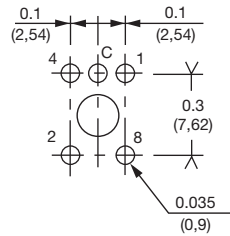
R REVERSE, THRU-HOLE



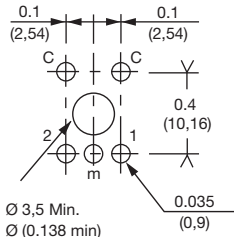
RTE10, RTE 04 or RTE16
with ground terminal



RTE10, RTE 04 or RTE16
without ground terminal



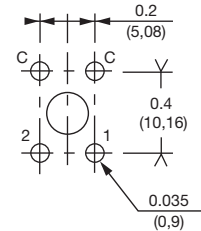
RTE02 with
ground terminal



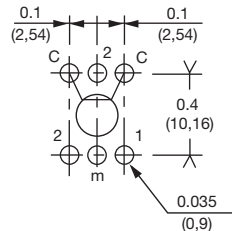
Reverse version = R
operation from
bottom side

Ø 3,5 Min.
Ø (0.138 min)

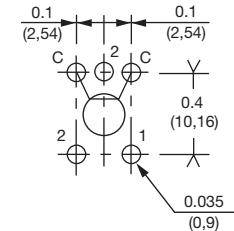
RTE02 without
ground terminal



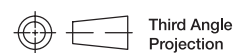
RTE03 with
ground terminal



RTE03 without
ground terminal



Ø in PC Board for screw driver operation must be 3.5 mm

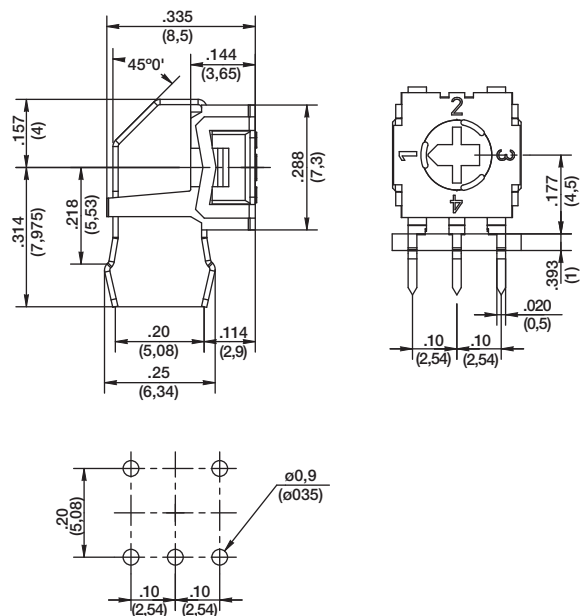


Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

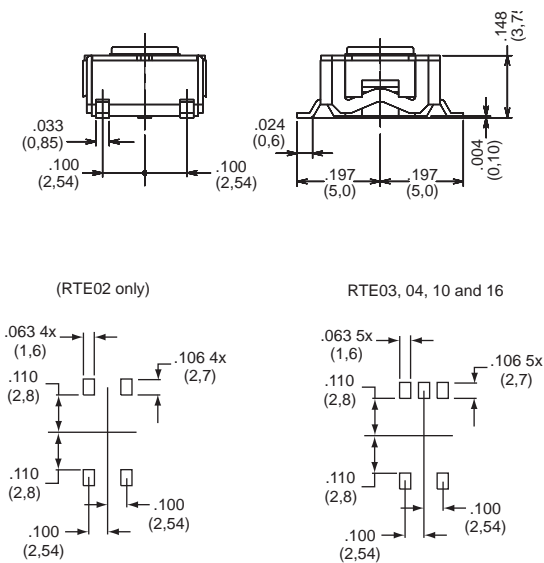
RTE Series Low Profile Rotary DIP Switches

TERMINATIONS

V RIGHT ANGLE, THRU-HOLE

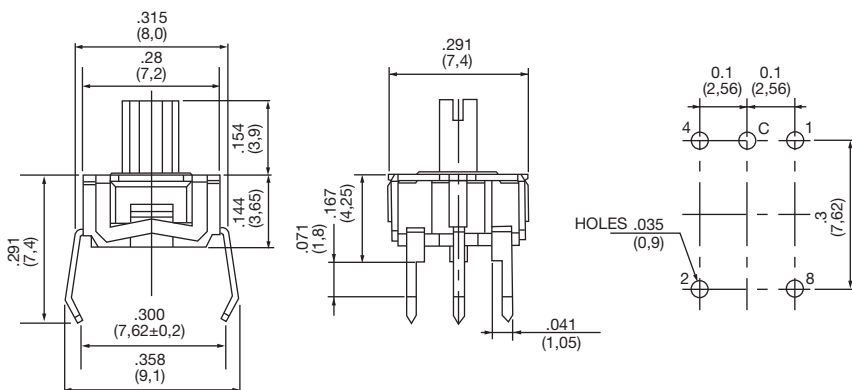


G SURFACE MOUNT



PCB layout seen component side

M OPTION



RTE Series Low Profile Rotary DIP Switches

SWITCH FUNCTION

0 SINGLE POLE

POS.	1	2	3	4
C	●	●	●	●
1	●			
2		●		
3			●	
4				●

1 BCD CODE

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1		●		●		●		●		●
2			●		●		●		●	
4				●		●		●		●
8									●	●

2 BCD COMPLEMENT CODE

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1	●		●		●		●		●	
2	●			●		●		●		●
4	●		●		●		●		●	
8	●	●	●	●	●	●	●	●	●	●

Other codes available by request.

3 GREY CODE (for RTE10 only)

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1		●	●			●	●			●
2			●	●	●	●				
4				●	●	●	●	●	●	
8									●	●

4 HEXADECIMAL CODE

POS.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1		●		●		●		●		●		●		●		●
2			●	●		●	●			●	●		●	●		●
4				●	●	●	●			●	●	●	●		●	●
8									●	●	●	●	●	●	●	●

7 GREY CODE (for RTE04 and RTE16 only)

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1		●	●			●	●			●
2			●	●	●	●				
4				●	●	●	●	●	●	
8									●	●

CONTACT MATERIAL

OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	CONTACT MATERIAL	TERMINAL PLATING	RATINGS		
*4	YES	YES **	GOLD	MATTE TIN	100 mA max.	10µ A min.	30 V DC max.
*5	YES	YES **	SILVER	MATTE TIN	100 mA max.	1 mA min.	50 V DC max.

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

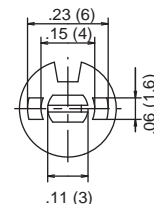
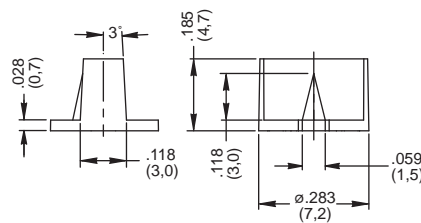
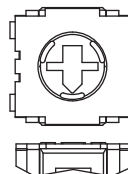
** When selecting contact material option 4 and 5 with RTE02, RTE03 and or "V" terminations, these combinations are RoHS compliant but not currently compatible (i.e. they do not sustain the high temperatures of the leadfree soldering process). All other options and terminations are RoHS compatible. Please contact customer service for RoHS compatible versions of the RTE02 and RTE03.

BUTTONS AVAILABLE

Buttons are ordered separately, shipped in bulk.

Part Number Color

BTN RTE 40	Red
BTN RTE 50	Green
BTN RTE 90	Black



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

CD Series 8mm DIP Coded Rotary Switches



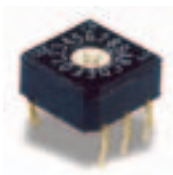
DIP

Features/Benefits

- **Process sealed – withstands soldering and cleaning**
- **Thru-hole and surface mount models**
- **Compact size saves space – 36% smaller than traditional 10mm DIP**
- **Crisp, positive detent ensures actuation**
- **RoHS compliant**

Typical Applications

- **Address switching applications**
- **Data storage devices**
- **Computer and peripherals**
- **Instrumentation**



Specifications

CONTACT RATING: 0.4 VA max. @ 20 V AC or V DC max.

MECHANICAL AND ELECTRICAL LIFE:

CD10 & CD16: 20,000 actuations.

CD08: 12,000 actuations.

CONTACT RESISTANCE: 50 milliohms max. initial.

INSULATION RESISTANCE: 100 megohms min.

@ 250 V AC min.

DIELECTRIC STRENGTH: 250 V RMS min. @ sea level.

OPERATING TEMPERATURE: -25°C to 85°C.

STORAGE TEMPERATURE: -40°C to 85°C.

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

PACKAGING: Switches supplied in rigid tubes in full-tube quantities only: this may affect order quantity. Surface mount switches available in tape & reel packaging per EIA 481A, 800 per reel, "M0" actuator only.

Materials

COVER: PPS (UL94V-0), Color; Black.

BASE: PPS (UL94V-0), Color; Black

ACTUATOR: LCP (UL 94V-0), Color White (CDXXR)
Color Black (CDXXC)

Note: internal o-ring seal standard with all actuators.

KNOB: Glass filled nylon, flame retardant (UL 94V-0).

MOVABLE CONTACTS: Copper alloy with gold plate over nickel plate.

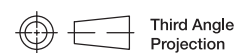
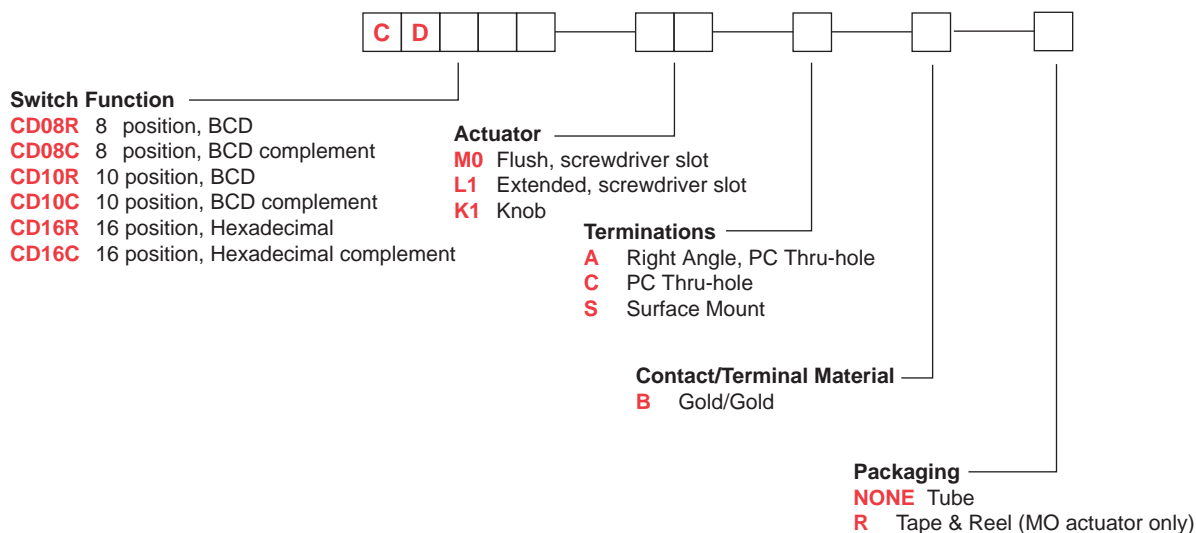
STATIONARY CONTACTS: Copper alloy with gold plate over nickel plate.

TERMINALS: Copper alloy with gold plate 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.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



CD Series 8mm DIP Coded Rotary Switches

SWITCH FUNCTION

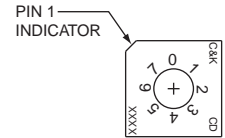


CD08R 8 POSITION, BCD
ACTUATOR COLOR: WHITE

CD08C 8 POSITION, BCD COMPLEMENT
ACTUATOR COLOR: BLACK

POS.	0	1	2	3	4	5	6	7
C	●	●	●	●	●	●	●	●
1		●		●		●		●
2			●	●			●	●
4					●	●	●	●
8								

POS.	0	1	2	3	4	5	6	7
C	●	●	●	●	●	●	●	●
1	●		●		●		●	
2	●							●
4	●	●	●	●				
8	●	●	●	●	●	●	●	●

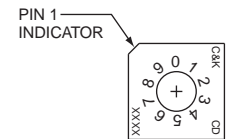


CD10R 10 POSITION, BCD
ACTUATOR COLOR: WHITE

CD10C 10 POSITION, BCD COMPLEMENT
ACTUATOR COLOR: BLACK

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1		●			●		●		●	
2			●	●				●	●	
4					●	●	●	●		
8									●	●

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1	●				●				●	
2	●	●								●
4	●	●	●	●						●
8	●	●	●	●	●	●	●	●	●	●

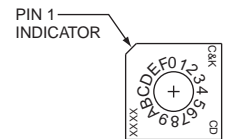


CD16R 16 POSITION, HEXADECIMAL
ACTUATOR COLOR: WHITE

CD16C 16 POSITION, HEXADECIMAL COMPLEMENT
ACTUATOR COLOR: BLACK

POS.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1		●		●		●		●		●		●		●		●
2			●	●			●	●			●	●			●	●
4					●	●	●	●					●	●	●	●
8									●	●	●	●	●	●	●	●

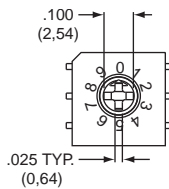
POS.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1	●		●		●		●		●		●		●		●	
2	●	●				●						●	●			
4	●	●	●	●										●	●	●
8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



ACTUATOR



M0 (STD.) FLUSH WITH SCREWDRIVER SLOT

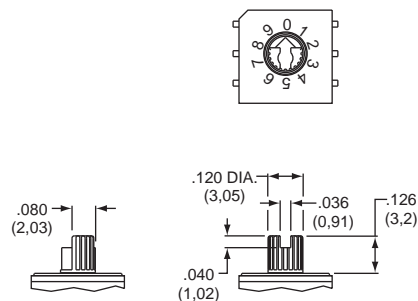


FLUSH ACTUATOR

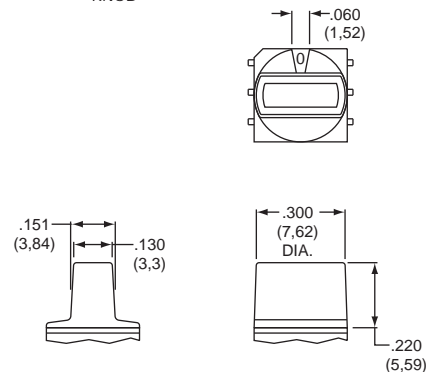


NOTE: Designed for #0 Phillips screwdriver.

L1 EXTENDED WITH SCREWDRIVER SLOT



K1 KNOB



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



CD Series 8mm DIP Coded Rotary Switches

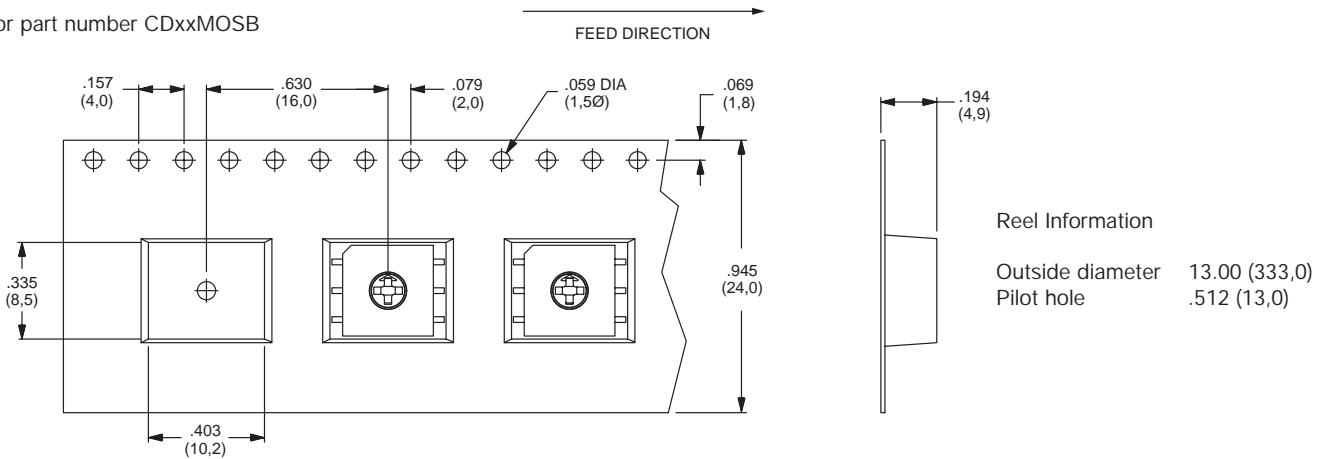
CONTACT MATERIAL

OPTION CODE	RoHS COMPLIANT*	RoHS COMPATIBLE*	CONTACT MATERIAL	TERMINAL PLATING	RATING	
B	YES	YES	GOLD	GOLD	LOW LEVEL/DRY CIRCUIT	0.4 VC MAX. @ 20 V AC or DC MAX.

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

TAPE & REEL

For part number CDxxMOSB



CRD Series 10mm DIP Coded Rotary Switches

DIP

Features/Benefits

- **Process sealed – withstands soldering and cleaning**
- **Thru-hole and surface mount models**
- **Crisp, positive detent ensures actuation**
- **Computer and peripherals**
- **RoHS compliant**

Typical Applications

- **Address switching applications**
- **Data storage devices**
- **Computer and peripherals**
- **Instrumentation**



Specifications

CONTACT RATING: 0.4 V AC, DC 20 V max.
 ELECTRICAL LIFE: 20,000 steps min. @ 5 V DC 10 mA.
 MECHANICAL LIFE: 30,000 steps min.
 CONTACT RESISTANCE: 100 milliohms max. initial @ 2 V DC 10 mA.
 INSULATION RESISTANCE: 1000 megohms min. @ 100 V DC
 DIELECTRIC STRENGTH: 300 V AC for 1 minute.
 OPERATING TEMPERATURE: -20°C to 85°C.
 STORAGE TEMPERATURE: -40°C to 85°C.
 OPERATING FORCE: 1000 grams max.
 PACKAGING: Switches supplied in anti-static tubes in full quantities only. This may affect order quantity. Surface mount models with MO actuators available in tape and reel, 500 pieces per reel.

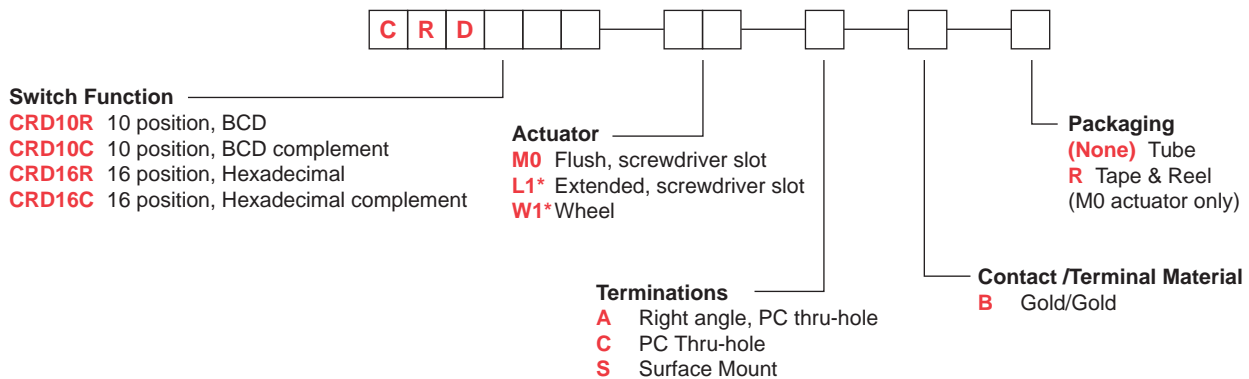
Materials

COVER: PPS (black)
 HOUSING: PPS (black)
 ACTUATOR: 4/6 nylon (UL 94V-0).
 CONTACTS: Beryllium Copper with Gold over Nickel plate
 TERMINALS: Brass with Gold Nickel plate.

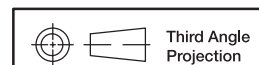
Note: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

How To Order

Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.



* Note - L1 and W1 actuators are not available in termination "S"

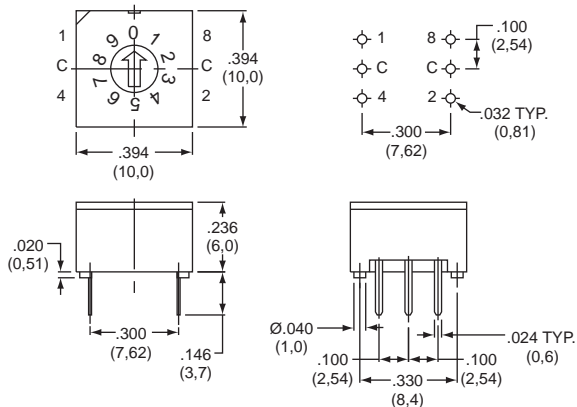
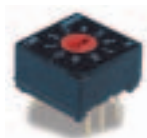


Dimensions are shown: Inch (mm)
 Specifications and dimensions subject to change

CRD Series 10mm DIP Coded Rotary Switches

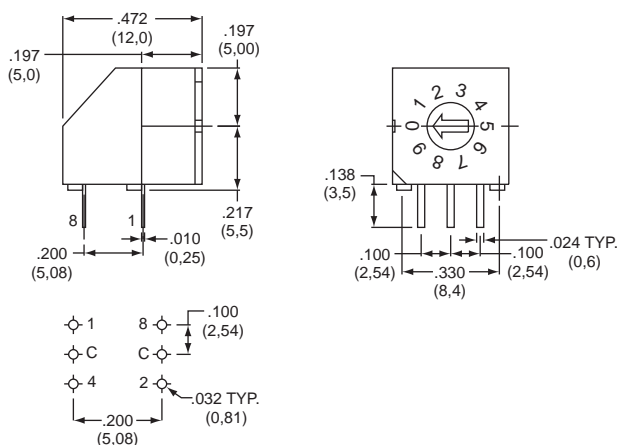
SWITCHES WITH STANDARD OPTIONS

PC Mount



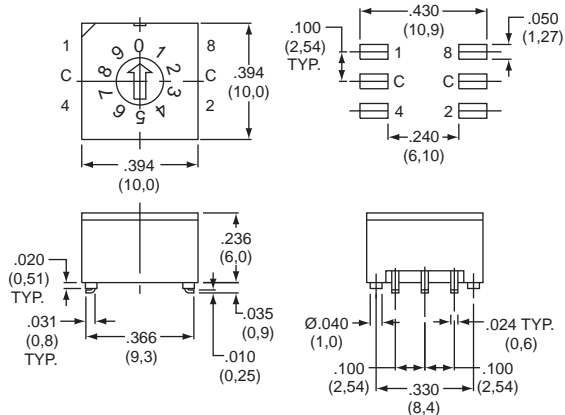
PART NUMBER	NO. POS.	QUANTITY PER TUBE
CRD10RM0CB	10	45
CRD16RM0CB	16	45

Right Angle Mount



PART NUMBER	NO. POS.	QUANTITY PER TUBE
CRD10RM0AB	10	35
CRD16RM0AB	16	35

Surface Mount



PART NUMBER	NO. POS.	QUANTITY PER TUBE
CRD10RM0SB	10	45
CRD16RM0SB	16	45



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change

CRD Series 10mm DIP Coded Rotary Switches

SWITCH FUNCTION



CRD10R

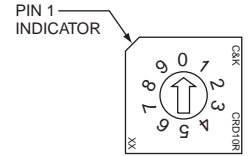
10 POSITION, BCD
ACTUATOR COLOR: RED

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1		●								●
2			●	●			●	●		
4					●	●	●	●		
8									●	●

CRD10C

10 POSITION, BCD COMPLEMENT
ACTUATOR COLOR: ORANGE

POS.	0	1	2	3	4	5	6	7	8	9
C	●	●	●	●	●	●	●	●	●	●
1	●		●					●		
2					●	●			●	●
4	●	●	●	●					●	●
8	●	●	●	●	●	●	●	●		



CRD16R

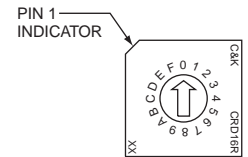
16 POSITION, HEXADECIMAL
ACTUATOR COLOR: BLACK

POS.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1		●		●		●		●		●		●		●		●
2			●	●			●	●			●	●			●	●
4					●	●	●	●				●	●	●	●	
8									●	●	●	●	●	●	●	●

CRD16C

16 POSITION, HEXADECIMAL COMPLEMENT
ACTUATOR COLOR: WHITE

POS.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
1	●		●		●		●		●		●		●		●	
2	●	●			●	●			●	●			●	●		
4	●	●	●	●					●	●	●	●				
8	●	●	●	●	●	●	●	●								

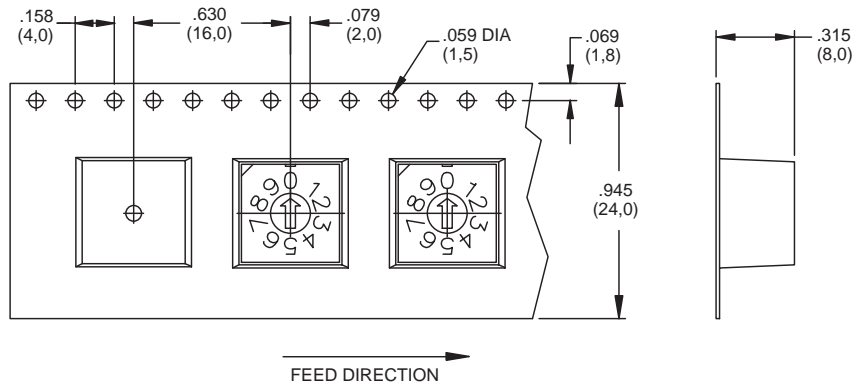


CRD Series 10mm DIP Coded Rotary Switches

TAPE & REEL



DIP



Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change