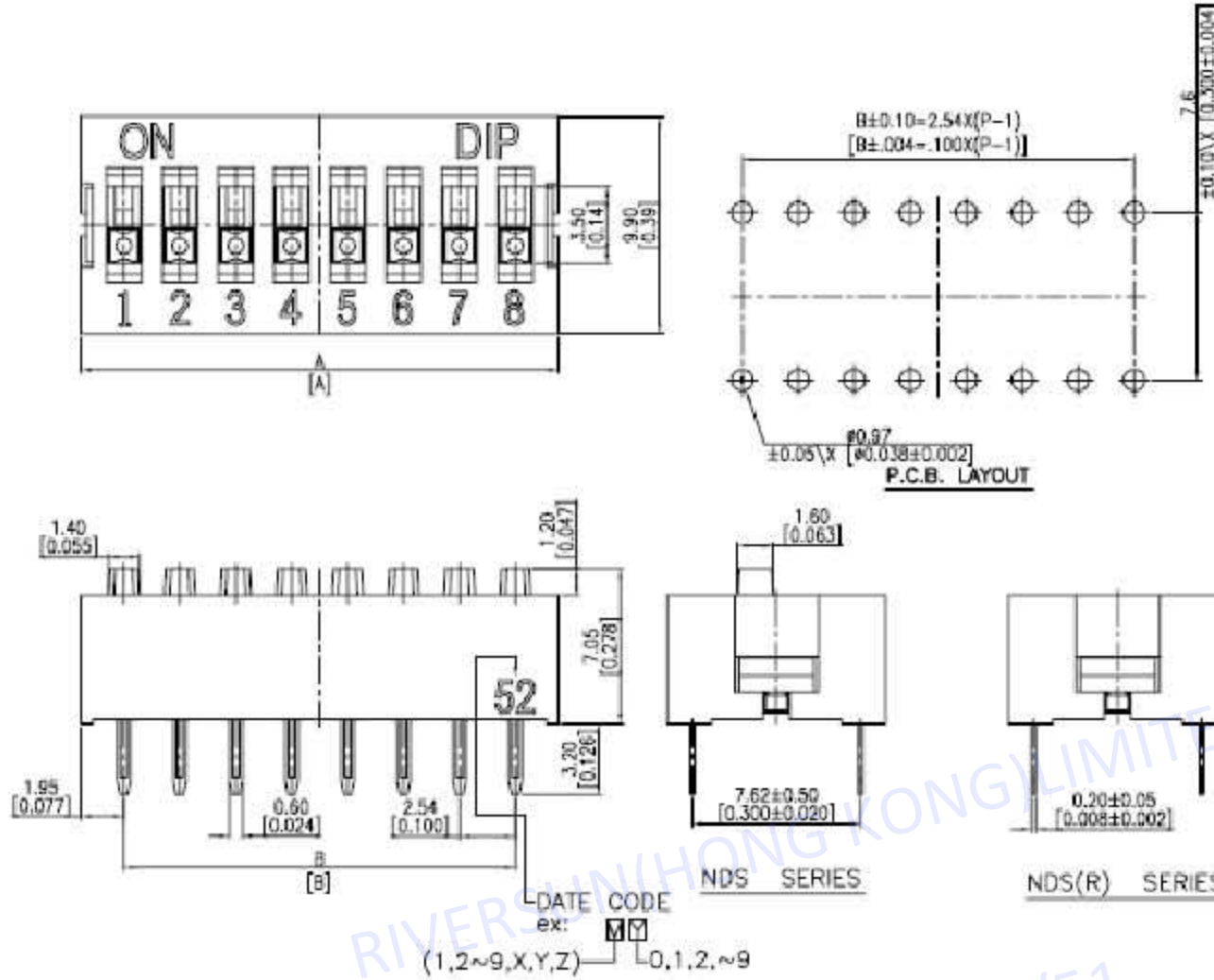


# NDS, DP, DA SERIES

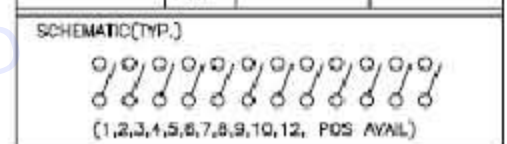


## DIMENSIONS

### NDS(R)

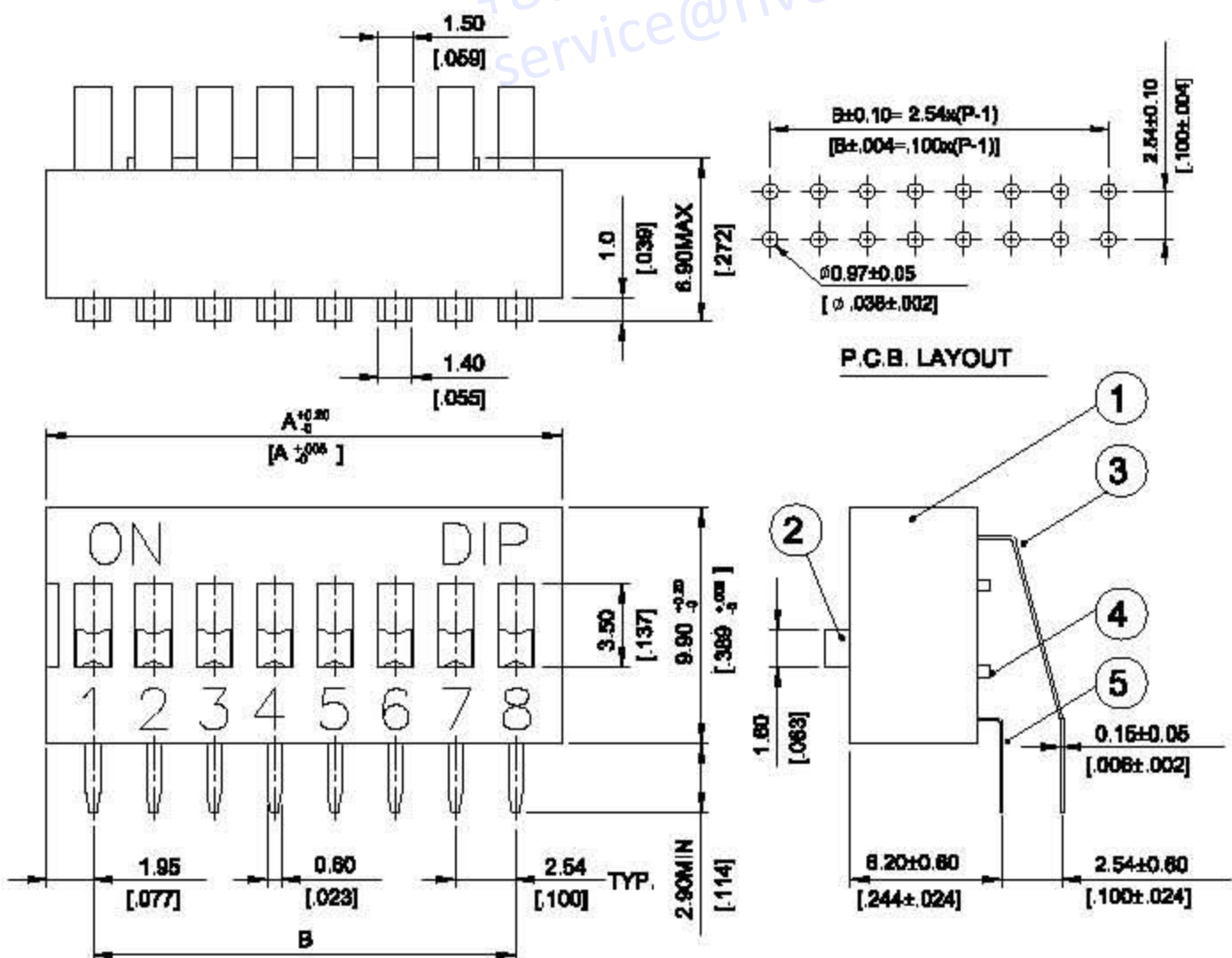


PROD. NO.	NO. OF POS.	DIM. A	DIM. B
NDS(R)-12-V	12	31.84[1.254]	27.94[1.100]
NDS(R)-10-V	10	26.76[1.054]	22.86[.900]
NDS(R)-08-V	9	24.22[.954]	20.32[.800]
NDS(R)-08-V	8	21.68[.854]	17.78[.700]
NDS(R)-07-V	7	19.14[.754]	15.24[.600]
NDS(R)-06-V	6	16.60[.654]	12.70[.500]
NDS(R)-05-V	5	14.06[.554]	10.16[.400]
NDS(R)-04-V	4	11.52[.454]	7.62[.300]
NDS(R)-03-V	3	8.98[.354]	5.08[.200]
NDS(R)-02-V	2	6.44[.254]	2.54[.100]
NDS(R)-01-V	1	3.90[.153]	0[0]



General Tolerance : ±0.2mm

### DA

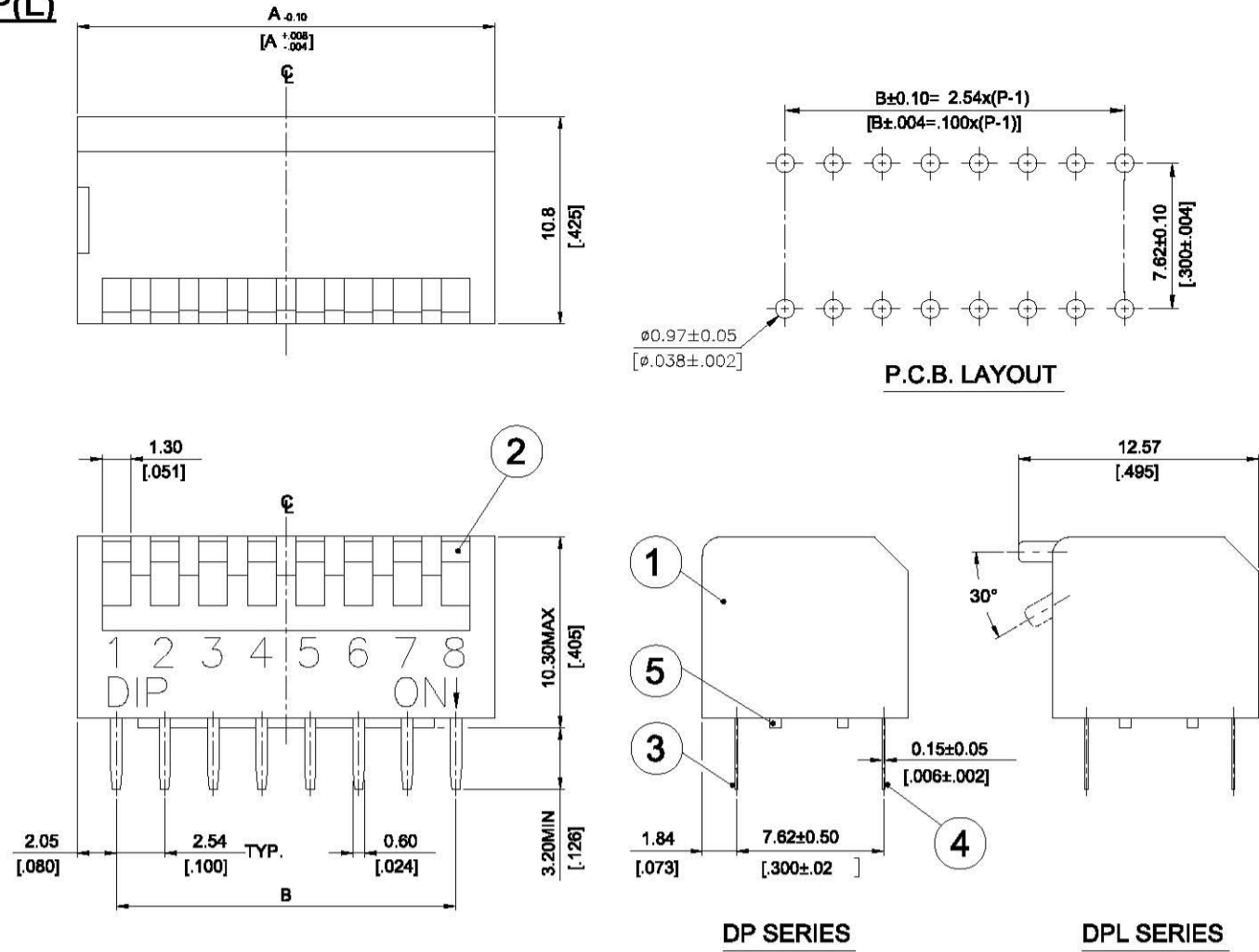


PROD. NO.	NO. OF POS.	DIM. A	DIM. B
DA-12-V	12	31.84[1.254]	27.94[1.100]
DA-10-V	10	26.76[1.054]	22.86[.900]
DA-09-V	9	24.22[.954]	20.32[.800]
DA-08-V	8	21.68[.854]	17.78[.700]
DA-07-V	7	19.14[.754]	15.24[.600]
DA-06-V	6	16.60[.654]	12.70[.500]
DA-05-V	5	14.06[.554]	10.16[.400]
DA-04-V	4	11.52[.454]	7.62[.300]
DA-03-V	3	8.98[.354]	5.08[.200]
DA-02-V	2	6.44[.254]	2.54[.100]



General Tolerance : ±0.2mm

**DP(L)**

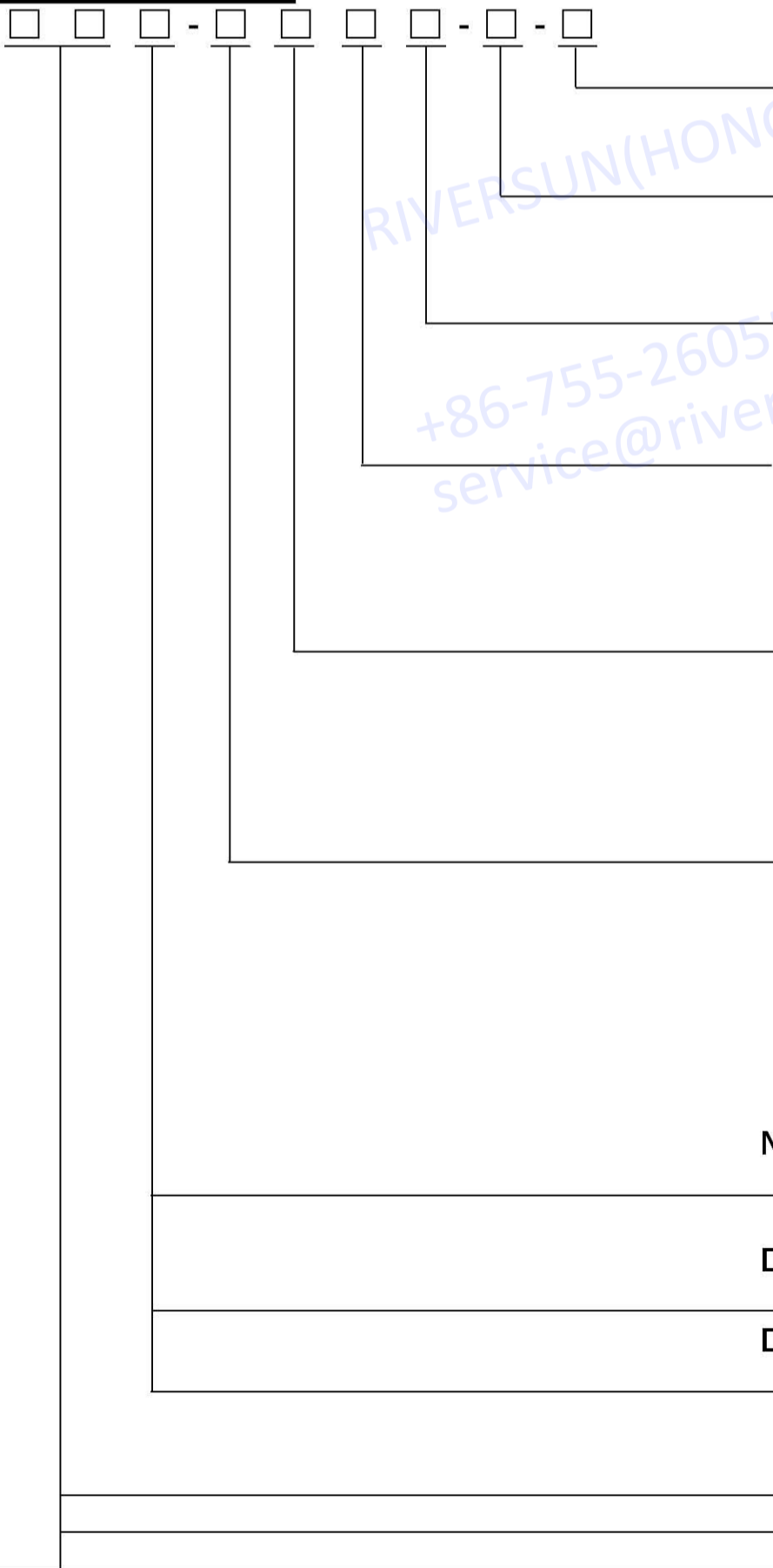


DP -12-V	12	32.04[1.261]	27.94[1.100]
DPL-12 -V			
DP -10-V	10	26.96[1.061]	22.86[.900]
DPL-10-V			
DP -09-V	9	24.42[.961]	20.32[.800]
DPL-09-V			
DP -08-V	8	21.88[.861]	17.78[.700]
DPL-08-V			
DP -07-V	7	19.34[.761]	15.24[.600]
DPL-07-V			
DP -06-V	6	16.80[.661]	12.70[.500]
DPL-06-V			
DP -05-V	5	14.26[.561]	10.16[.400]
DPL-05-V			
DP -04-V	4	11.72[.461]	7.62[.300]
DPL-04-V			
DP -03-V	3	9.18[.361]	5.08[.200]
DPL-03-V			
DP -02-V	2	6.64[.261]	2.54[.100]
DPL-02-V			

PROD. NO.	NO. OF POS.	DIM. A	DIM. B
SCHEMATIC(TYP.)			
(2,3,4,5,6,7,8,9,10,12, POS AVAIL)			

General Tolerance : ±0.2mm

**HOW TO ORDER**



Package :  
 = Tube

Soldering :  
 V = RoHS & Lead Free Solderable  
 Q = Halogen Free (Only for Black)

Sealed :  
 = Without Tape  
 T = Top Tape Sealed

▲ On/Off Position :  
 = Push Down On  
 U = Push Down Off  
 <▲ U Only For DP(L)>

Color Of Cover :  
 = Red  
 ▲ B = Blue  
 ▲ K = Black  
 <▲ Subject to Our Final Confirmation>

Number Of Position :  
 01 = 1 Positions <Only For DS(R)>  
 02 = 2 Positions      07 = 7 Positions  
 03 = 3 Positions      08 = 8 Positions  
 04 = 4 Positions      09 = 9 Positions  
 05 = 5 Positions      10 = 10 Positions  
 06 = 6 Positions      12 = 12 Positions

NDS  
 = Raised Actuator  
 R = Recessed Actuator

DA  
 = Raised Actuator

DP  
 = Short Key  
 L = Long Key

DS = Slide Type Dip Switch  
 DA = Right Angle Type Dip Switch  
 DP = Piano Type Dip Switch



## **SPECIFICATION**

### **△MECHANICAL**

Mechanical Life: 2,000 operations per switch.  
Operation Force: 400gf max. (DP Series)  
1,000gf max. (NDS & DA Series)  
Stroke: 2.0mm(NDS & DA Series)  
Operation Temperature: -20°C to +70°C  
Storage Temperature: -40°C to +85°C

### **△ELECTRICAL**

Electrical Life: 2,000 operations per switch 24VDC,  
25mA  
Non-Switching Rating: 100mA , 50VDC  
Switching Rating: 25mA , 24VDC  
Contact Resistance: 50mΩ max. at initial  
Insulation Resistance:{at 500 VDC} 100MΩ min.  
Dielectric Strength: 500VAC / 1 minute  
Circuit: SPST

## **MATERIAL**

△BASE: UL94V-0 PBT High Thermoplastic

Color: Black

△COVER UL94V-0 PBT High Thermoplastic

Color: Red, Black, Blue

△ACTUATOR: UL94V-0 PBT High Thermoplastic

Color: White

△CONTACT: Phosphor bronze with gold plating over  
nickel

△TOP SEAL: Polyester Film

△POTTING MATERIAL: Epoxy

## **SOLDERING PROCESS**

△Keep all switch contacts in their "OFF" position for all operations.

△WAVE SOLDERING: Recommended temperature at 500°F (260°C) max. 5 seconds for through hole type.

△HAND SOLDERING: Use a soldering iron of 30 watts, controlled at 350°C approximately max 5 seconds.

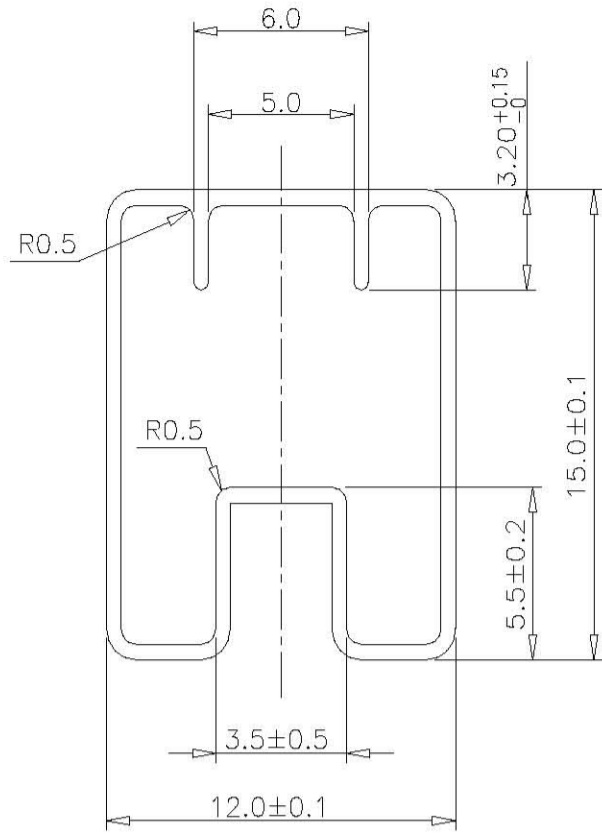
△Make sure switch is in "OFF" position during soldering process, or it will decrease the operating force and meanwhile increase the contact resistance.

△Do not wash the switch body except top tape sealed type, which suitable for spray cleaning method from top of the s/w.

## **PACKING**

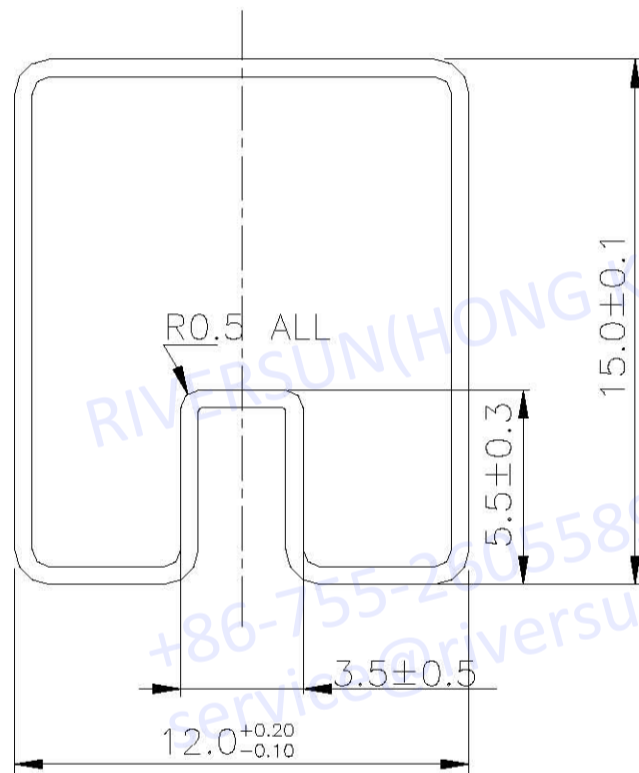
Part Number	Number Per Tube	Part Number	Number Per Tube
NDS(R)-01	120	DS(R)-01-T	110
NDS(R)-02	72	DS(R)-02-T	70
NDS(R)-03	51	DS(R)-03-T	50
NDS(R)-04	40	DS(R)-04-T	39
NDS(R)-05	32	DS(R)-05-T	32
NDS(R)-06	27	DS(R)-06-T	27
NDS(R)-07	24	DS(R)-07-T	24
NDS(R)-08	21	DS(R)-08-T	21
NDS(R)-09	19	DS(R)-09-T	19
NDS(R)-10	17	DS(R)-10-T	17
NDS(R)-12	14	DS(R)-12-T	14
DP(L)-02	70	DP(L)-02-T	65
DP(L)-03	50	DP(L)-03-T	49
DP(L)-04	39	DP(L)-04-T	39
DP(L)-05	32	DP(L)-05-T	32
DP(L)-06	27	DP(L)-06-T	27
DP(L)-07	24	DP(L)-07-T	24
DP(L)-08	21	DP(L)-08-T	21
DP(L)-09	19	DP(L)-09-T	19
DP(L)-10	17	DP(L)-10-T	17
DP(L)-12	14	DP(L)-12-T	14
DA-02	73	DA-02-T	70
DA-03	52	DA-03-T	50
DA-04	40	DA-04-T	39
DA-05	33	DA-05-T	32
DA-06	28	DA-06-T	28
DA-07	24	DA-07-T	24
DA-08	21	DA-08-T	21
DA-09	19	DA-09-T	19
DA-10	17	DA-10-T	17
DA-12	14	DA-12-T	14

DSR



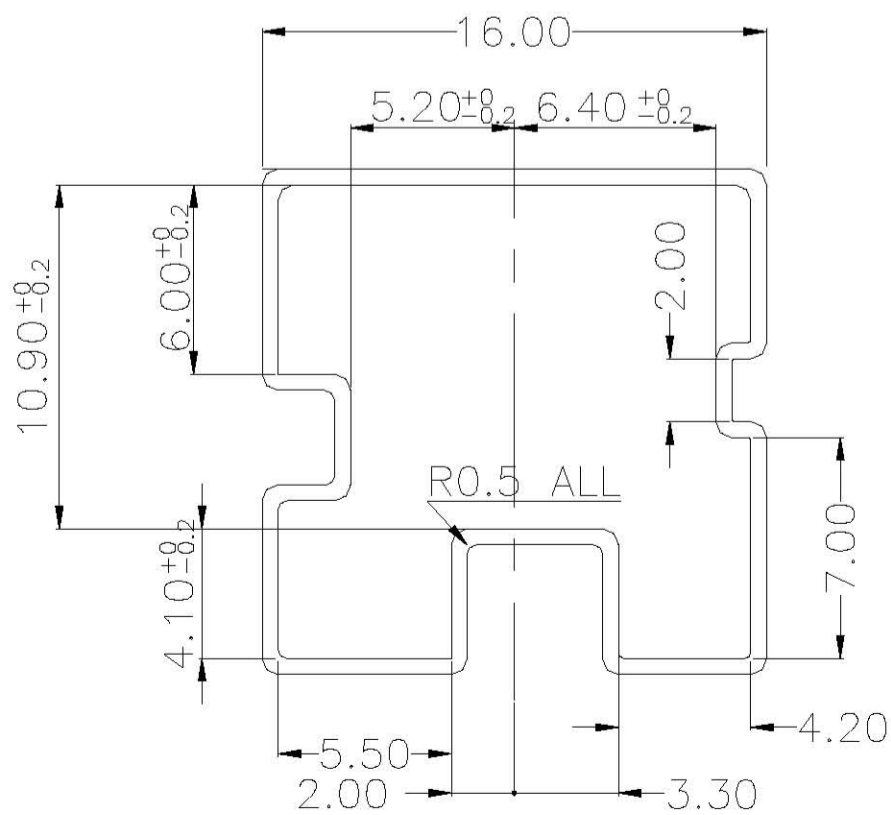
General Tolerance :  $\pm 0.2\text{mm}$

DS



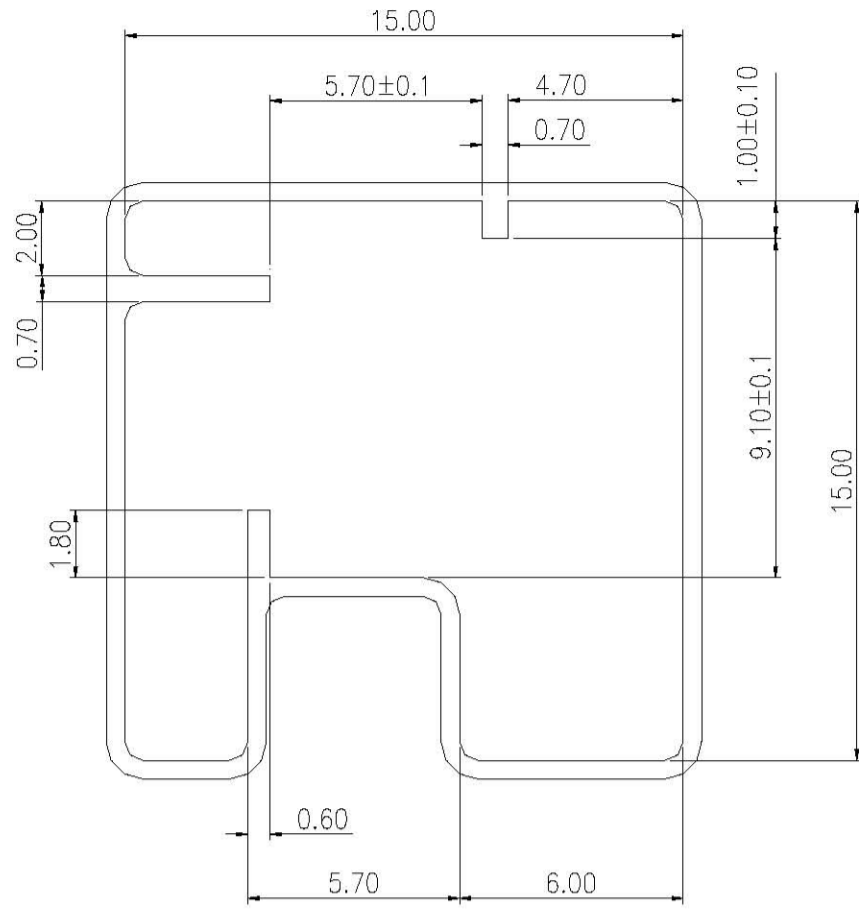
General Tolerance :  $\pm 0.2\text{mm}$

DP(L)



General Tolerance :  $\pm 0.2\text{mm}$

DA



General Tolerance :  $\pm 0.2\text{mm}$

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