

“Sealed Dip Rotary” Switch DRD “E” Thru-Hole and Surface Mount

The August/Alcoswitch “E” version of the DR series rotary Dip switch is a process sealed switch. With an actuator “O” ring seal, this switch withstands the stringent 60°C, one minute immersion

“Bubble” Test. Compliance with the “Bubble” test assures you of the compatibility of DRD “E” Series with the harshest of soldering and cleaning processes.

MATERIAL SPECIFICATIONS:

Contacts.....Gold flashed copper alloy
 TerminalsTin lead plated brass
 Base, Rotor, Case.....Glass filled PBT resin
 Movable Contact.....Gold flashed copper alloy
 Ball Support PlateCopper alloy
 Detent SpringStainless steel (spring)

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature.....-22°F to +185°F (-30°C to +85°C)
 Storage Temperature.....-49°F to 212°F (-45°C to +100°C)
 Vibration Resistance.....Subjected to vibration of 10-55hz per second with a total amplitude of .06 in. in 3 mutually perpendicular directions for 2 hours each
 Shock ResistanceWill withstand 50G acceleration in 3 different planes for a period of 11 milliseconds
 Salt Spray TestWithstands an atmosphere of 5% salt water at temperature of 50°C
 Hydrogen Sulfide Test.....Withstands an atmosphere of 15-20 PPM hydrogen sulfide gas at temperature of 40°C for 240 hours
 Atmospheric Test.....Withstands an atmosphere of 30-50 PPM sulfite gas at a temperature of 40°C for 240 hours
 Solder Heat ResistanceWithstands 5 sec. flow solder bath of 260°C when mounted on a .06" thick PC board per MIL-STD 202, Method 210
 Bubble TestWithstands submersion in 60°C Flouriert for 1 min. without leakage

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC max.
 Initial Contact Resistance.....50 Milliohms max. @ 2 VDC
 Insulation Resistance1,000 Megohms min. @ 100 VDC
 Dielectric Strength300 VAC RMS @ sea level
 Actuation Strength (DRM).....5.0 Lbs. max. lateral force
 Operating Force6 Oz.-in. nom.
 SMT Operating Force3 Oz.-in. nom.
 Life Expectancy10 Pos: 2,000



DRD10E



DRD16CE

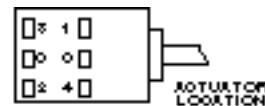
Note: Common terminals are connected internally, except on hybrid versions.

TRUTH TABLES

Terminal Identification
(view from bottom of the switch)



VIEW FROM BOTTOM OF THE SWITCH



FOR HYBRID VERSIONS, COMMON BETWEEN TERMINALS 1 AND 4 IS RESISTOR OR DIODE COMMON.
 NOTE: COMMON TERMINALS ARE CONNECTED INTERNALLY, EXCEPT ON HYBRID VERSIONS.

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | X | | X | | X | | X | |
| 2 | | X | X | | X | X | | | | |
| 4 | | | | X | X | X | X | | | |
| 8 | | | | | | | | X | X | |

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 1 | | X | | X | | X | | X | | X | | X | | X | | X |
| 2 | | | X | X | | | X | X | | | X | X | | | X | X |
| 4 | | | | | X | X | X | X | | | | | X | X | X | X |
| 8 | | | | | | | | | X | X | X | X | X | X | X | X |

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | X | | X | | X | | X | |
| 2 | X | X | | | X | X | | | X | X |
| 4 | X | X | X | X | | | | | X | X |
| 8 | X | X | X | X | X | X | X | X | | |

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | X | | X | | X | | X | | X | | X | | X | |
| 2 | X | X | | | X | X | | | X | X | | | X | X | | |
| 4 | X | X | X | X | | | | | X | X | X | X | | | | |
| 8 | X | X | X | X | X | X | X | X | | | | | | | | |

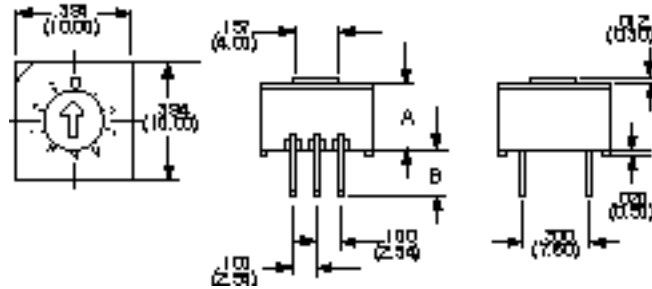
Need more technical information?

Contact your local ABE office--(800) 453-1692--or AboveBoardElectronics.com

Above Board Electronics
 1918 Junction Avenue
 San Jose, CA 95131

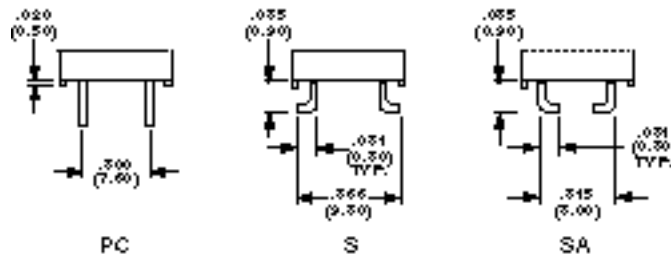
DRD "E" "Sealed Dip Rotary" Switch Thru-Hole and Surface Mount

"D" FLUSH ACTUATOR

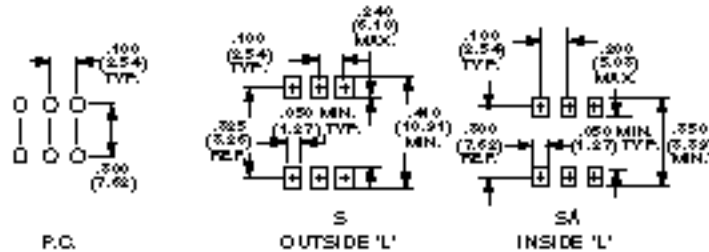


| Dim. | DR |
|------|----------------|
| A | .236 (6.00) |
| B | .146 (3.70) |

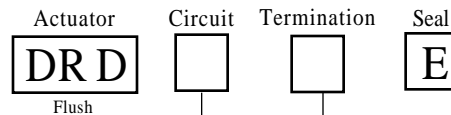
SURFACE MOUNT TERMINATIONS - PC



PAD LAYOUTS



HOW TO ORDER



10 = BCD
10C = BCD Complement
16 = Hexadecimal
16C = Hexadecimal Complement

Blank = PC
S = Outside
SA = Inside

Rotary Dip Switches DR, RR & RA/C Series Thru-Hole and Surface Mount

MATERIAL SPECIFICATIONS:

Contact/Terminals.....Gold flashed copper alloy
Base, Rotor, Case.....Polyester

TYPICAL PERFORMANCE CHARACTERISTICS:

Contact Rating0.4 VA @ 20 VDC
Initial Contact Resistance.....50 Milliohms max. @ 2 VDC
Insulation Resistance1,000 Megohms min. @ 100 VDC
Dielectric Strength300 VAC RMS @ sea level

ENVIRONMENTAL SPECIFICATIONS:

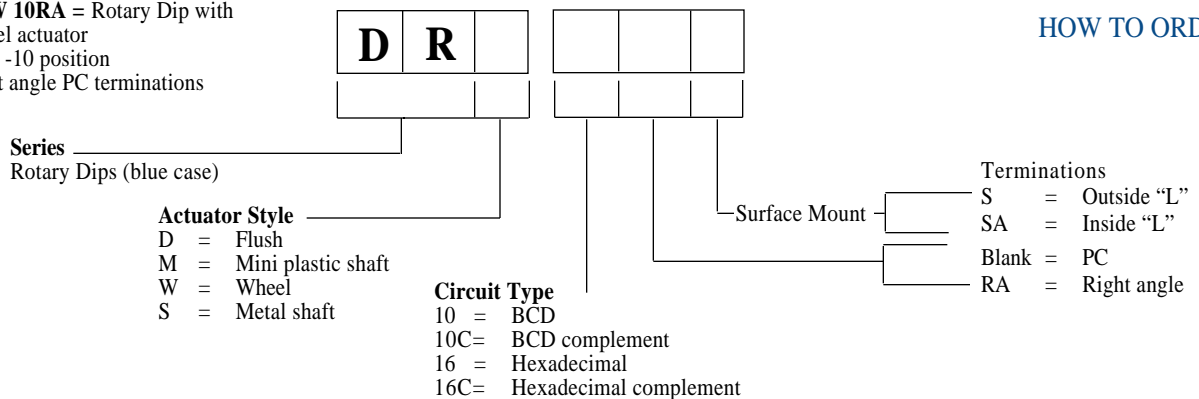
Operating Temperature.....-22°F to +185°F (-30°C to +85°C)
Storage Temperature.....-49°F to +212°F (-45°C to + 100°C)
Vibration Resistance.....Subjected to vibration of 10-55hz per second with a total amplitude of .06 in. in 3 mutually perpendicular directions for 2 hours each
Shock ResistanceWill withstand 50G acceleration in 3 different planes for a period of 11 milliseconds
Salt Spray TestWithstands an atmosphere of 5% salt water at temperature of 50°C
Hydrogen Sulfide Test.....Withstands an atmosphere of 15-20 PPM hydrogen sulfide gas at temperature of 40°C for 240 hours
Atmosphere TestWithstands an atmosphere of 30-50 PPM sulfide gas at a temperature of 40°C for 240 hours
Solder Heat ResistanceWithstands 5 sec. flow solder bath of 260°C when mounted on a .06" thick PC board per MIL-STD 202, Method 210

Rotary Dip Switches DR Series

FEATURES:

- Available in PC and surface mount configurations.
 - High pressure contacts (140K PSI) provide 10 pos: 2,000/16 pos: 1,250 rotation life.
 - Unique design utilizes high pressure pin-point sliding contacts to penetrate contaminants on contact surface.
 - Terminals insert molded into base.
 - Screwdriver, knob and shaft (plastic and steel) type actuators available in both upright and right angle versions.
 - 10 And 16 position versions with both real and complement codes.
- Note: Common terminals connected internally.

Example: DRW 10RA = Rotary Dip with
Wheel actuator
BDC -10 position
Right angle PC terminations



See pages M2-M4 for application specific indexing.

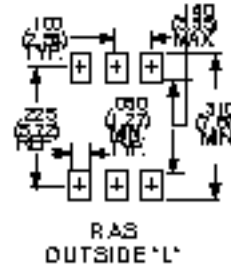
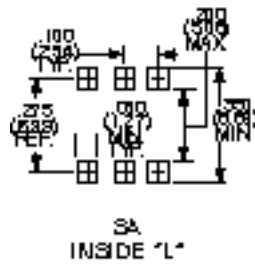
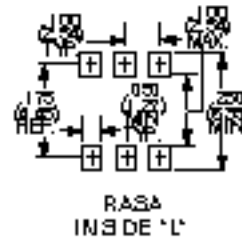
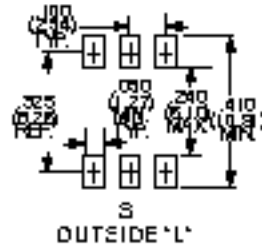
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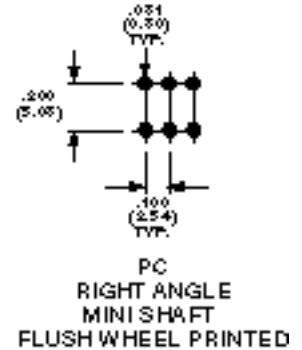
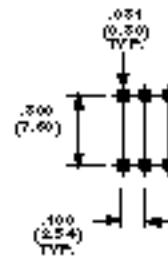
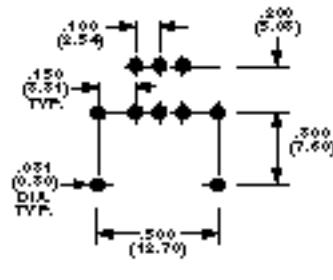
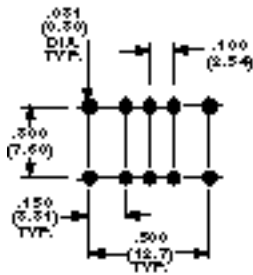
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DR, RR & RA/C Series *Rotary Dip Switches*

PAD LAYOUTS

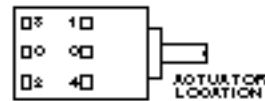


FOOTPRINTS



TRUTH TABLES

Terminal Identification
(view from bottom of the switch)



FOR HYBRID VERSIONS, COMMON BETWEEN TERMINALS 9 & 1 AND 4 & 16 RESISTOR OR DIODE COMMON.

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | | | X | | | | X | |
| 2 | | X | X | | | X | X | | | |
| 4 | | | | X | X | X | X | | | |
| 8 | | | | | | | | X | X | |

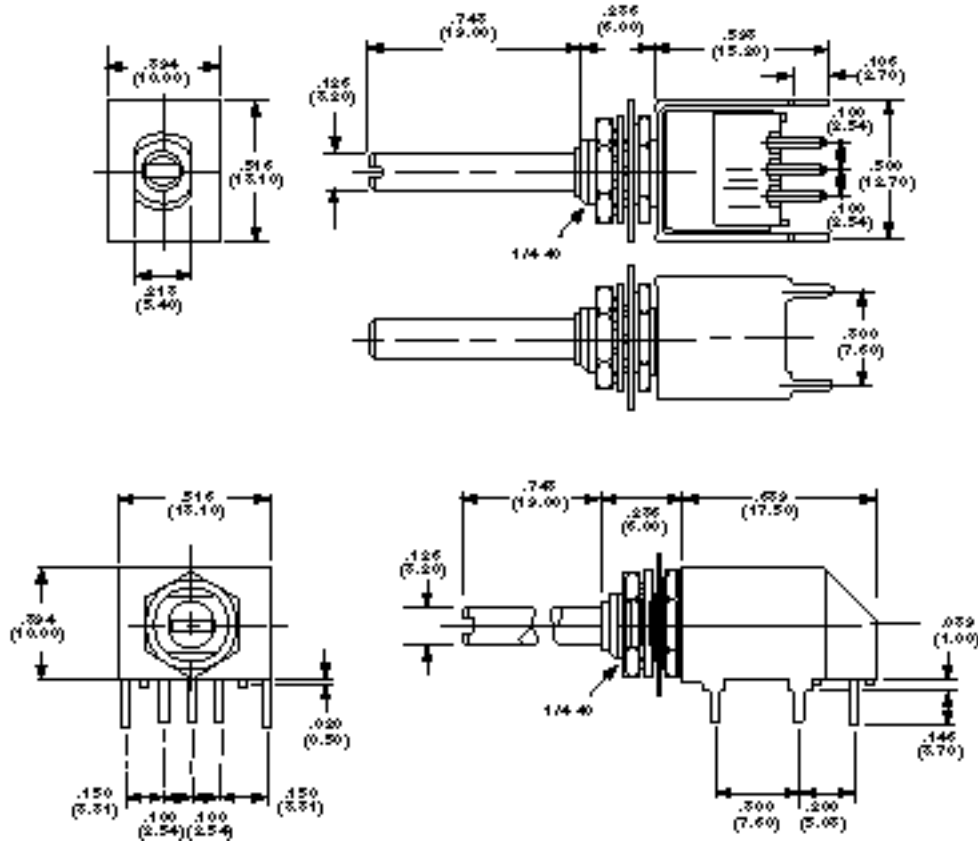
| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 1 | | X | | | | X | | | | X | | | | X | | |
| 2 | | | X | X | | | X | X | | | X | X | | | X | X |
| 4 | | | | | X | X | X | X | | | | | X | X | X | X |
| 8 | | | | | | | | | X | X | X | X | X | X | X | X |

| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | X | | X | | X | | X | |
| 2 | X | X | | | X | X | | | X | X |
| 4 | X | X | X | X | | | | | X | X |
| 8 | X | X | X | X | X | X | X | X | | |

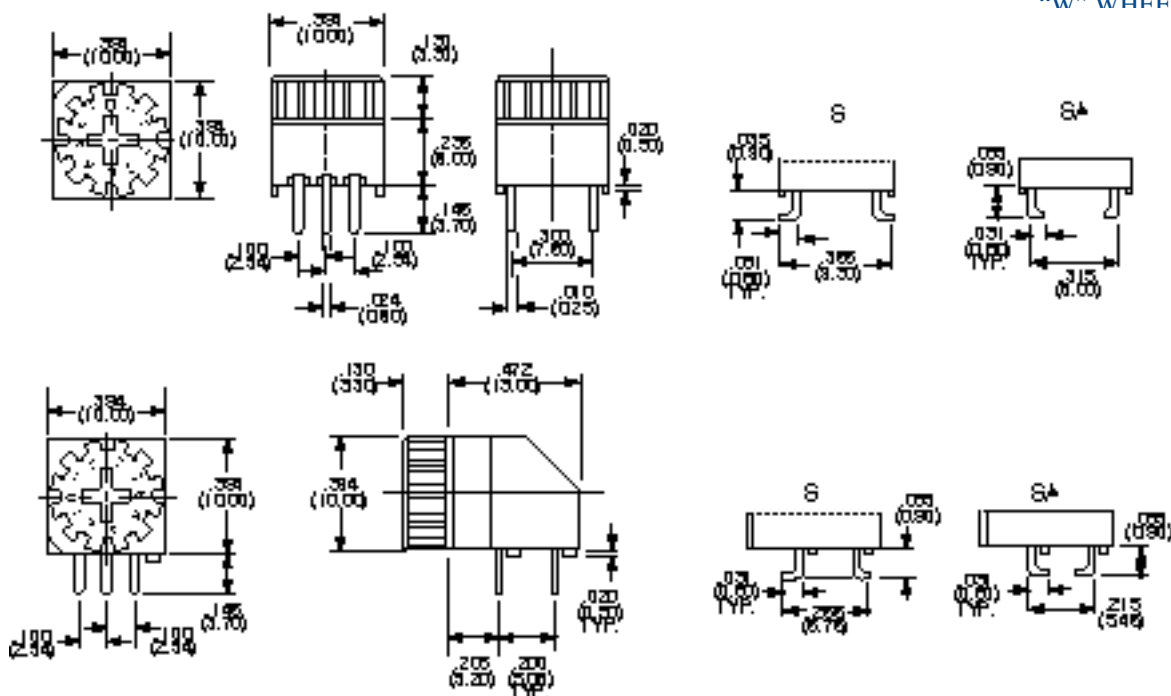
| Pos. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 1 | X | | X | | X | | X | | X | | X | | X | | X | |
| 2 | X | X | | | X | X | | | X | X | | | X | X | | |
| 4 | X | X | X | X | | | | | X | X | X | X | | | | |
| 8 | X | X | X | X | X | X | X | X | | | | | | | | |

Rotary Dip Switches DR, RR & RA/C Series

“S” METAL SHAFT ACTUATOR



“W” WHEEL ACTUATOR



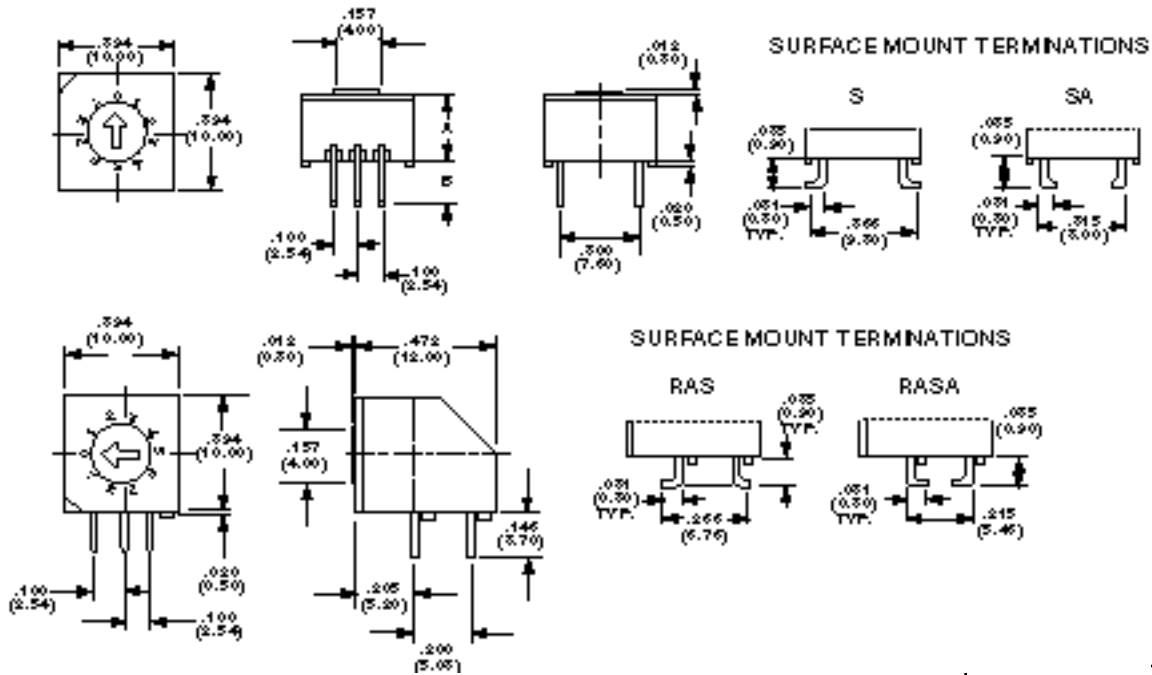
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DR, RR & RA/C Series *Rotary Dip Switches*

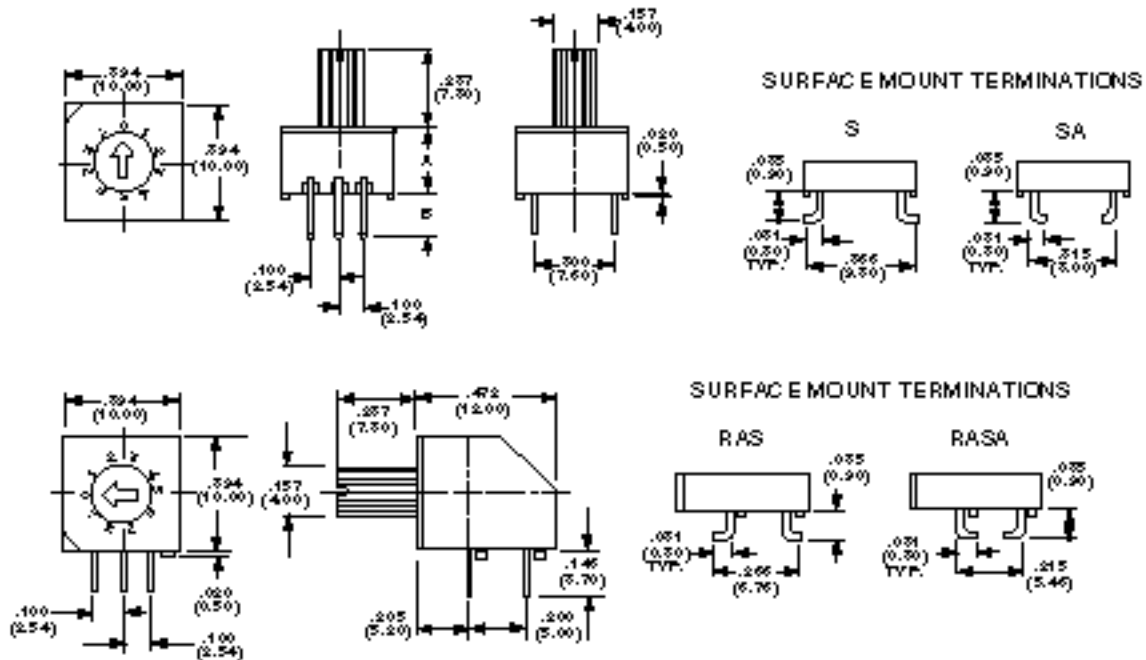
“D” FLUSH ACTUATOR



| DIM. | DR | RC, *RA, RR |
|------|-------------|-------------|
| A | .236 (6.00) | .256 (6.50) |
| B | .146 (3.70) | .126 (3.20) |

* No standoffs on RC, RA & RR Models.

“M” MINI-SHAFT ACTUATOR



| DIM. | DR | RC, *RA, RR |
|------|-------------|-------------|
| A | .236 (6.00) | .256 (6.50) |
| B | .146 (3.70) | .126 (3.20) |

* No standoffs on RC, RA & RR Models.