

# DS/DSR - DP/DPL - DA SERIES

## DIP SWITCHES

### Specifications

#### ELECTRICAL SPECIFICATIONS

- Current/voltage rating :
  - non-switching : 100mA 50VDC
  - switching : 50mA 24VDC
- Contact resistance (at 100mA) :
  - 50mΩ max. at initial
  - 100mΩ after life test
- Insulation resistance (at 100VDC +/-15V) :
  - 100 MΩ min. between adjacent terminals
- Dielectric strength : 500VDC for one minute
- Capacitance : 5 pF between adjacent terminals
- Circuit : single pole, single throw
- Electrical life : 2.000 cycles min. per switch

#### MATERIALS

- Case, UL94-VO, glass fiber filled PBT, black
- Cover : UL94-VO, glass fiber filled PBT, red
- Actuator : UL94-VO, glass fiber filled PBT, white
- Terminals/contacts : gold over nickel plated phosphor bronze
- Terminal seal : epoxy
- Tape seal : polyester film

#### GENERAL SPECIFICATIONS

- Operating force :
  - DP models : 4N
  - DS/DA models : 8N
- Travel : 2 mm (.078)
- Mechanical life : 5.000 cycles min. per switch
- Vibration test : MIL-STD-202F method 201A
- Shock test : MIL-STD-202F method 213B, condition A
- Operating temperature : -20°C to +70°C

#### RECOMMENDED SOLDERING AND CLEANING PROCESSES

- Hand soldering : 320°C max. for 2 seconds max. (30 watt iron max.)
- Wave soldering : 260°C max. for 5 seconds max.
- Force rinse, high agitation or triple bath cleaning method (**with tape seal, option T**) : freon TF or TE. When vapor methods are used, do not subject switch to solvents above 51°C.

Note : keep switches in "OFF" position during soldering and cleaning for best results.

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



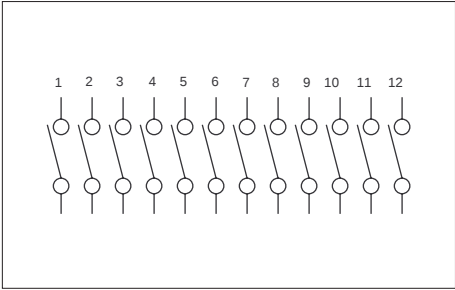
**Packaging unit** : standard IC tubes

Quantities depending on model. See table below.

| DS/DSR   | Quantity | DS-T/DSR-T | Quantity | DA    | Quantity | DA-T   | Quantity | DP/DPL(-T)  | Quantity |
|----------|----------|------------|----------|-------|----------|--------|----------|-------------|----------|
| DS(R)-02 | 73       | DS(R)-02T  | 70       | DA-02 | 73       | DA-02T | 70       | DP(L)-02    | 70       |
| DS(R)-03 | 52       | DS(R)-03T  | 50       | DA-03 | 52       | DA-03T | 52       | DP(L)-02T   | 67       |
| DS(R)-04 | 40       | DS(R)-04T  | 40       | DA-04 | 40       | DA-04T | 39       | DP(L)-03(T) | 50       |
| DS(R)-05 | 33       | DS(R)-05T  | 32       | DA-05 | 33       | DA-05T | 32       | DP(L)-04(T) | 39       |
| DS(R)-06 | 28       | DS(R)-06T  | 28       | DA-06 | 28       | DA-06T | 28       | DP(L)-05(T) | 32       |
| DS(R)-07 | 24       | DS(R)-07T  | 24       | DA-07 | 24       | DA-07T | 24       | DP(L)-06(T) | 25       |
| DS(R)-08 | 21       | DS(R)-08T  | 21       | DA-08 | 21       | DA-08T | 21       | DP(L)-08(T) | 21       |
| DS(R)-09 | 19       | DS(R)-09T  | 19       | DA-09 | 19       | DA-09T | 19       | DP(L)-10(T) | 17       |
| DS(R)-10 | 17       | DS(R)-10T  | 17       | DA-10 | 17       | DA-10T | 17       | DP(L)-12(T) | 14       |
| DS(R)-12 | 14       | DS(R)-12T  | 14       | DA-12 | 14       | DA-12T | 14       |             |          |

# DS/DSR SERIES

## STANDARD DIP SWITCHES

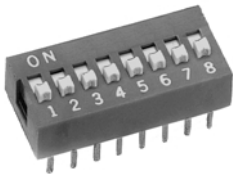


- Raised or recessed actuator
- 2 to 12 positions

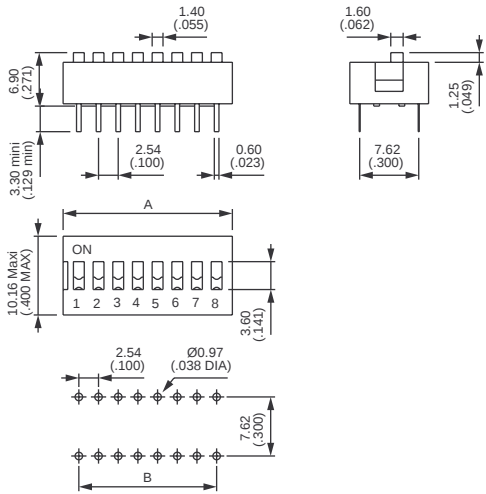
MODEL  
STRUCTURE



### Raised actuator : DS



| Model No | No. pos. | Dim "A" (max.) | Dim. "B"      |
|----------|----------|----------------|---------------|
| DS-02    | 2        | 6,60 (.259)    | 2,54 (.100)   |
| DS-03    | 3        | 9,14 (.359)    | 5,08 (.200)   |
| DS-04    | 4        | 11,68 (.459)   | 7,62 (.300)   |
| DS-05    | 5        | 14,22 (.559)   | 10,16 (.400)  |
| DS-06    | 6        | 16,76 (.659)   | 12,70 (.500)  |
| DS-07    | 7        | 19,30 (.759)   | 15,24 (.600)  |
| DS-08    | 8        | 21,84 (.859)   | 17,78 (.700)  |
| DS-09    | 9        | 24,38 (.959)   | 20,32 (.800)  |
| DS-10    | 10       | 26,92 (1.059)  | 22,86 (.900)  |
| DS-12    | 12       | 32,00 (1.259)  | 27,94 (1.100) |

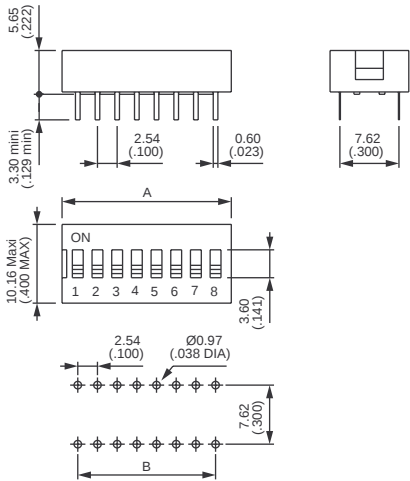


Top tape sealed : add "T" after model number.

### Recessed actuator : DSR



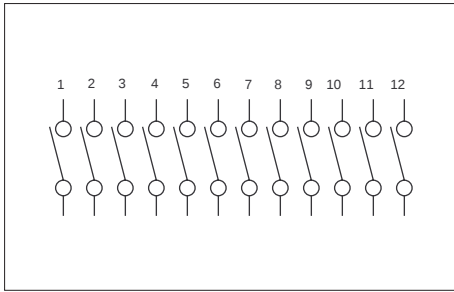
| Model No | No. pos. | Dim "A"       | Dim. "B"      |
|----------|----------|---------------|---------------|
| DSR-02   | 2        | 6,60 (.259)   | 2,54 (.100)   |
| DSR-03   | 3        | 9,14 (.359)   | 5,08 (.200)   |
| DSR-04   | 4        | 11,68 (.459)  | 7,62 (.300)   |
| DSR-05   | 5        | 14,22 (.559)  | 10,16 (.400)  |
| DSR-06   | 6        | 16,76 (.659)  | 12,70 (.500)  |
| DSR-07   | 7        | 19,30 (.759)  | 15,24 (.600)  |
| DSR-08   | 8        | 21,84 (.859)  | 17,78 (.700)  |
| DSR-09   | 9        | 24,38 (.959)  | 20,32 (.800)  |
| DSR-10   | 10       | 26,92 (1.059) | 22,86 (.900)  |
| DSR-12   | 12       | 32,00 (1.259) | 27,94 (1.100) |



Top tape sealed : add "T" after model number.

# DP/DPL SERIES

## PIANO DIP SWITCHES



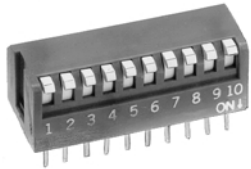
- Short or long actuator
- 2 to 12 positions

Note : Push down for "ON" is our standard type.  
Push down for "OFF" is also available on special order,  
consult factory.

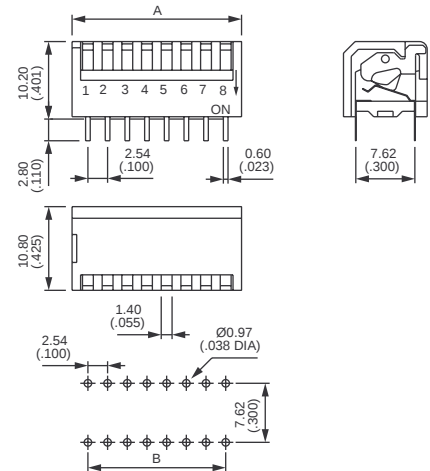
MODEL  
STRUCTURE



### Short actuator : DP

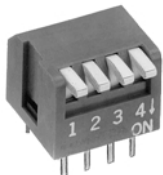


| Model No | No. pos. | Dim "A" max.  | Dim. "B"      |
|----------|----------|---------------|---------------|
| DP-02    | 2        | 6,63 (.261)   | 2,54 (.100)   |
| DP-03    | 3        | 9,17 (.361)   | 5,08 (.200)   |
| DP-04    | 4        | 11,71 (.461)  | 7,62 (.300)   |
| DP-05    | 5        | 14,25 (.561)  | 10,16 (.400)  |
| DP-06    | 6        | 16,8 (.661)   | 12,70 (.500)  |
| DP-08    | 8        | 21,87 (.861)  | 17,78 (.700)  |
| DP-10    | 10       | 26,95 (1.061) | 22,86 (.900)  |
| DP-12    | 12       | 32,03 (1.261) | 27,94 (1.100) |

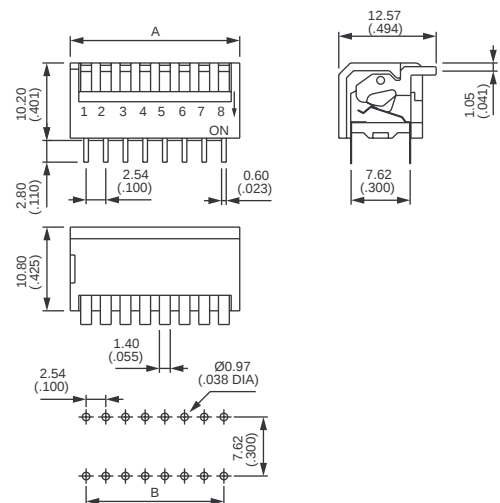


Top tape sealed : add "T" after model number.

### Long actuator : DPL



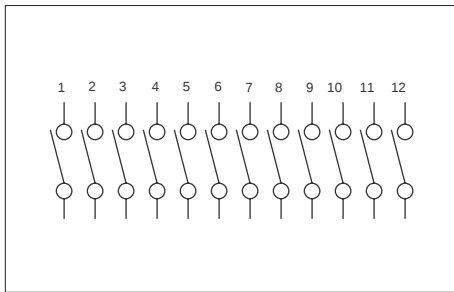
| Model No | No. pos. | Dim "A" max.  | Dim. "B"      |
|----------|----------|---------------|---------------|
| DPL-02   | 2        | 6,63 (.261)   | 2,54 (.100)   |
| DPL-03   | 3        | 9,17 (.361)   | 5,08 (.200)   |
| DPL-04   | 4        | 11,71 (.461)  | 7,62 (.300)   |
| DPL-05   | 5        | 14,25 (.561)  | 10,16 (.400)  |
| DPL-06   | 6        | 16,8 (.661)   | 12,70 (.500)  |
| DPL-08   | 8        | 21,87 (.861)  | 17,78 (.700)  |
| DPL-10   | 10       | 26,95 (1.061) | 22,86 (.900)  |
| DPL-12   | 12       | 32,03 (1.261) | 27,94 (1.100) |



Top tape sealed : add "T" after model number.

# DA SERIES

## RIGHT ANGLE DIP SWITCHES



- 2 to 12 positions

MODEL  
STRUCTURE



### Raised actuator : DA



| Model No | No. pos. | Dim "A"       | Dim. "B"      |
|----------|----------|---------------|---------------|
| DA-02    | 2        | 6,60 (.259)   | 2,54 (.100)   |
| DA-03    | 3        | 9,14 (.359)   | 5,08 (.200)   |
| DA-04    | 4        | 11,68 (.459)  | 7,62 (.300)   |
| DA-05    | 5        | 14,22 (.559)  | 10,16 (.400)  |
| DA-06    | 6        | 16,76 (.659)  | 12,70 (.500)  |
| DA-07    | 7        | 19,30 (.759)  | 15,24 (.600)  |
| DA-08    | 8        | 21,84 (.859)  | 17,78 (.700)  |
| DA-09    | 9        | 24,38 (.959)  | 20,32 (.800)  |
| DA-10    | 10       | 26,92 (1.059) | 22,86 (.900)  |
| DA-12    | 12       | 32,00 (1.259) | 27,94 (1.100) |

Top tape sealed : add "T" after model number.

