DIP			**********			- Parada	-	*	•	
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)	1-10	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	Thru-hole		.293 (7,44) Thru-hole .274 (6,96) SMT		.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)
Extended Actuator	•		•	•	•	•		•	•	•
Flush Actuator	•	•	•	•				٠	•	•
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





- 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.

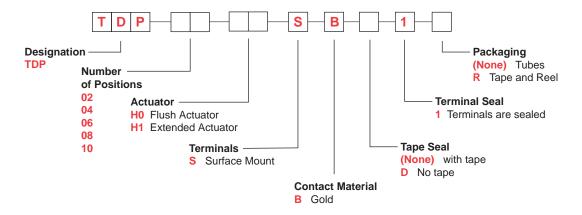
All terminals are insert molded

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.



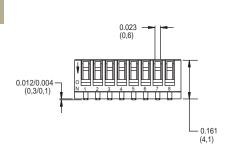
Note: Tape seal is not available with H1 Extended Actuators.

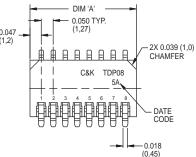


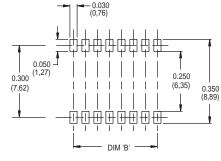
Dimensions are shown: Inch (mm ) Specifications and dimensions subject to change



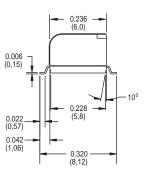
# Flush Actuator-No Top Tape, Surface Mount Terminals





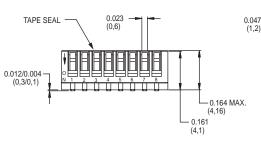


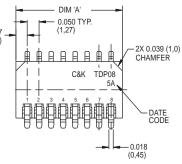


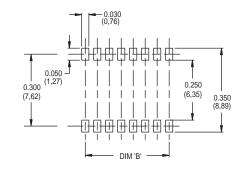


(0,10)						
PART NUMBER	NO. POS.	DIM 'A'	DIM "B"	QUANTITY PER TUBE		
TDP02H0SBD1	2	0.144 (3,67)	0.050 (1,27)	125		
TDP04H0SBD1	4	0.244 (6,21)	0.150 (3,81)	70		
TDP06H0SBD1	6	0.344 (8,74)	0.250 (6,35)	50		
TDP08H0SBD1	8	0.444 (11,29)	0.350 (8,89)	40		
TDP10H0SBD1	10	0.544 (13,82)	0.450 (11,43)	30		
Schematic SPST						

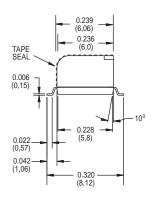
# Flush Actuator-with Top Tape, Surface Mount Terminals





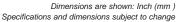






PART NUMBER	NO. POS.	DIM 'A'	DIM "B"	QUANTITY PER TUBE		
TDP02H0SB1	2	0.144 (3,67)	0.050 (1,27)	125		
TDP04H0SB1	4	0.244 (6,21)	0.150 (3,81)	70		
TDP06H0SB1	6	0.344 (8,74)	0.250 (6,35)	50		
TDP08H0SB1	8	0.444 (11,29)	0.350 (8,89)	40		
TDP10H0SB1	10	0.544 (13,82)	0.450 (11,43)	30		
Schematic Schematic						
SPST						



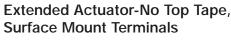


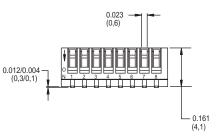


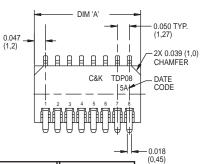


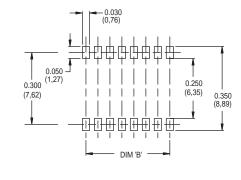




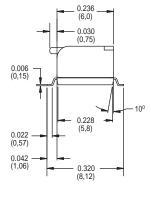






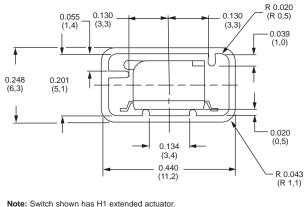


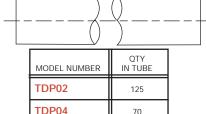
PART NUMBER	NO. POS.	DIM 'A'	DIM "B"	QUANTITY PER TUBE		
TDP02H1SBD1	2	0.144 (3,67)	0.050 (1,27)	125		
TDP04H1SBD1	4	0.244 (6,21)	0.150 (3,81)	70		
TDP06H1SBD1	D1 6 0.344 (8,74		0.250 (6,35)	50		
TDP08H1SBD1	8	0.444 (11,29)	0.350 (8,89)	40		
TDP10H1SBD1	TDP10H1SBD1 10 0.544 (13,82)		0.450 (11,43)	30		
Schematic						





# **Tube Packaging**



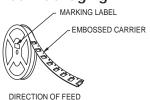


19.690±.039

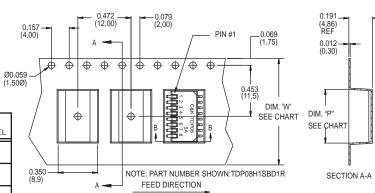
(500,0±1,0)

TDP04 70 TDP06 50 TDP08 40 TDP10 30

# Tape and Reel Packaging



DIRECTION OF TELD					
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		





0.350 (8,9)

SECTION B-B

Specifications and dimensions subject to change



# Ultra-miniature Surface Mount Half-pitch DIP Switches







#### 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.

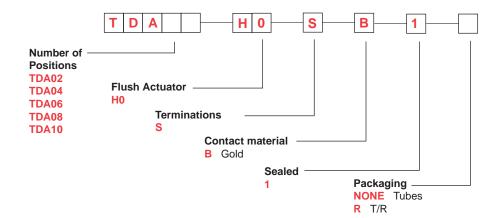
TAPE SEAL: Polyimide.

**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.







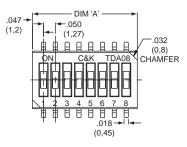
1-6

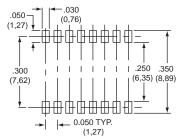
# TDA Series Ultra-miniature Surface Mount Half-pitch DIP Switches

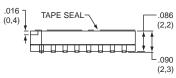


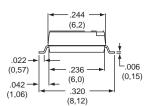






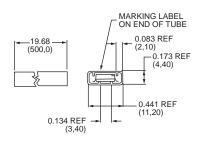






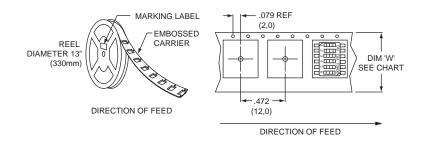
# **Tube Package**

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				



# 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



- 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 fulltube 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.

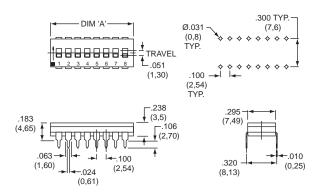
TAPE SEAL: Polyimide.

**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 10101010101010101010101010101010101010						
SPST						





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			

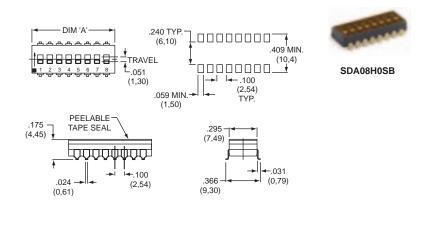
SPST

#### 300 TYP Ø.031 TYP. TRAVEL (0,8)(7,6)\_\_.051 (1,30) 0000 SDA08H0B <del>8888888</del> (2,54)-.138 (3,5) **PEELABLE** TAPE SEAL 295 106 .183 (7,49)(2,70) (4,65) .063 .010 .320 (1,60)(0,25)(2,54)-.024 (8,13)(0,61)

Flush Actuator - With Top Tape, Thru-hole Terminals

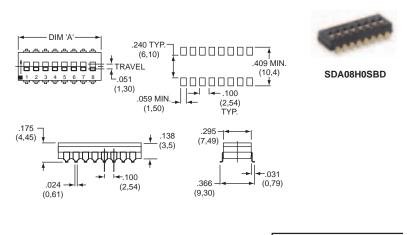
# Flush Actuator - With Top Tape, Surface Mount Terminals

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				
10101010101010				
SPST	7		D	



# 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	Schematic				
10101010101010					
SPST					





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

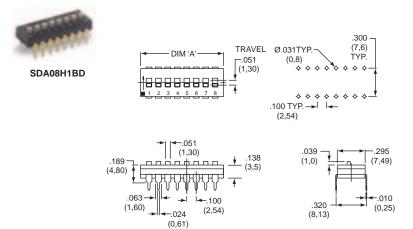


# SDA Series Low Profile DIP Switches



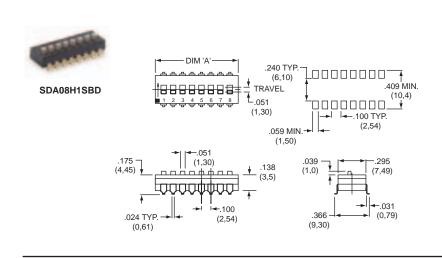
# Ш

# Extended Actuator - No Top Tape, Thru-hole Terminals



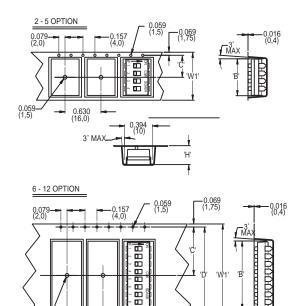
ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE		
SDA01H1BD	1	.178 (4,52)	100		
SDA02H1BD	2	.278 (7,06)	60		
SDA03H1BD	3	.378 (9,60)	45		
SDA04H1BD	4	.476 (12,10)	35		
SDA05H1BD	5	.578 (14,68)	30		
SDA06H1BD	6	.676 (17,18)	25		
SDA07H1BD	7	.778 (19,76)	20		
SDA08H1BD	8	.876 (22,26)	20		
SDA09H1BD	9	.978 (24,84)	15		
SDA10H1BD	10	1.076 (27,34)	15		
SDA12H1BD	12	1.279 (32,50)	14		
Schematic	Schematic				
	10101010101010				
SPST					

# Extended Actuator - No Top Tape, Surface Mount Terminals



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			·		
	10101010101010				
SPST			77		

# Tape & Reel Packaging - Surface Mount Options only



# TAPE AND REEL PACKAGING SMT OPTIONS ONLY (ALL DIMS. ARE FOR REF. ONLY)

MODEL NO	. MODEL NO 'S' OPTION	DIM. 'H' (REF.)	DIM. 'W1' (REF.)	DIM. 'W2' (REF.)	DIM. 'B' (REF.)	DIM. 'C' (REF.)	DIM. 'D' (REF.)	QUANTITY PER REEL
SDA02	H0 H1	0.189 (4,8) 0.228 (5,8)	0.945 (24,0)	0.961 (24,4)	0.311 (7,9)	0.453 (11,5)	N/A	750 700
SDA03	H0 H1	0.189 (4,8) 0.228 (5,8)	0.945 (24,0)	0.961 (24,4)	0.409 (10,4)	0.453 (11,5)	N/A	750 700
SDA04	H0 H1	0.189 (4,8) 0.228 (5,8)	0.945 (24,0)	0.961 (24,4)	0.508 (12,9)	0.453 (11,5)	N/A	750 700
SDA05	H0 H1	0.189 (4,8) 0.228 (5,8)	0.945 (24,0)	0.961 (24,4)	0.606 (15,4)	0.453 (11,5)	N/A	750 700
SDA06	H0 H1	0.189 (4,8) 0.228 (5,8)	1.260 (32,0)	1.276 (32,4)	0.709 (18,0)	0.559 (14,2)	1.118(28,4)	750 700
SDA07	H0 H1	0.189 (4,8)	1.260 (32,0)	1.276 (32,4) NOT CURF	0.807 (20,5) RENTLY AVAILA	0.559 (14,2) BLE IN TAPE /	1.118(28,4) AND REEL	750
SDA08	H0 H1	0.189 (4,8) 0.228 (5,8)	1.732 (44,0)	1.748 (44,4)	0.894 (22,7)	0.795 (20,2)	1.591(40,4)	750 700
SDA09	H0 H1	0.189 (4,8) 0.228 (5,8)	1.732 (44,0)	1.748 (44,4)	1.004 (25,5)	0.795 (20,2)	1.591(40,4)	750 700
SDA10	H0 H1	0.189 (4,8)	1.732 (44,0)	1.748 (44,4) NOT CURF	1.106 (28,1) RENTLY AVAILA	0.795 (20,2) BLE IN TAPE /	1.591(40,4) AND REEL	750
SDA12	H0 H1	0.189 (4,8)	1.732 (44,0)	1.748 (44,4) NOT CURF	1.307 (33,2) RENTLY AVAILA	0.795 (20,2) BLE IN TAPE /	1.591(40,4) AND REEL	750



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











- · 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–11 through I–13. 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: 10° ohms min.

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

adjacent terminals.

STORAGE TEMPERATURE: -40°C to 85°C. OPERATING TEMPERATURE: -40°C to 85°C. OPERATING FORCE: 100-700g inital.

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)

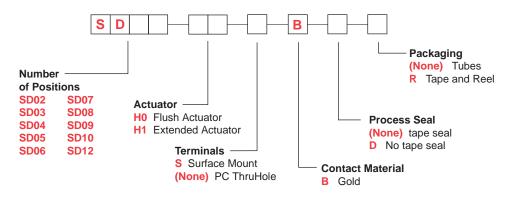
CONTACTS: BeCu with gold plate.
TERMINALS: Bright tin-plated brass.

TERMINAL SEAL: All terminals 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.

#### **Build-A-Switch**

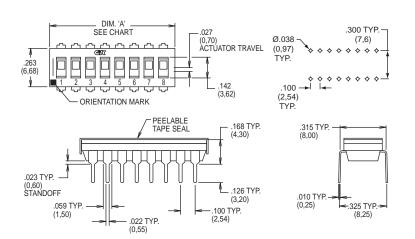






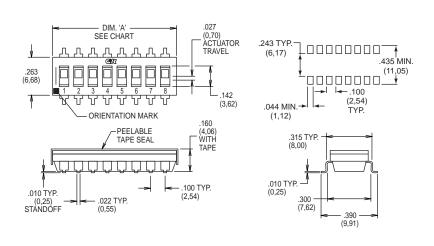
# Sealed Flush Actuator – With Top Tape, Thru-hole Terminals

Process sealed - withstands soldering and cleaning processes



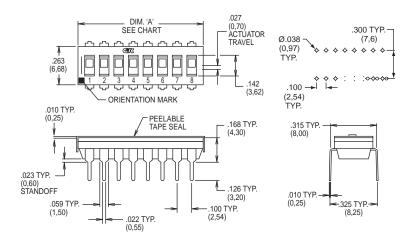
ROHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE	
SD02H0B	2	.258 (6,55)	85	
SD03H0B	3	.358 (9,09)	60	
SD04H0B	4	.458 (11,63)	45	
SD05H0B	5	.558 (14,17)	40	
SD06H0B	6	.658 (16,71)	30	
SD07H0B	7	.758 (19,25	25	
SD08H0B	8	.858 (21,79)	25	
SD09H0B	9	.958 (24,33)	20	
SD10H0B	10	1.058 (26,87)	20	
SD12H0B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

# Sealed Flush Actuator - With Top Tape, Surface Mount Terminals

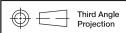


RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER TUBE		
SD02H0SB	2	.258 (6,55)	85		
SD03H0SB	3	.358 (9,09)	60		
SD04H0SB	4	.458 (11,63)	45		
SD05H0SB	5	.558 (14,17)	40		
SD06H0SB	6	.658 (16,71)	30		
SD07H0SB	7	.758 (19,25	25		
SD08H0SB	8	.858 (21,79)	25		
SD09H0SB	9	.958 (24,33)	20		
SD10H0SB	10	1.058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

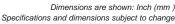
# Sealed Extended Actuator – With Top Tape, Thru-hole Terminals



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				



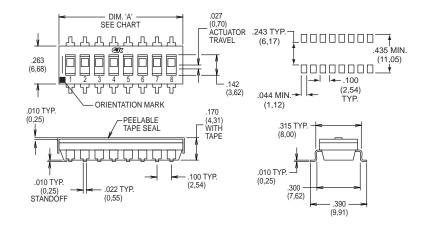
www.ck-components.com





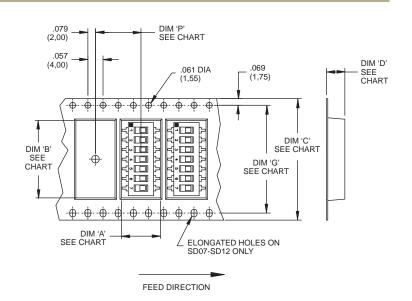
# Sealed Extended Actuator - With Top Tape, Surface Mount Terminals

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

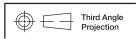
RoHS PART NUMBER	NO. POS.	DIM. 'A'	QUANTITY PER REEL	
SD02H0SBR	2	.258 (6,55)	1000	
SD03H0SBR	3	.358 (9,09)	1000	
SD04H0SBR	4	.458 (11,63)	1000	
SD05H0SBR	5	.558 (14,17)	1000	
SD06H0SBR	6	.658 (16,71)	1000	
SD07H0SBR	7	.758 (19,25	1000	
SD08H0SBR	8	.858 (21,79)	1000	
SD09H0SBR	9	.958 (24,33)	1000	
SD10H0SBR	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 13.00 (333,0)



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





DIP

- 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: 109 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.

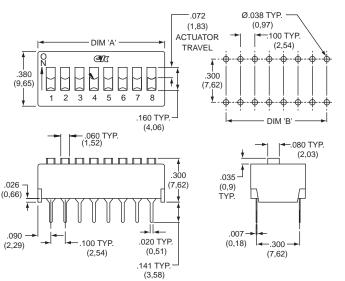
TERMINALS: Matte-tin over nickel over phosphor bronze.

**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

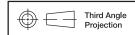


BD08



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					

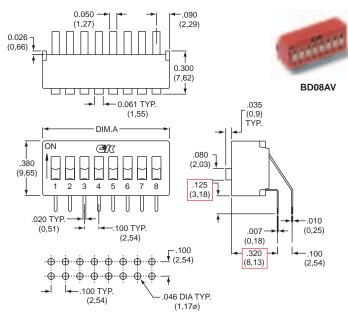




# Open Base and AV Right Angle Terminal Style

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					

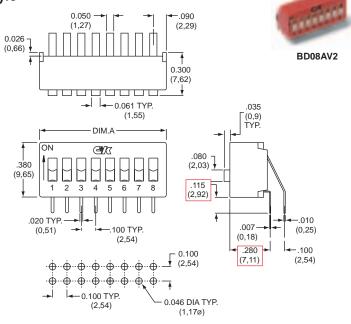
NOTE: Box dimensions show difference between AV and AV2 terminal styles.



# 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



- 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 fulltube 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).

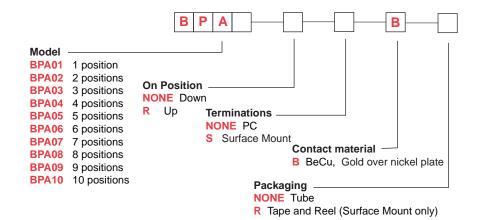
CONTACTS: Beryllium Copper with Gold over Nickel plate.

TERMINALS: Brass, Gold over Nickel plate.

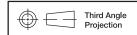
**Note**: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

#### **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.



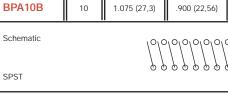




Side Actuator - Thru-hole Terminals







DIM. 'A'

.176 (4,48)

.276 (7,0)

.376 (9,6)

.476 (12,1)

.575 (14,6)

.677 (17,2)

.776 (19,7)

.878 (22,3)

.976 (24,8)

QUANTITY

PER TUBE

100

60

45

35

30

25

20

20

15

15

DIM. 'B'

N/A

.100 (2,54)

.200 (5,08)

.300 (7,62)

.400 (10,16)

.500 (12,70))

.600 (15,24)

.700 (17,78)

.800 (20,32)

ROHS

PART NUMBER

BPA01B

BPA02B

BPA03B

BPA04B

BPA05B

BPA06B

BPA07B

BPA08B

BPA09B

POS

2

3

4

5

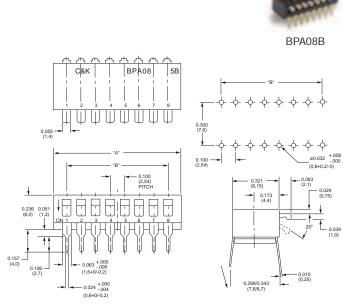
6

7

8

9

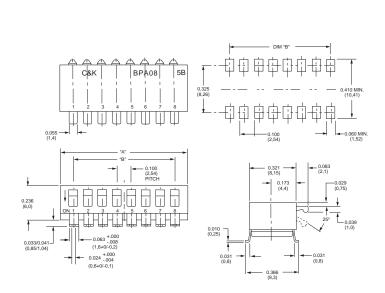
NOTE: Reverse throw available, contact C&K for P/N and quote.



# 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		
Schematic O O O O O O O O						
SPST			, , , , , , , , , , , , , , , , , , , ,	´		

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





BPA08SB

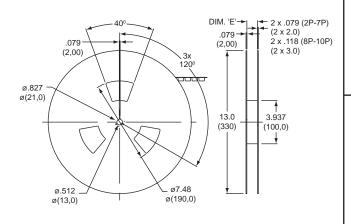
Dimensions are shown: Inch (mm) Specifications and dimensions subject to change



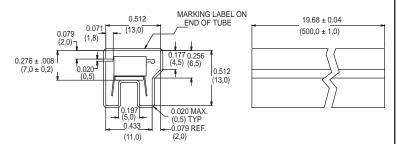
# Tape & Reel Packaging - Surface Mount Options Only

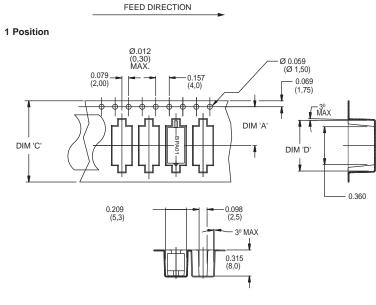
QTY/ REEL	POLES	DIM. 'A'	DIM. 'B'	DIM. 'C'	DIM. 'D'	DIM. 'E'
1000 500 500 500 500 500 500 500 500 500	1 2 3 4 5 6 7 8 9	.453 (11,5) .453 (11,5) .453 (11,5) .453 (11,5) .453 (11,5) .559 (14,2) .559 (14,2) .795 (20,2) .795 (20,2) .795 (20,2)	   1.118 (28,4) 1.1590 (40,4) 1.590 (40,4) 1.590 (40,4)	. (,.,		.960 (24,4) .960 (24,4) .960 (24,4) .960 (24,4) .960 (24,4) 1.275 (32,4) 1.275 (32,4) 1.748 (44,4) 1.748 (44,4)

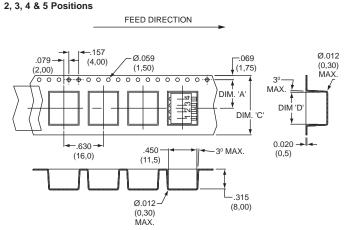
Note: For tape and reel packaging, add 'R' to end of part number.

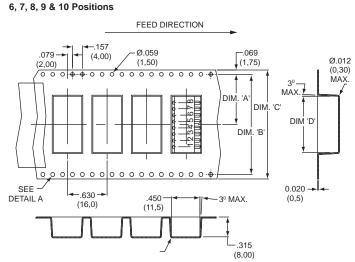


# **Tube Packaging**













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

- 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 m $\Omega$  max. @ 20 V DC 10mA. INSULATION RESISTANCE: 100 M $\Omega$  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 fulltube 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.

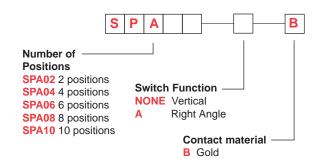
CLIP: Phosphor bronze wire. Phosphor bronze, Tin over nickel plate.

**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**

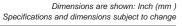
Our easy Build-A Switch concept allows you to mix and match options to create the switch you need. Below is a complete listing of options shown in catalog. To order, simply select desired option from each category and place in the appropriate box.

I-19









# SPA Series Single In-line Package Switches



П

# Vertical

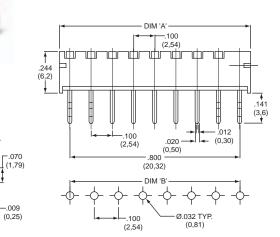
SPA08B

.126

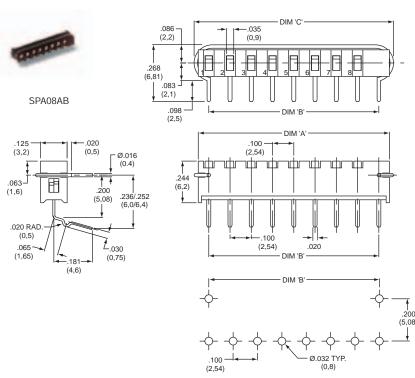
.028 -

.028 -

.039



ROHS PART NUMBER	NO. POS.	DIM. 'A'	DIM. 'B'	QUANITY PER TUBE
SPA02B	2	.342 (8,68)	.200 (5,08)	50
SPA04B	4	.542 (13,76)	.400 (10,16)	30
SPA06B	6	.742 (18,84)	.600 (15,24)	25
SPA08B	8	.942 (23,92)	.800 (20,32)	20
SPA10B	10	1.142 (29,00)	1.000 (25,40)	15
Schematic				
SPST			1 2 3 4 5 6 7 8 0	Č



ROHS PART #	NO. POS.	DIM. 'A'	DIM. 'B'	QUANTITY DIM. 'C'	PER TUBE				
SPA02AB	2	.342 (8,68)	.200 (5,08)	.339 (8,6)	50				
SPA04AB	4	.542 (13,76)	.400 (10,16)	.540 (13,7)	30				
SPA06AB	6	.742 (18,84)	.600 (15,24)	.736 (18,7)	25				
SPA08AB	8	.942 (23,92)	.800 (20,32)	.937 (23,8)	20				
SPA10AB	10	1.142 (29,00)	1.000 (25,40)	1.138 (28,9)	15				
	Schema	tic							
SPST 1 2 3 4 5 6 7 8 C									





- 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. 10µ 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 $\Omega$  max. initial;

150 m $\Omega$  after life

INSULATION RESISTANCE: RTE02/03:  $10^{13} \Omega$  min.

RTE04/10/16:  $10^{10} \ \Omega$  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.

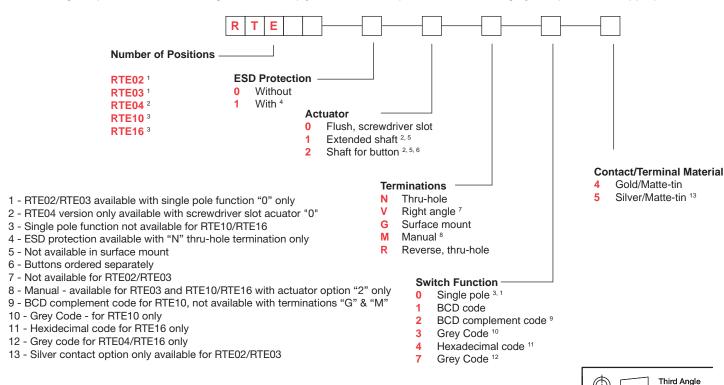
For availability of Gold/Tin - Lead options please contact Customer Service Center.

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.





Projection

Dimensions are shown: Inch (mm)

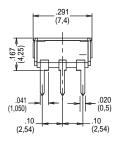
www.ck-components.com

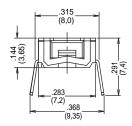
# **SWITCHES WITH STANDARD OPTIONS**

# 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

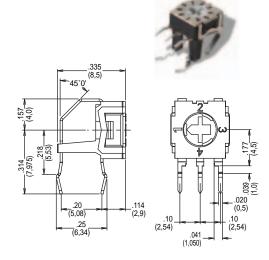






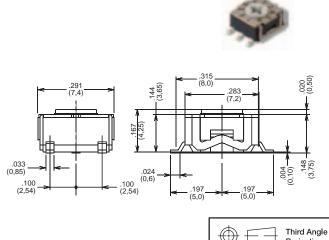
# Right Angle Mount-Terminal Option V

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

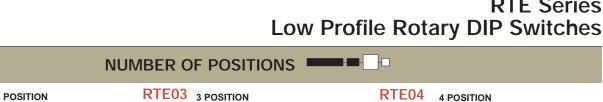




Dimensions are shown: Inch (mm) Specifications and dimensions subject to change



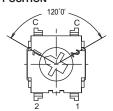
# **RTE Series**



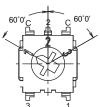


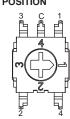




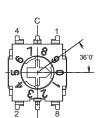


RTE03 3 POSITION

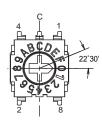




RTE<sub>10</sub> 10 POSITION



RTE16 16 POSITION



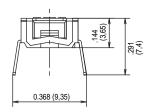
# **ESD PROTECTION**

WITH

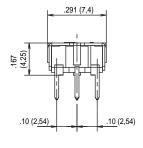
1

WITHOUT

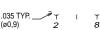










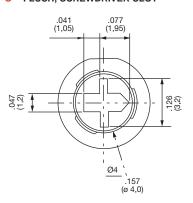




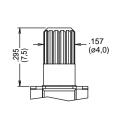




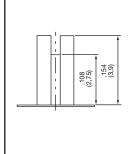
O FLUSH, SCREWDRIVER SLOT

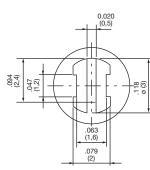


**EXTENDED SHAFT** 



2 SHAFT FOR BUTTON



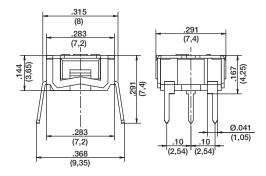


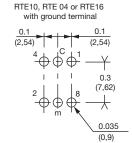


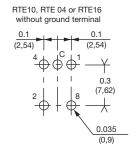
Projection

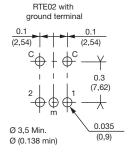
Dimensions are shown: Inch (mm ) Specifications and dimensions subject to change

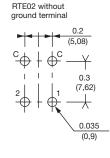


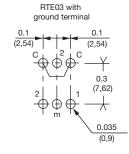


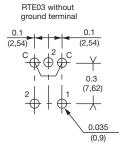






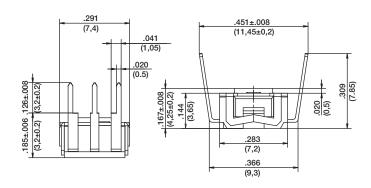


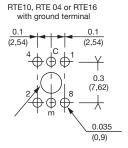


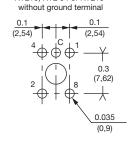


Ø in PC Board for screw driver operation must be 3.5 mm

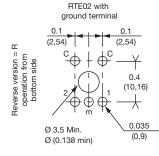
REVERSE, THRU-HOLE

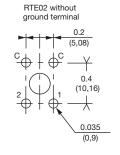


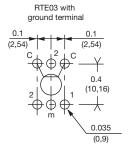


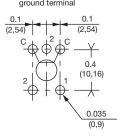


RTE10, RTE 04 or RTE16



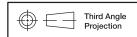






RTE03 without

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



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



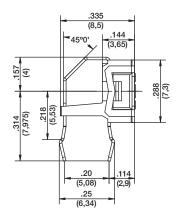
# TERMINATIONS ———



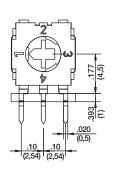
П

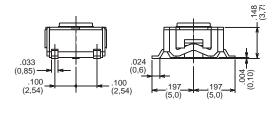
RIGHT ANGLE, THRU-HOLE

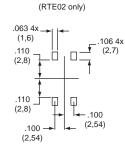


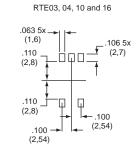


ø0,9 (ø035)



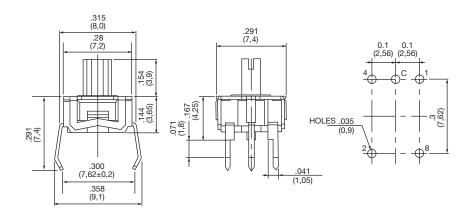


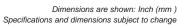




PCB layout seen component side

# M OPTION







# **RTE Series** Low Profile Rotary DIP Switches



SINGLE POLE

POS.	1	2	3	4
С	•	•	•	•
1	•			
2				
3				
4				•

BCD CODE

**SWITCH FUNCTION** 

POS.	0	1	2	3	4	5	6	7	8	9
С	•	•	•	•		•	•		•	•
1		•		•		•		•		•
2			•	•			•	•		
4						•				
8									•	•

2 BCD COMPLEMENT CODE

POS.	0	1	2	3	4	5	6	7	8	9
С	•		•	•		•	•	•	•	•
1	•		•		•		•		•	
2	•	•			•	•			•	•
4	•	•	•	•					•	
8	•		•	•		•		•		

Other codes available by request.

GREY CODE (for RTE10 only)

POS.	0	1	2	3	4	5	6	7	8	9
С			•						•	
1			•							
2			•	•	•	•				
4					•			•	lacksquare	
8									•	•

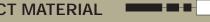
**HEXADECIMAL CODE** 

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

**7 GREY CODE** (for RTE04 and RTE16 only)

ſ	POS.	0	1	2	3	4	5	6	7	8	9
Ì	С	•	•	•	•	•	•	•	•	•	•
Ī	1		•	•			•	•			•
	2			•	•	•	•				
	4					•	•	•	•	•	•
	8									•	

**CONTACT MATERIAL** 



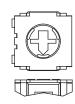
OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	CONTACT MATERIAL	TERMINAL PLATING	RATINGS		
*4	YES	YES * *	GOLD	MATTE TIN	100 mA max. 10μ A min.		30 V DC max.
*5	YES	YES * *	SILVER	MATTE TIN	100 mA max.	1 mA min.	50 V DC max.

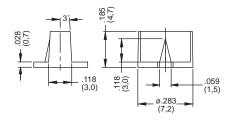
<sup>\*</sup> Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

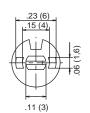
# **BUTTONS AVAILABLE**

Buttons are ordered separately, shipped in bulk.

Part Number	Color
BTN RTE 40	Red
BTN RTE 50	Green
BTN RTF 90	Black







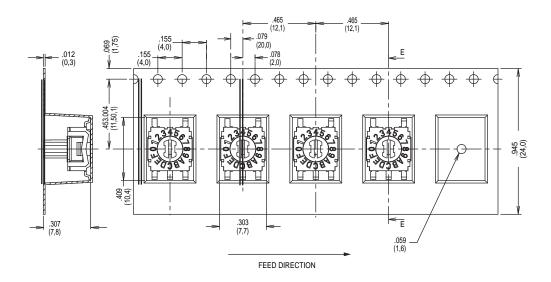




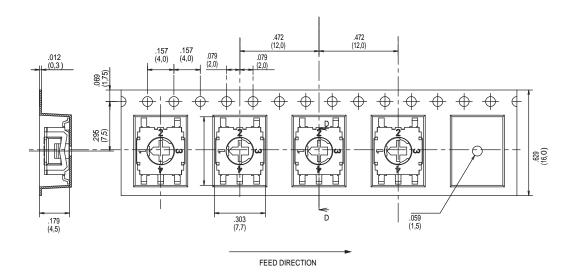
<sup>\*\*</sup> When selecting contact material option 4 and 5 with RTE02, RTE03 and or "V" terminations, these combinations are RoHS compliant but not currently compatible (i.e. they do not sustain the high temperatures of the leadfree soldering process). All other options and terminations are RoHS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

# **TAPE AND REEL**

Tape and reel for RTExx02Gxx 750 pieces per reel.



Tape and reel for RTExx00Gxx 1,250 pieces per reel.



Note: Dimensions in:  $\frac{\text{inches}}{\text{(mm)}}$ 



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



- 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.

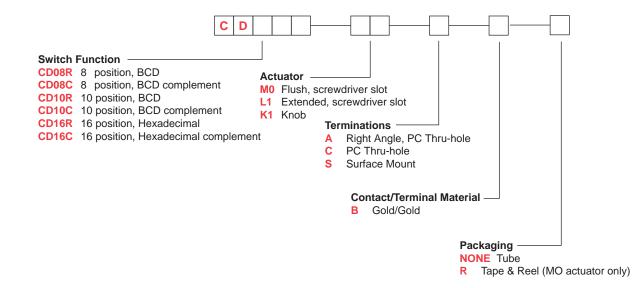
STATIONARY CONTACTS: Copper alloy with gold plate over nickel plate.

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.





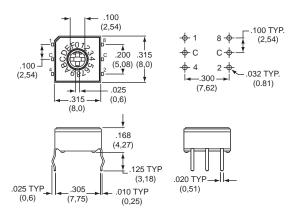


# **SWITCHES WITH STANDARD OPTIONS**





CD16RM0CB

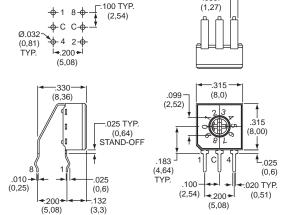


PART NUMBER	NO. POS.	QUANTITY PER TUBE
CD08RM0CB	8	60
CD10RM0CB	10	60
CD16RM0CB	16	60

# **Right Angle Mount**



CD10RM0AB

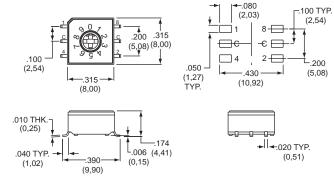


PART NUMBER	NO. POS.	QUANTITY PER TUBE
CD08RM0AB	8	60
CD10RM0AB	10	60
CD16RM0AB	16	60

# **Surface Mount**



CD10RM0SB



PART NUMBER	NO. POS.	QUANTITY PER TUBE
CD08RM0SB	8	60
CD10RM0SB	10	60
CD16RM0SB	16	60

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





# **CD Series** 8mm DIP Coded Rotary Switches





CD08R

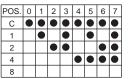
8 POSITION, BCD ACTUATOR COLOR: WHITE



**SWITCH FUNCTION** 

CD08C

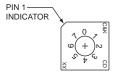
8 POSITION, BCD COMPLEMENT ACTUATOR COLOR: BLACK



Switches ship and to be solder processed in

POS.	0	1	2	3	4	5	6	7
С	•	•	•	•	•	•	•	
1			•				•	
2	•	•			•	•		
4	•		•					
8	•			•		•	•	

Switches ship and to be solder processed in position "7"

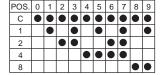


CD10R 10 POSITION, BCD

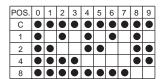
ACTUATOR COLOR: WHITE

CD10C

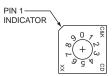
10 POSITION, BCD COMPLEMENT ACTUATOR COLOR: BLACK



Switches ship and to be solder processed in



Switches ship and to be solder processed in position "7"



CD16R

16 POSITION, HEXADECIMAL ACTUATOR COLOR: WHITE

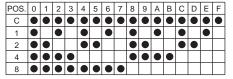
CD16C

**ACTUATOR** 

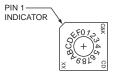
16 POSITION, HEXADECIMAL COMPLEMENT ACTUATOR COLOR: BLACK

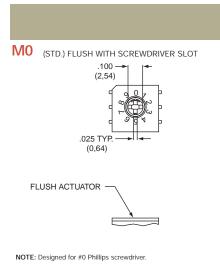
POS.	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Е	F
С			•			•				•	•	•		•		
1		•		•		•				•		•		•		•
2			•	•			•	•			•	•			•	
4					•	•	•	•					•	•	•	
8										•	•	•	•	•	•	•

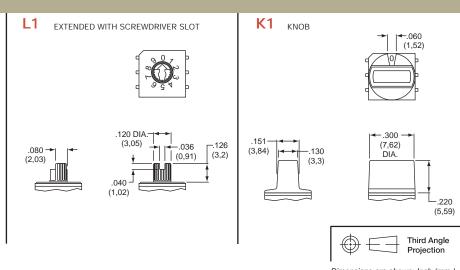
Switches ship and to be solder processed in



Switches ship and to be solder processed in









# **CONTACT MATERIAL**



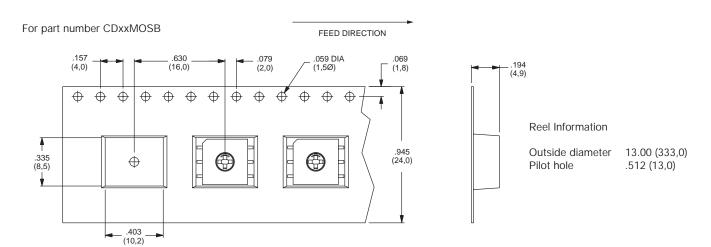


<sup>\*</sup> Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.





# **TAPE & REEL**





# CRD Series 10mm DIP Coded Rotary Switches



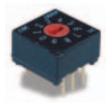
ш

## 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 quatities 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).

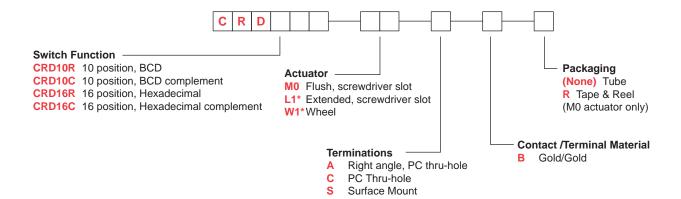
CONTACTS: Beryllium Copper with Gold over Nickel plate

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.







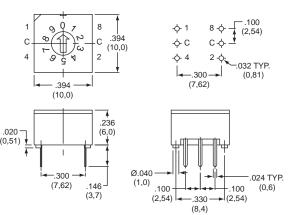
<sup>\*</sup> Note - L1 and W1 actuators are not available in termination "S"

# **SWITCHES WITH STANDARD OPTIONS**



# **PC Mount**

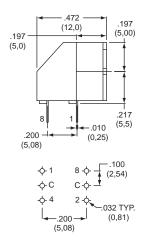


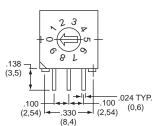


PART NUMBER	NO. POS.	QUANTITY PER TUBE
CRD10RM0CB	10	45
CRD16RM0CB	16	45

# **Right Angle Mount**



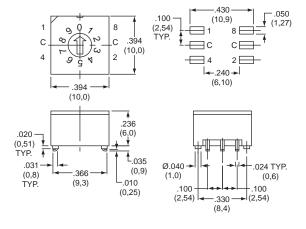




PART NUMBER	NO. POS.	QUANTITY PER TUBE
CRD10RM0AB	10	45
CRD16RM0AB	16	45

# **Surface Mount**





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





# **CRD Series** 10mm DIP Coded Rotary Switches





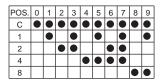
CRD10R

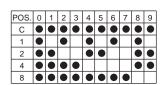
**SWITCH FUNCTION** 

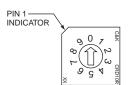
CRD10C

10 POSITION, BCD ACTUATOR COLOR: RED

10 POSITION, BCD COMPLEMENT ACTUATOR COLOR: ORANGE





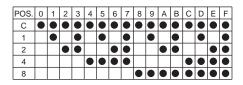


CRD16R

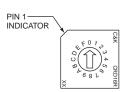
CRD16C

16 POSITION, HEXADECIMAL ACTUATOR COLOR: BLACK

16 POSITION, HEXADECIMAL COMPLEMENT ACTUATOR COLOR: WHITE



POS.	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Е	F
С	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1	•		•		•		•		•		•		•		•	
2	•	•			•	•			•	•			•	•		
4	•		•						•		•					
8																

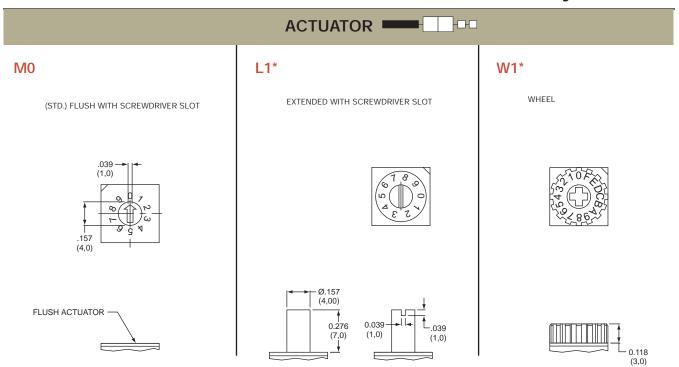






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# CRD Series 10mm DIP Coded Rotary Switches



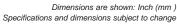
**NOTE:** Designed for #0 Phillips screwdriver.

# CONTACT MATERIAL

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

<sup>\*</sup> Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.







<sup>\*</sup> L1 and W1 actuators are not available in termination "S"



# 1

# **TAPE & REEL**

