

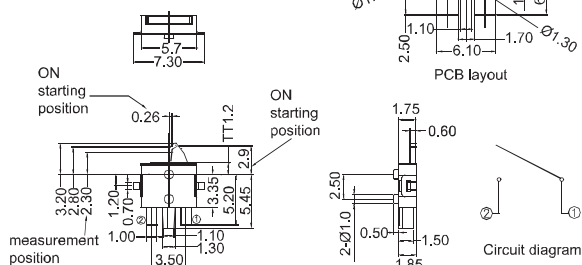


## DETECTOR SWITCH

# DETECTOR SWITCH DS RM&TPS SERIES

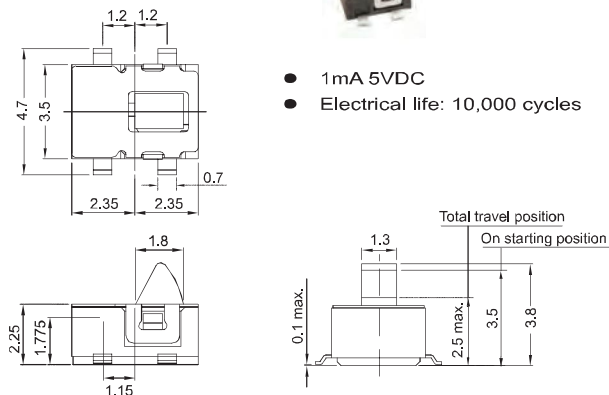
## TPS-12MTL

- 10mA 5VDC
- Electrical life: 10,000 cycles



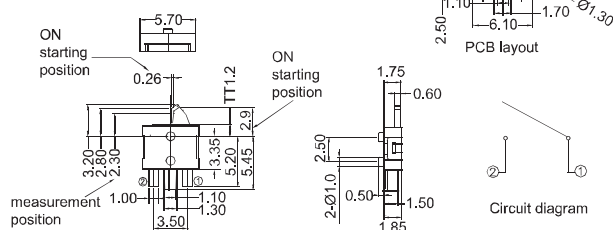
## DS-01

- 1mA 5VDC
- Electrical life: 10,000 cycles



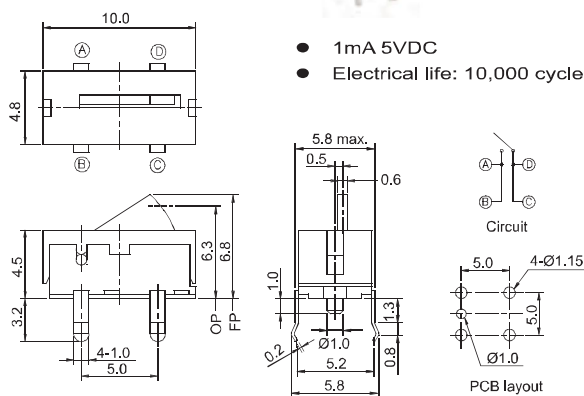
## TPS-12NTL

- 10mA 5VDC
- Electrical life: 10,000 cycles



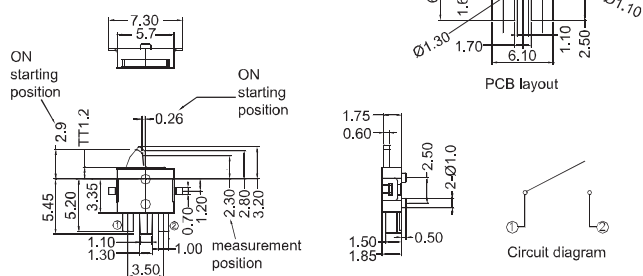
## RM021-01A

- 1mA 5VDC
- Electrical life: 10,000 cycles



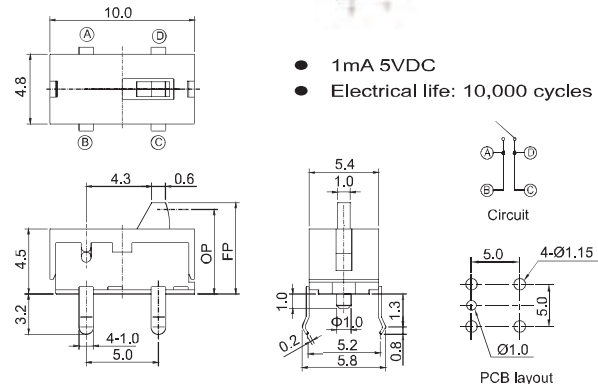
## TPS-12MTR

- 10mA 5VDC
- Electrical life: 10,000 cycles



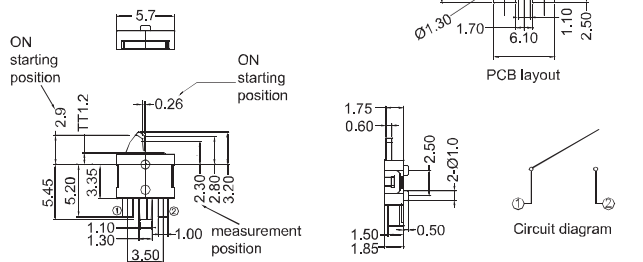
## RM021-02B

- 1mA 5VDC
- Electrical life: 10,000 cycles



## TPS-12NTR

- 10mA 5VDC
- Electrical life: 10,000 cycles





## ROTARY SWITCH

## SRRM SERIES

## RATING

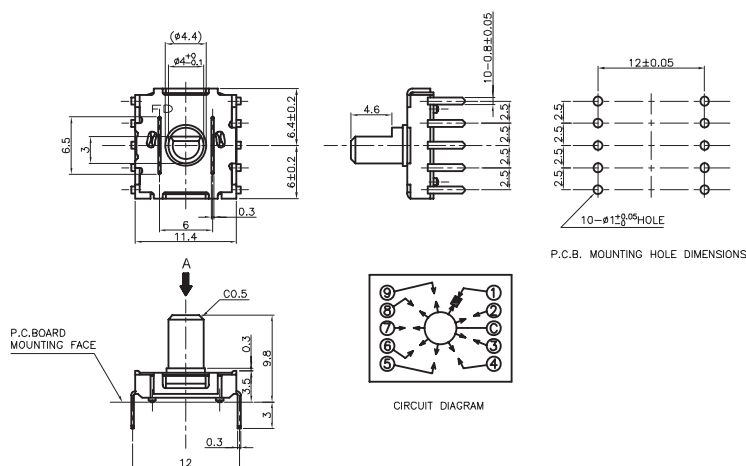
- Rating: 0.1A 12VDC
- Contact Resistance: 50mΩ Max.
- Insulation Resistance: DC 100V 100MΩ Min.
- Dielectric strength: AC 100 1 Min.
- Electrical Life: 10,000 cycles
- Operating Temperature: -10~ 60 degree C
- Changeover Angle: 40°±1°

## FEATURES

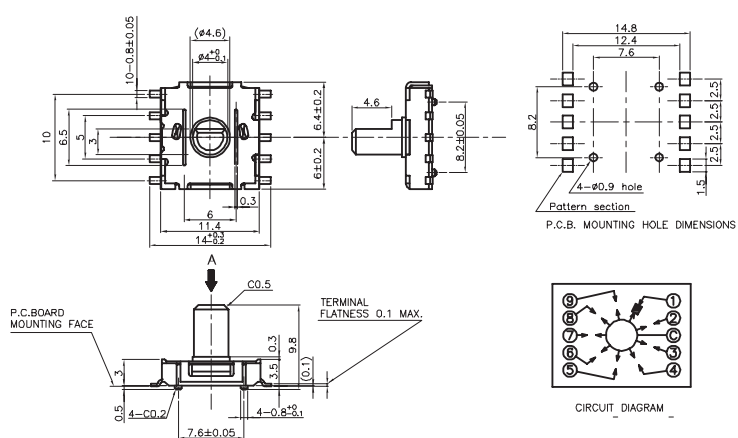
- Thin type design, capable to SMD
- Function: 1 circuit 9 contacts
- SMD or PC through hole terminals
- Applications:  
Audio system / Health Care / Automobiles /Instrument /  
Industrial machine / Mixer / DJ Player / Lighting system /  
Video system / Musical instrument



**SRRM19PB01**



**SRRM19SB01**



# ROTARY SWITCH SR26 SERIES

## RATING

- 125VAC 0.3A; DC30V/1A
- Contact Resistance:  $\leq 25\text{m Ohms}$  initial
- Insulation Resistance: DC 500V 100M Ohms Min.
- Dielectric strength: AC 500V for 1 minute.
- Electrical Life: 10,000 cycles

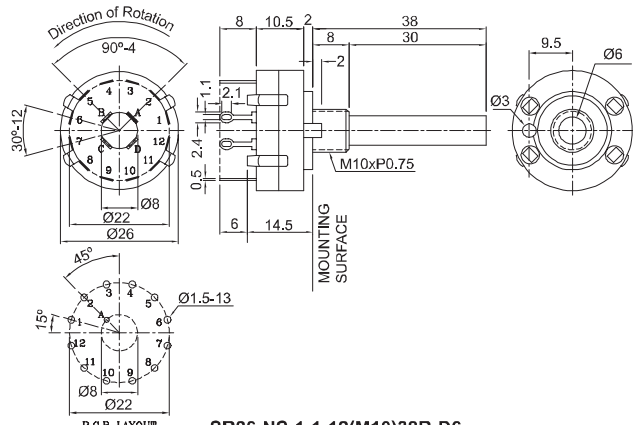
## FEATURES

- 1P12T, 2P6T, 3P4T, 4P3T, 6P2T
- Timing: shorting or non-shorting
- Rotation angle, 30 or 60 degrees
- PC pin or solder tab
- Optional actuator height
- Hardware accessories supplied

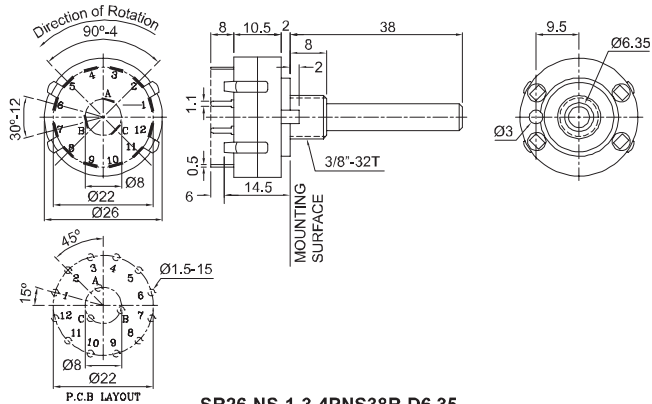
SR26		—		NS		—		1		—		1		—		12		P		NS	
SERIES SYMBOL	POSITON ANGLE	TIMING		DECK		POLE		POSITION		TERMINAL		ROTATION									
SR26 SERIES	<div><input type="checkbox"/> 30 ° (STD.)</div> <div><input type="checkbox"/> 60 ° (6 POLES max.)</div>	<div><input type="checkbox"/> SHORTING</div> <div><input type="checkbox"/> NS NON SHORTING</div>	1		<div>1 → 12</div> <div>2 → 6</div> <div>3 → 4</div> <div>4 → 3</div>				<div><input type="checkbox"/> SOLDER TERMINAL</div> <div><input type="checkbox"/> P PC TERMINAL</div>	<div><input type="checkbox"/> WITH STOP</div> <div><input type="checkbox"/> NS NONE STOP</div>											

(M10)	22	F	—	D6.35
SCREW	ACTUATOR HEIGHT	ACTUATOR TYPE	ACTUATOR DIA.	
<div><input type="checkbox"/> 3/8" -32</div> <div>M10 M10 X P0.75</div>	<div>18 (mm)</div> <div>22 (mm)</div> <div>38 (mm)</div> <div>* 14 (mm)</div> <div>(14 w/ Ø 6*5mm actuator dia. only)</div>	<div>F FLAT</div> <div>R ROUND</div> <div>(for 22R,38R only)</div>	<div>FLAT</div> <div>Ø 6 (X4.5 mm)</div> <div>Ø 6.35 (X5 mm)</div> <div>ROUND</div> <div>Ø 6mm</div> <div>Ø 6.35mm</div>	

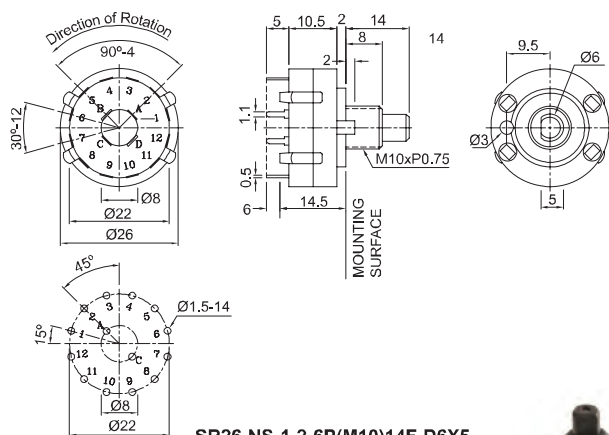
Ex.SR26-NS-1-1-12(M10)38R-D6.35



SR26-NS-1-1-12(M10)38R-D6



SR26-NS-1-3-4PNS38R-D6.35



SR26-NS-1-2-6P(M10)14F-D6X5



# ROTARY SWITCH

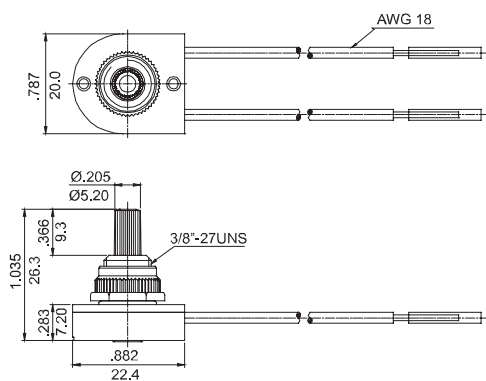
## RS SERIES

### RATING

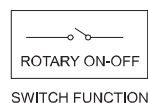
- 6A 125VAC, 3A 250VAC 1A 125VT (UL)
- Contact Resistance: 20m Ohms initial Max.
- Insulation Resistance: 500VDC 100M Ohms min.
- Dielectric strength: 1,000VAC for 1 minute.

### FEATURES

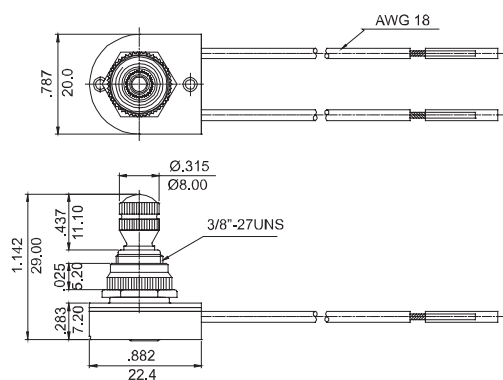
- Safety approved internationally bu UL in North America
- ON-OFF function
- Wire terminals



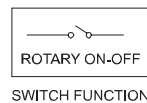
RS-01



SWITCH FUNCTION



RS-1A



SWITCH FUNCTION



# ROTARY SWITCH

## RS5 SERIES

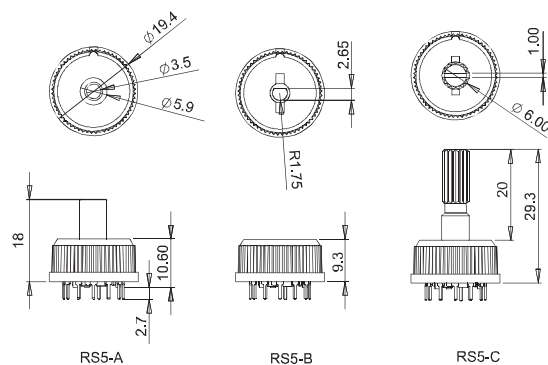
### RATING

- 125VAC 0.3A; DC30V/1A
- Contact Resistance:  $\leq 25\text{m Ohms}$  initial
- Insulation Resistance: DC 500V 100M Ohms Min.
- Dielectric strength: AC 500V for 1 minute.
- Electrical Life: 10,000 cycles

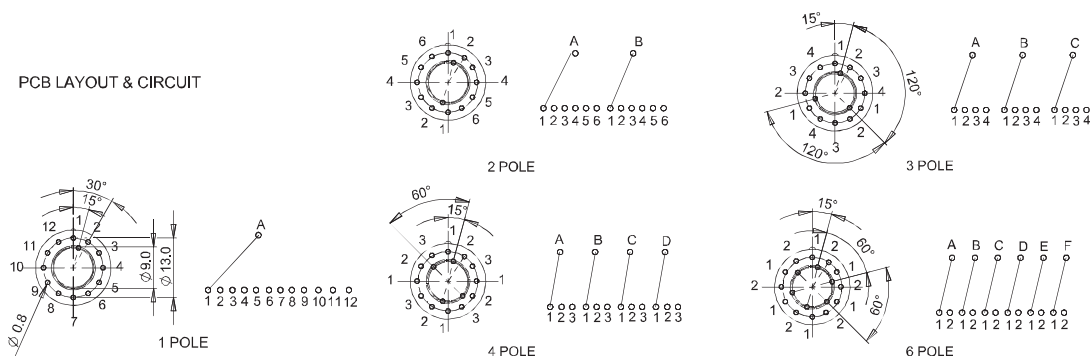
### FEATURES

- 1P12T, 2P6T, 3P4T, 4P3T, 6P2T
- Shorting or non-shorting
- PCB terminal with gold plated
- Movable shaft, plastic or aluminum type

RS5		C		12		NS	
SERIES SYMBOL	SHAFT TYPE	CIRCUIT COMBINATION				TIMING	
RS5 SERIES	A PLASTIC SHAFT	POLE	POSITION	STOP		YS	SHORTING
	B NO	11	1	2	YES	NS	NON-SHORTING
	C ALUMINUM SHAFT	12	1	12	YES		
		13	1	12	NO		
		21	2	2	YES		
		22	2	6	YES		
		23	2	6	NO		
		31	3	2	YES		
		32	3	4	YES		
		33	3	4	NO		
		41	4	2	YES		
		42	4	3	YES		
		43	4	3	NO		
		61	6	2	YES		
		63	6	2	NO		



### PCB LAYOUT & CIRCUIT





## DIP SWITCH



# DIP SWITCH

## DHN DHNF SERIES

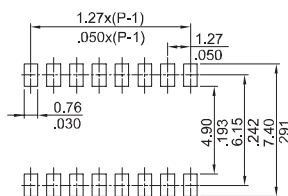
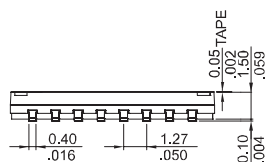
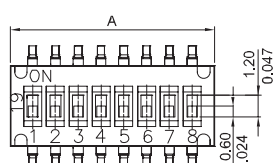
### RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max initial.
- Insulation Resistance: 100M Ohms Min. (at 500VDC)
- Dielectric strength: 300VAC for 1 minute.

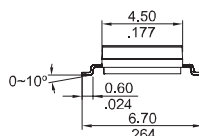
### FEATURES

- Slide actuator, raised or recessed
- Mini-slin, half pitch 1.27mm
- SMT terminal type
- 6.7mm or 8.1mm terminal length
- Optional top tape sealed for recessed type

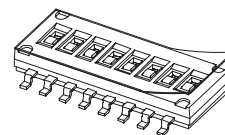
DHNF	06	F	T	T/R
SERIES SYMBOL	POSITIONS	POSITION	SEALED	PACKAGE
DHNF 8.1mm DHN 6.7mm Length: pin to pin	04 4 Positions 06 6 Positions 08 8 Positions 09 9 Positions 10 10 Positions	F OFF	REGULAR T TOP TAPE SEALED	TUBE T/R TAPE & REEL



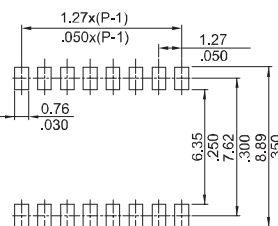
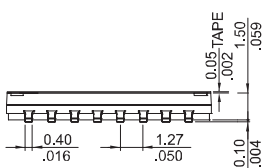
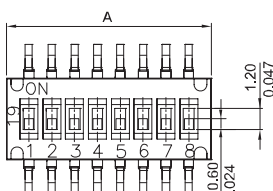
PCB LAYOUT



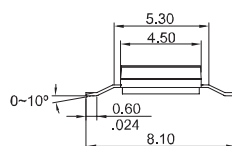
DHN



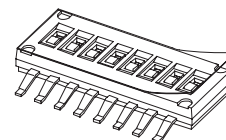
DHN-10	10	13.93/.548
DHN-08	8	11.39/.448
DHN-06	6	8.85/.348
DHN-04	4	6.31/.248
DHN-02	2	3.77/.148
PART NO.	POS.	A



PCB LAYOUT



DHNF



DHNF-10	10	13.93/.548
DHNF-08	8	11.39/.448
DHNF-06	6	8.85/.348
DHNF-04	4	6.31/.248
DHNF-02	2	3.77/.148
PART NO.	POS.	A



# DIP SWITCH





## EM EI ES SERIES

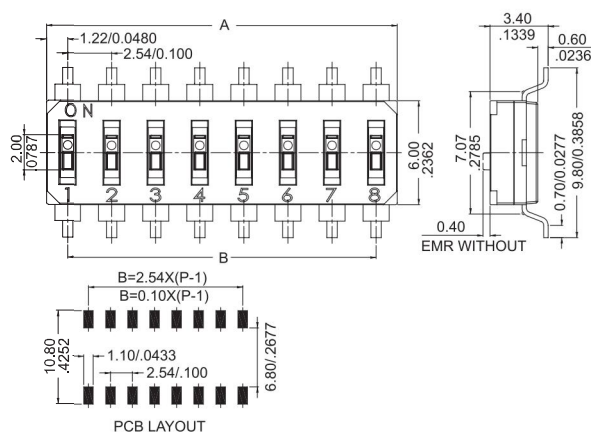
### RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max, at initial.
- Dielectric strength: 300VAC for 1 minute.
- Insulation Resistance: 100M Ohms Min, at 500VDC

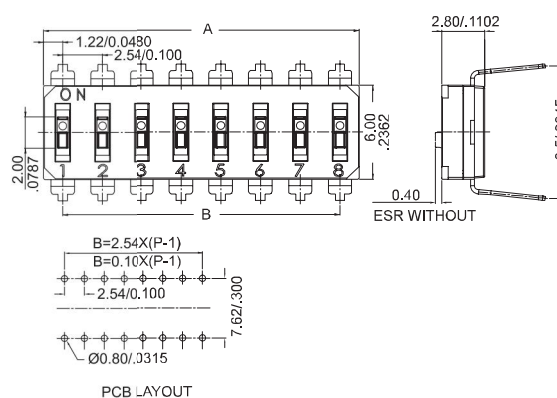
### FEATURES

- End stackable
- Slide actuator, raised or recessed
- SMT and straight or splay thro hole terminal type
- Optional top tape sealed for recessed type

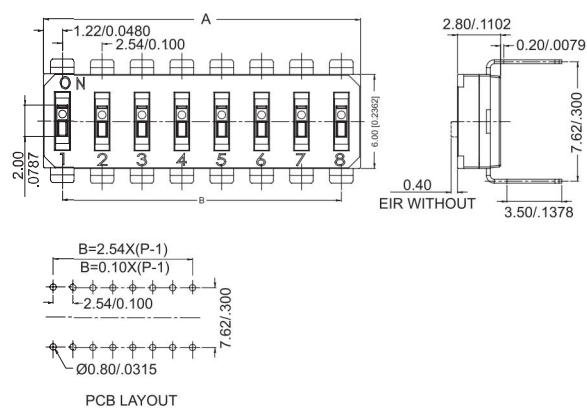
EM		R	—	09		—	T/R
SERIES & MOUNTING		ACTUATOR		POSITION	SEALED		PACKAGE
EM	SMT	 RAISED		01	 REGULAR		 TUBE
E I	THROUGH HOLE	R RECESSED		02	T TOP TAPE SEALED		T/R TAPE & REEL
	PITCH 7.62 mm			03	(Recessed type		(EM type only)
				1	only)		
ES	THROUGH HOLE			10			
	PITCH 8.5 mm			12			



EM

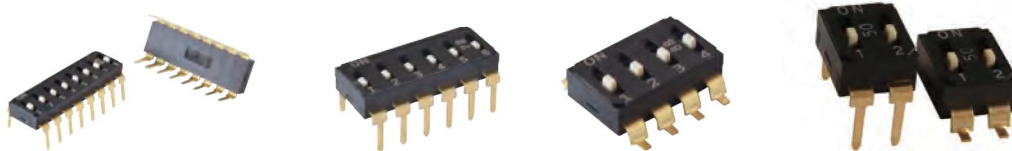


ES



EI

UNIT:mm		
POSITION	DIM.A	DIM.B
1	2.44	2.54
2	4.98	
3	7.52	5.08
4	10.06	7.62
5	12.60	10.16
6	15.14	12.70
7	17.68	15.24
8	20.22	17.78
9	22.76	20.32
10	25.30	22.86
12	30.38	27.94
SCHEMATIC		



# DIP SWITCH

## EPI EPM SERIES

### RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max, at initial.
- Dielectric strength: 500VAC for 1 minute.
- Insulation Resistance: 100M Ohms Min, at 500VDC

### FEATURES

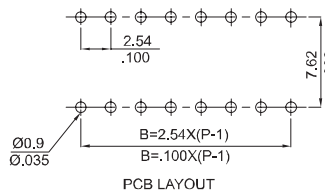
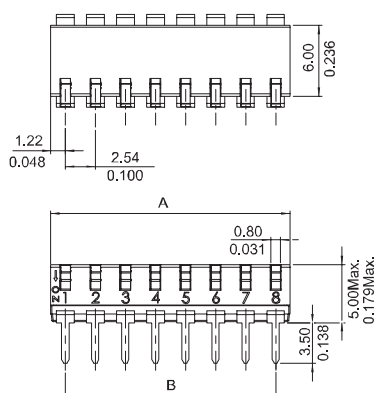
- End stackable
- Piano actuator, raised or recessed.
- SMT type and thro-hole terminal type

### EPM

### 08

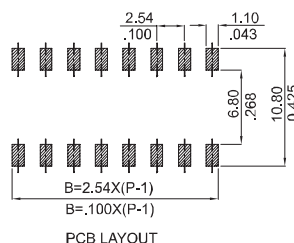
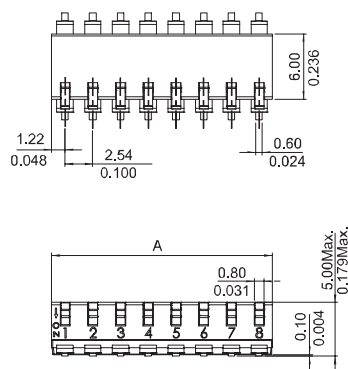
### T/R

SERIES & MOUNTING	ACTUATOR	POSITION	PUSH FUNCTION	PACKAGE
EPM SMT	<input type="checkbox"/> RAISED	02 04 06 08 10	<input type="checkbox"/> Push ON F Push OFF	<input type="checkbox"/> TUBE T/R TAPE & REEL (EPM only)
EPI THROUGH HOLE	R RECESSED			



EPI(R)-10	10	25.30/.996	22.86/.900
EPI(R)--08	8	20.22/.796	17.78/.700
EPI(R)--06	6	15.14/.596	12.70/.500
EPI(R)--04	4	10.06/.396	7.62/.300
EPI(R)--02	2	4.98/.196	2.54/.100
PART NO.	POS.	A	B
CIRCUIT			
(2, 4, 6, 8, 10, 12 POS.)			

### EPI



EPM(R)-10	10	25.30/.996	22.86/.900
EPM(R)--08	8	20.22/.796	17.78/.700
EPM(R)--06	6	15.14/.596	12.70/.500
EPM(R)--04	4	10.06/.396	7.62/.300
EPM(R)--02	2	4.98/.196	2.54/.100
PART NO.	POS.	A	B
CIRCUIT			
(2, 4, 6, 8, 10, 12 POS.)			

### EPM



# DIP SWITCH    RS RSR SERIES

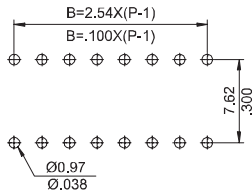
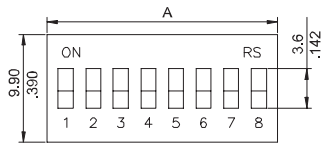
## RATING

- 25mA, 24VDC
- Contact Resistance: 50m Ohms max, at initial.
- Dielectric strength: 500VAC for 1 minute.
- Insulation Resistance: 100M Ohms min, at 500VDC

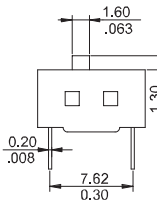
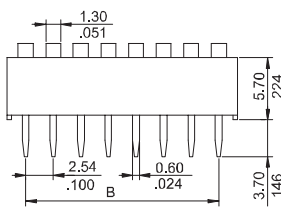
## FEATURES

- Slide actuator, raised or recessed
- Thru-hole terminal type
- Optional top tape sealed for recessed type

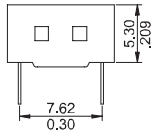
RS	02		B	T
SERIES SYMBOL	ACTUATOR	NUMBER OF POSITIONS	COVER COLOR	SEALED
RS SERIES	<div><input type="checkbox"/> RAISED</div> <div>R RECESSED</div>	<div>0107</div> <div>0208</div> <div>0309</div> <div>0410</div> <div>0512</div> <div>06</div>	<div>B BLUE</div> <div>R RED</div> <div>K BLACK</div>	<div><input type="checkbox"/> REGULAR</div> <div>T TOP TAPE SEALED</div>



PCB LAYOUT



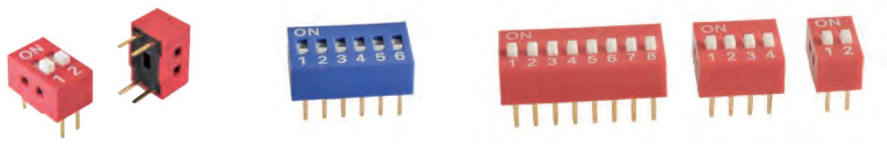
RS SERIES



RSR SERIES

RS/RSR-12	12	31.48/1.239	27.94/1.100
RS/RSR-10	10	26.40/1.309	22.86/.900
RS/RSR-09	9	24.16/.951	20.32/.800
RS/RSR-08	8	21.32/.839	17.78/.700
RS/RSR-07	7	19.08/.751	15.24/.600
RS/RSR-06	6	16.24/.639	12.70/.500
RS/RSR-05	5	13.70/.539	10.16/.400
RS/RSR-04	4	11.16/.439	7.62/.300
RS/RSR-03	3	8.92/.351	5.08/.200
RS/RSR-02	2	6.08/0.239	2.54/.100
RS/RSR-01	1	3.84/.151	—
PART NO.	POS.	A	B
CIRCUIT			

RS/RSR



# DIP SWITCH

## RP RPL SERIES

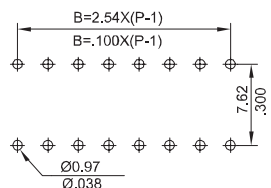
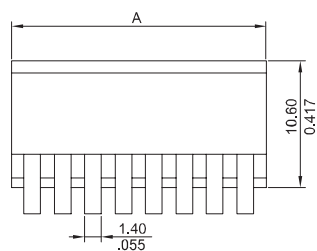
### RATING

- 25mA, 24VDC
- Contact Resistance: 50m Ohms max, at initial.
- Dielectric strength: 500VAC for 1 minute.
- Insulation Resistance: 100M Ohms Min, at 500VDC

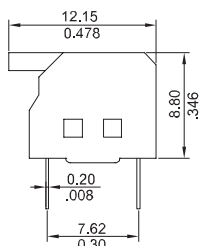
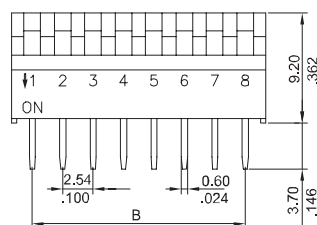
### FEATURES

- Piano actuator, standard or long type.
- Thro-hole terminal type
- Optional top tape sealed

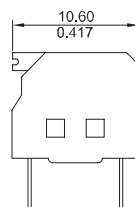
RP	L	08	B	
SERIES SYMBOL	ACTUATOR	NUMBER OF POSITIONS	COVER COLOR	SEALED
RP SERIES	<div> <div></div> SHORT KEY  L LONG KEY </div>	<div> 02 --- 08  03 --- 10  04 --- 12  05 ---  06 --- </div>	B BLUE R RED K BLACK	<div> <div></div> REGULAR  T TOP TAPE SEALED </div>



PCB LAYOUT



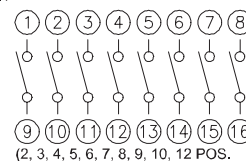
RPL SERIES



RP SERIES

RP/RPL-12	12	31.60/1.244	27.94/1.100
RP/RPL-10	10	26.58/1.046	22.86/.900
RP/RPL-08	8	21.50/.846	17.78/.700
RP/RPL-06	6	16.42/.646	12.70/.500
RP/RPL-05	5	13.88/.546	10.16/.400
RP/RPL-04	4	11.34/.446	7.62/.300
RP/RPL-03	3	9.06/.357	5.08/.200
RP/RPL-02	2	6.26/.246	2.54/.100
PART NO.	POS.	A	B

### CIRCUIT



### RP/RPL



## SIP SERIES

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max, at initial.
- Insulation Resistance: 100M Ohms Min, at 500VDC
- Dielectric strength: 500VAC for 1 minute.

- Tri-state low profile type
- SMT and thro-hole terminal type
- Slide actuator, raised or recessed
- Optional top tape sealed for recessed type

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# DIP SWITCH

# NDA SERIES

### RATING

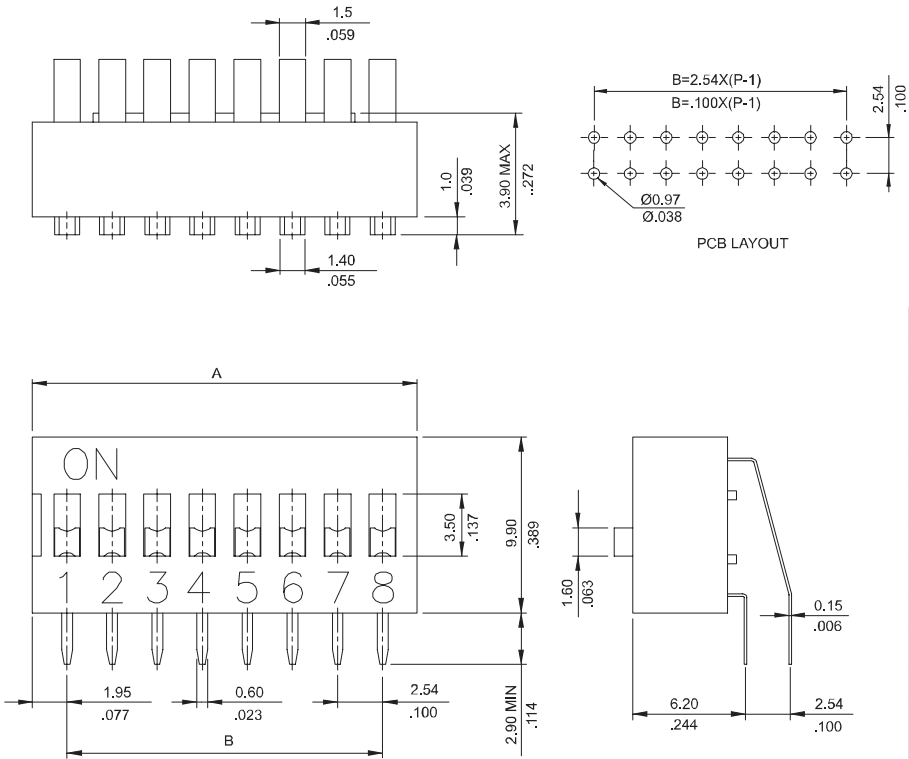
- 10mA, 24VDC
- Contact Resistance: 50m Ohms max, at initial.
- Insulation Resistance: 100M Ohms min, at 500VDC
- Dielectric strength: 500VAC for 1 minute.

### FEATURES

- Side slide actuator, recessed or raised type
- Right angle PC terminal
- Optional top tape sealed for recessed autuator

NDA — 09

SERIES SYMBOL	POSITIONS	HOUSING COLOR	SEALED
NDA SERIES	02-10, 12	<input type="checkbox"/> RED <input type="checkbox"/> B BLUE <input type="checkbox"/> K BLACK	<input type="checkbox"/> REGULAR <input type="checkbox"/> T TOP TAPE SEALED



NDA





## DIP SWITCH

## RH RV RM SERIES

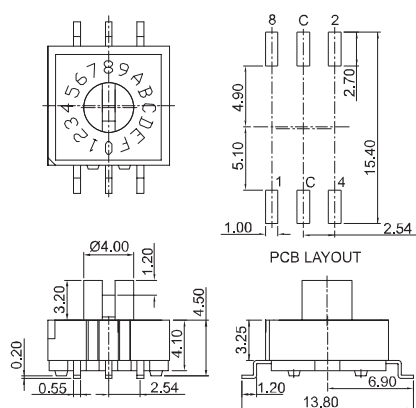
## RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max, at initial.  
RM-200m Ohms. at initial
- Insulation Resistance: 100M Ohm min at 500VDC
- Dielectric strength: 250VAC for 1 minute.

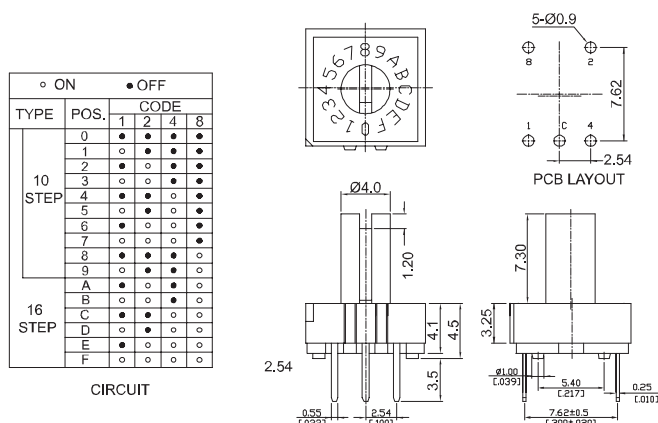
## FEATURES

- 10 or 16 rotary steps actuator, recessed or raised type
- SMT, right angle and thro-hole terminal type
- Real code

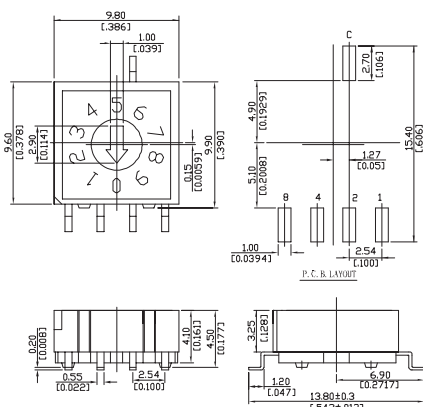
R M	4		A	10	R	T/R
SERIES & TERMINAL TYPE	TERMINAL NUMBER	ACTUATOR TYPE	TERMINAL PLATING	NUMBER OF STEPS	REAL CODES	PACKAGE
RH THROUGH HOLE	4 4X1	<input type="checkbox"/> RECESSED	A GOLD PLATED OVER NICKEL	10 10 STEPS	R REAL CODE	<input type="checkbox"/> TUBE
RV RIGHT ANGLE	3 3X3	H HIGHT ACTUATOR		16 16 STEPS		T/R TAPE & REEL (FOR RM ONLY)
RM S.M.T	2 3X2	M 3.2mm				



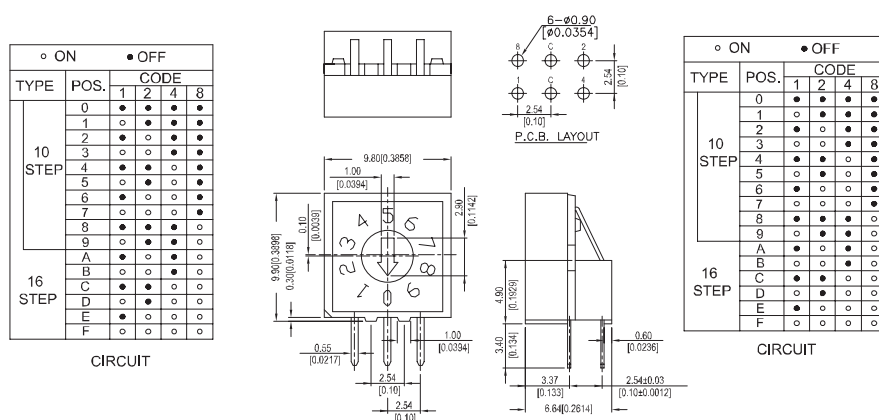
RM3MA-16R



RH2HA-16R



RM4A-10R



RV3A-10R





## TACT SWITCH

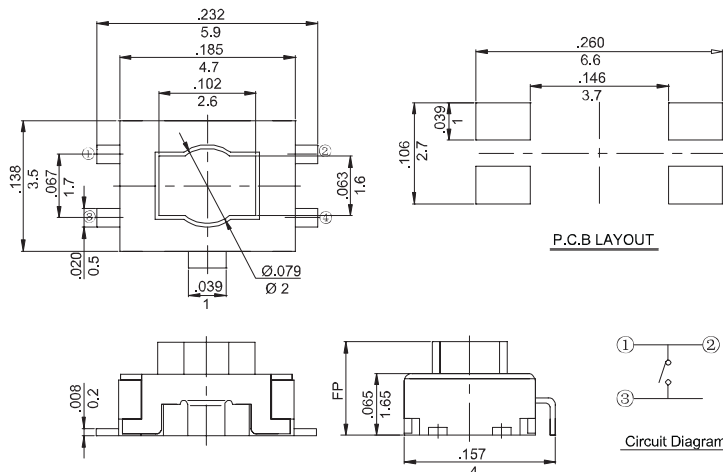
# TACT SWITCH TS47 & WS SERIES

## RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max.
- Insulation Resistance: 100M Ohma min. 250VDC
- Dielectric strength: 250VAC for 1 minute.

## FEATURES

- Body size 4.7mmx3.5mm; height 2.5mm
- SPST, PUSH ON
- 160gf operating force
- SMT mounting
- Tape and Real package



TS47-25MV160

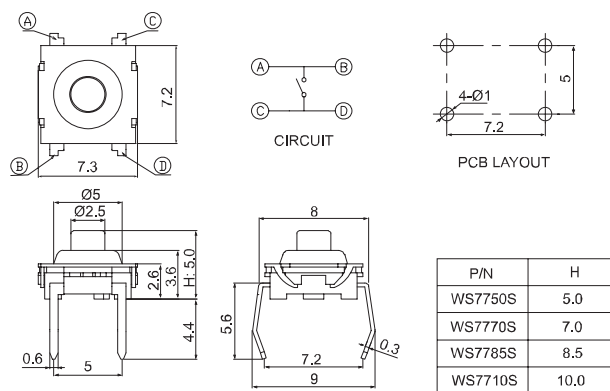


## RATING

- 50mA, 12VDC
- Action: SPST, push on
- Initial contact resistance: 50m Ohms max.
- Insulation Resistance: 100M Ohma min (at 100VDC)
- Dielectric strength: 250VAC for 1 minute.

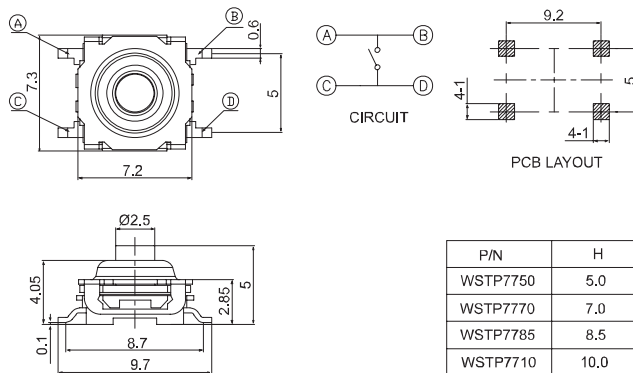
## FEATURES

- Washable type, IP 67 level
- Body size: 7.3mm x 7.2mm
- SPST, PUSH ON
- Optional height and operating force
- Thro-hole and SMT mounting



WS7750S

P/N	H
WS7750S	5.0
WS7770S	7.0
WS7785S	8.5
WS7710S	10.0



WSTP7750

P/N	H
WSTP7750	5.0
WSTP7770	7.0
WSTP7785	8.5
WSTP7710	10.0



# TACT SWITCH

## DTSH(M)W-6 SERIES

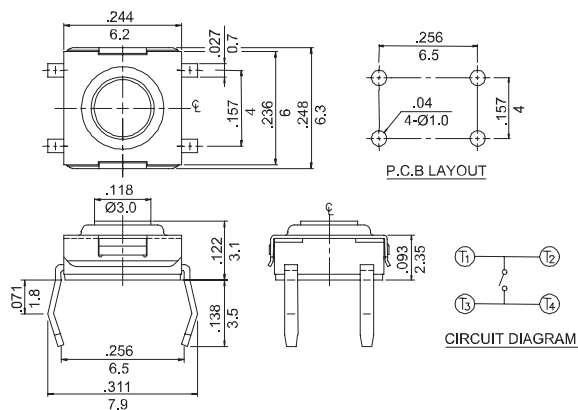
### RATING

- 25mA, 24VDC
- Contact Resistance: 100m Ohms max.
- Insulation Resistance: 100M Ohms min (at 500VDC)
- Dielectric strength: 250VAC for 1 minute.

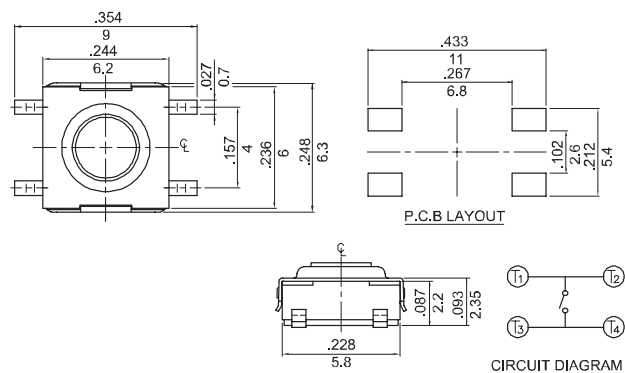
### FEATURES

- Washable type
- Body size: 6mmx6mm
- SPST, push ON
- Optional height and operating force.
- Thro-hole and SMT mounting
- Tube package

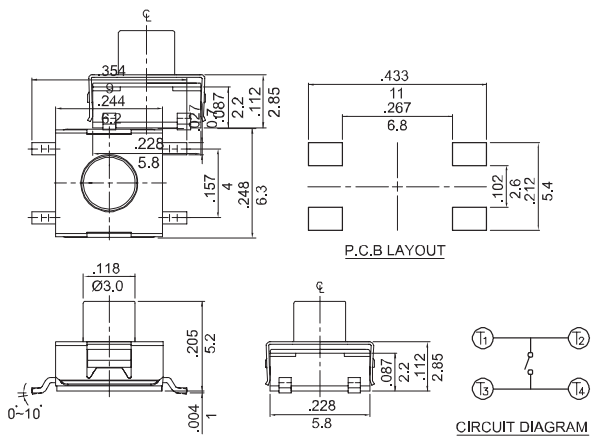
DTSHW	64	N	B
SERIES & TERMINAL TYPE	DIMENSION HEIGHT	OPERATION FORCE	PACKAGE
DTSHW THRO-HOLE DTSMW SMT	64 4.5mm (N, R) 65 3.5mm (N, R, T) 66 3.1mm (N) 67 5.2mm(N, R, T) 68 2.3mm (S) 69 3.8mm (N, R, T)	N BROWN 160g (66N) 180g (69N, 67N, 65N, 64N) R RED 260g S SILVER 160g (68S) T TRANSPARENT 360gF (69T, 67T, 65T)	B TUBE



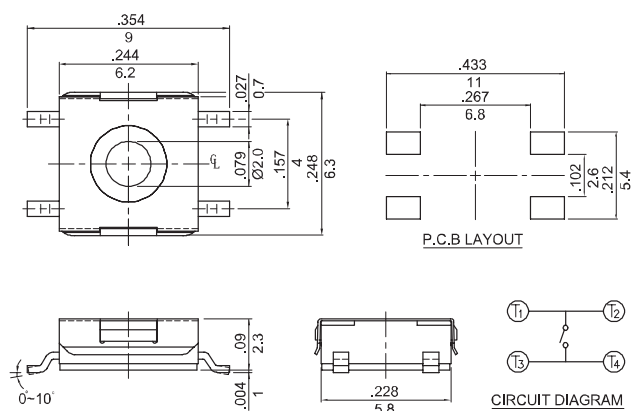
DTSHW-66R



DTSMW-66N



DTSMW-67R



DTSMW-68S



# TACT SWITCH

## 1101 SERIES

### RATING

- 50mA, 12VDC
- Contact Resistance: 100m Ohms max.
- Insulation Resistance: 100M Ohms min at 500VDC.
- Dielectric strength: 250VAC for 1 minute.

### FEATURES

- Half body size: 6mmx3.5mm
- SPST, push ON
- Thro-hole and SMT mounting
- Thro-hole type with polybag package only.
- 4.3 & 5.0mm body height with knob.

1101

NE

Series Code	
NE	
NS	
NU	
NR	
NH	
V	

Knob(L)

	4.3mm
A	5.0mm

Operating Force

160g  
180g  
250g

W

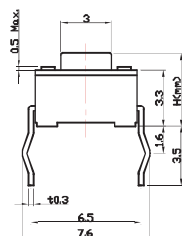
Knob Color

B	Black
W	White

W

Case Color

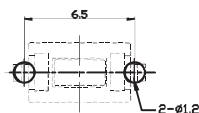
B	Black
W	White



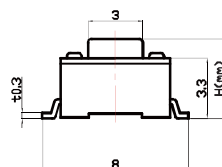
CIRCUIT DIAGRAM



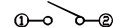
P.C.B. MOUNTING



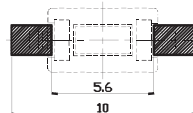
1101



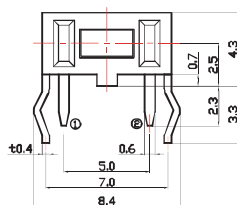
CIRCUIT DIAGRAM



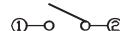
P.C.B. MOUNTING



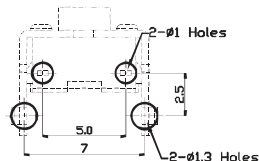
1101NE



CIRCUIT DIAGRAM



P.C.B. MOUNTING



1101VA

# TACT SWITCH

## 1102 SERIES

### RATING

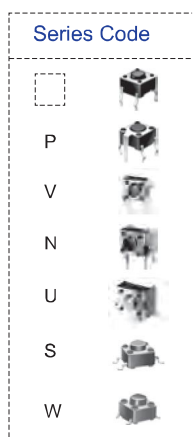
- 50mA, 12VDC
- Contact Resistance: 100m Ohms max.
- Insulation Resistance: 100M Ohms min (at 500VDC)
- Dielectric strength: 250VAC for 1 minute.

### FEATURES

- Body size: 6mmx6mm; 12mmx12mm
- SPST, push ON
- Optional height and operating force.
- Thru-hole and SMT mounting

1102

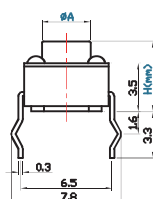
S



Knob(L)		
	4.3mm	3.15mm
A	5.0mm	3.85mm
B	7.0mm	5.85mm
C	8.0mm	6.85mm
D	9.5mm	8.35mm
E	7.3mm	6.15mm
F	12.5mm	11.35mm
G	13.0mm	11.85mm
H	11.0mm	9.85mm
I	12.0mm	10.85mm
J	15.0mm	13.85mm
K	13.5mm	12.35mm

160g

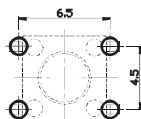
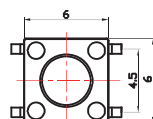
Operating Force	
	100g
	130g
	160g
	200g
	250g



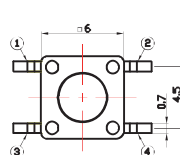
CIRCUIT DIAGRAM



P.C.B. MOUNTING



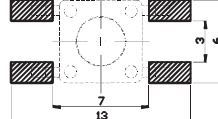
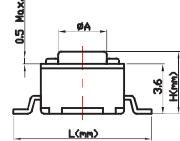
1102



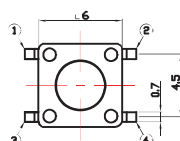
CIRCUIT DIAGRAM



P.C.B. MOUNTING



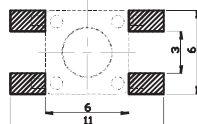
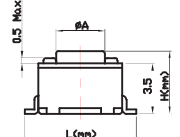
1102S



CIRCUIT DIAGRAM



P.C.B. MOUNTING

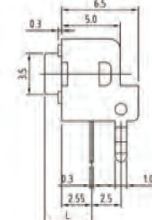
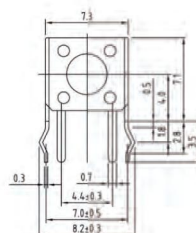
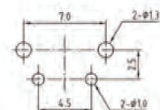


1102W

CIRCUIT DIAGRAM



P.C.B. LAYOUT



1102V



# TACT SWITCH DTST SERIES

## RATING

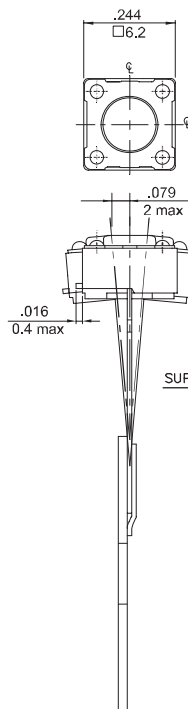
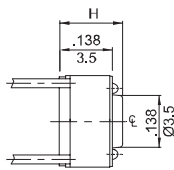
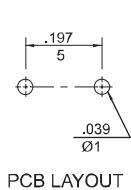
- 25mA, 12VDC
- Contact Resistance: 100m Ohms max.
- Insulation Resistance: 100M Ohms min at 500VDC.
- Dielectric strength: 250VAC for 1 minute.

## FEATURES

- Radial taping type
- Body size: 6mmx6mm
- SPST, push ON
- Optional body height and force

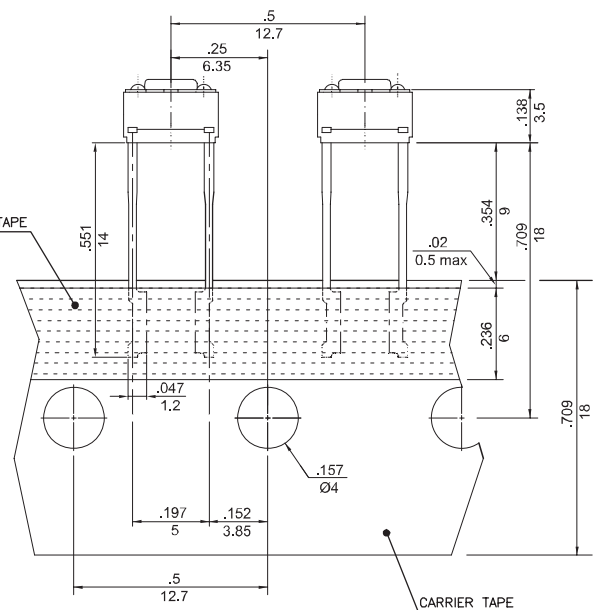
DTST — 6 1 10

SERIES SYMBOL	BODY SIZE	DIMENSION HEIGHT	OPERATION FORCE
DTST SERIES	6 6x6mm	1 4.3 mm 2 5.0 mm 5 9.5 mm 6 13.0 mm	10 100gf 16 160gf 26 260gf



DTST-66 □	13.0 [ .512 ]
DTST-65 □	9.5 [ .374 ]
DTST-63 □	7.0 [ .275 ]
DTST-62 □	5.0 [ .197 ]
DTST-61 □	4.3 [ .169 ]
P/N	H

SUPPORT TAPE



DTST



# TACT SWITCH TCD SERIES

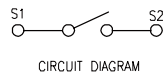
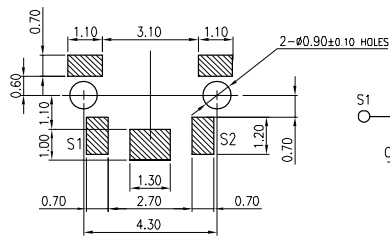
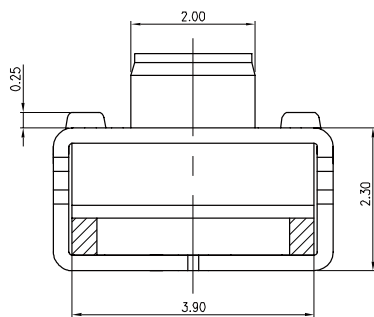
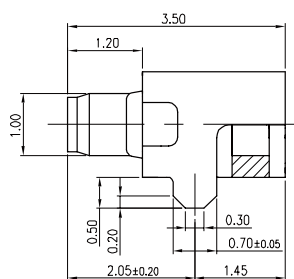
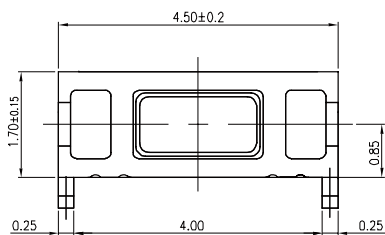
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100mΩ max.
- Insulation resistance: 100MΩ min. (at 100VDC)
- Dielectric strength: 250VAC for 1 minute
- Operating life: 100,000 cycles

## FEATURES

- Operating temperature range: -40 ~ 85°C
- Operating force: 160 ± 50g
- Function: push ON
- Tape & reel package

TCD	—	<div></div>	2	K	Q	R
COVER TYPE			OPERATING FORCE	STEM COLOR	ROHS	PACKAGE
<div></div> Without Post			2 160g	K Black	Q Halogen Free	R Tape & Reel
C With Post						



TCD-C2KQR



# TACT SWITCH TCH SERIES


## RATING

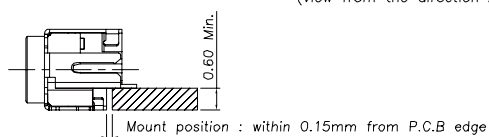
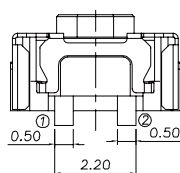
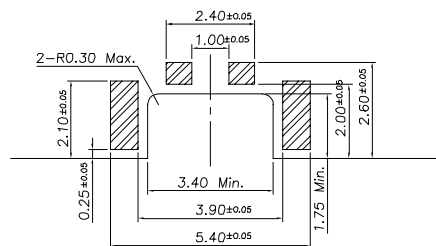
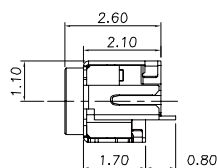
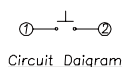
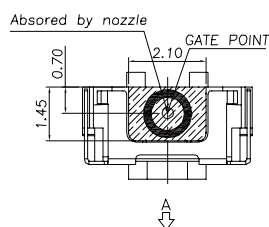
- 50mA, 12VDC
- Initial contact resistance: 500mΩ max.
- Insulation resistance: 100MΩ min. (at 100VDC)
- Dielectric strength: 100VAC for 1 minute
- Operating life: 600,000 cycles

## FEATURES

- Right angle tact switch
- Operating temperature range: -30 ~ 85°C
- Operating force: 160 ± 50g / 220 ± 50g
- Function: push ON
- Tape & reel package

TCH

COVER TYPE		OPERATING FORCE	ROHS	PACKAGE
	Without Post	2 160g	Q Halogen Free	R Tape & Reel
C	With Post	3 220g		



TCHC2QR

# TACT SWITCH

# WTML SERIES

## Illuminated and Washable Tact Switches, up to IP67 Level

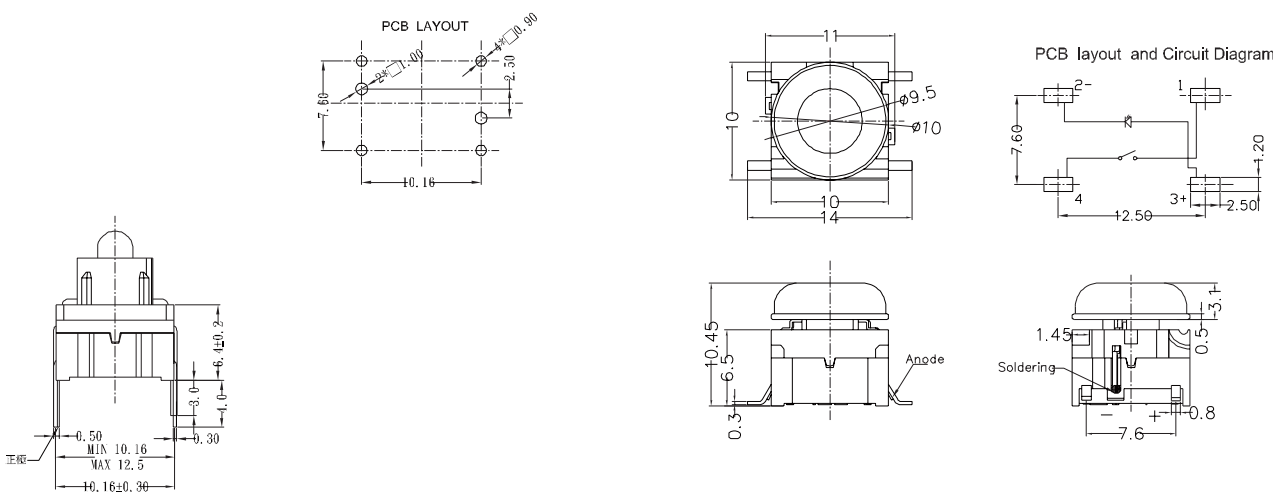
### RATING

- 50mA, 24VDC
- Contact resistance: 50mΩ max. (Initial)
- Insulation resistance: 10MΩ min. (at 100VDC)
- Dielectric strength: 250VAC for 1 minute
- Operating life: 1,000,000 cycles

### FEATURES

- Operating temperature: -40 ~ 160°C (SMD), -40 ~ 115°C (DIP)
- Operating force: 300 ± 120/-0g
- Illuminated and Water-proof construction
- Thru-hole and SMT types are available
- Tube package (STD) and bag package

WTML	—	1	—	10	—	6	—	3	—	C
		Design Code		Size		Operation Force		Dim-H		Terminal
		1	STD body	10	10*10 mm	5	350g	3	10.4mm	C PC type
		2	With pin body			6	300g	4	8.7mm	M SMT type
—		7	—	□	—	□	—	H	—	□
		LED Color		Cap		Cap Color		RoHSP		ackage
		□	None	□	None	□	None	□	None	□ Bag
		1	White	B	Cap	0	Transparent	H	RoHS	B Tube (STD)
		3	Red							
		5	Yellow							
		6	Green							
		7	Blue							



WTML1-10-6-3-C-7-H



WTML2-10-6-4-M-5-B0-H

# TACT SWITCH      WTS    SERIES

**RATING**

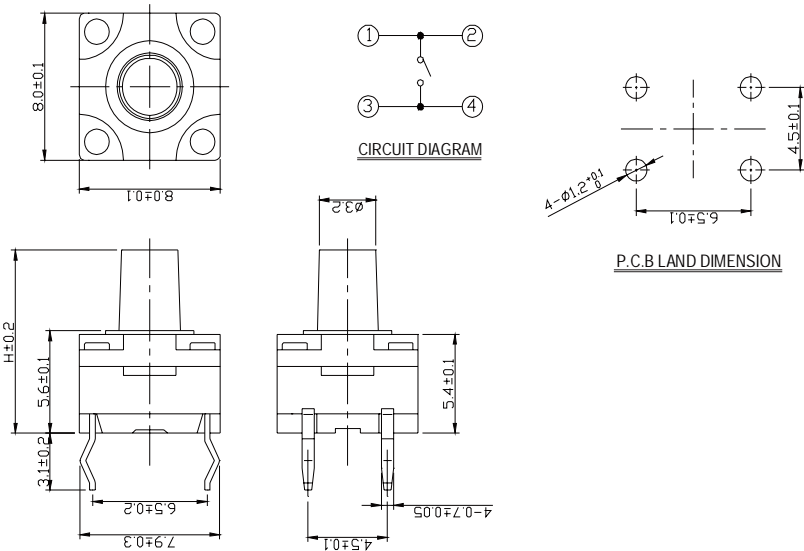
- 50mA, 12VDC
- Contact resistance: 100mΩ max. (Initial)
- Insulation resistance: 100MΩ min. (at 500VDC)
- Dielectric strength: 250VAC for 1 minute
- Operating life: 100,000 cycles

**FEATURES**

- Water-proof and dust-proof
- Operating temperature: -20 ~ 70°C
- Operating force: 180+/- 50g, 250+/-50g
- Thru-hole type
- Application for electronic equipment

WST    —    8    —    7    —    1    —    H    —    □

Size		Dim-H		Operation Force		RoHSP		ackage	
8	8*8mm	7	7.5mm	1	180g	<input type="checkbox"/>	None	<input type="checkbox"/>	Bag
10	10*10mm			2	250g	H	RoHS	B	Tube (STD)



WTS-8-7-1-H


# TACT SWITCH 1100 SERIES

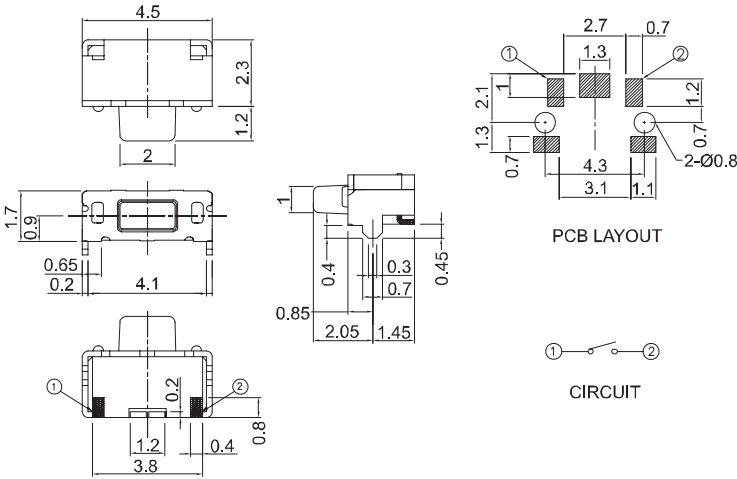
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100m Ohms max.
- Insulation resistance: 10M Ohms min. (at 100VDC)
- Dielectric strength: 100VAC for 1 minute.

## FEATURES

- Surface mount side-push type
- Body size: 4.5mmx2.3mm and 1.7mm height
- SPST, push ON
- SMT terminals, with or without guide boss
- Reel package

1100 SERIES SYMBOL	AANP POST TYPE	OPERATING FORCE
1100 SERIES	AANP 	160g 260g



1100AANP



# TACT SWITCH 1103 SERIES

Miniature tact switches, up to 50mA 12VDC


TACT

## FEATURES








- Rating: 50mA, 12VDC
- Contact resistance: 100mΩ max.
- Travel: 0.3±0.1mm
- Operating life: 100,000 Cycles Min.

1103



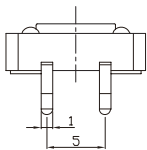
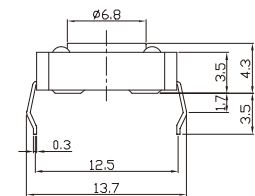
Terminal Type	
	THROUGH HOLE
S	SMT

B

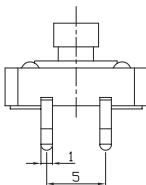
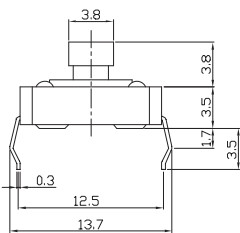
Knob Type (L)			
			
		C	
	4.3mm		7.3mm
A		D	
	12.0mm		12.0mm
B		T	
	7.5mm		3.8mm

160g

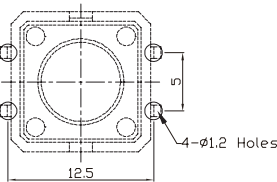
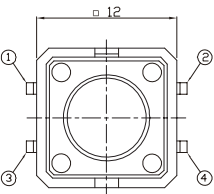
Operating Force
160g
250g



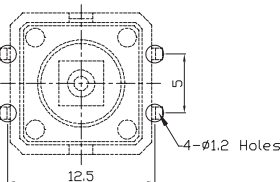
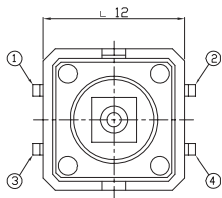
CIRCUIT DIAGRAM



CIRCUIT DIAGRAM



1103



1103T



# TACT SWITCH 1157 SERIES

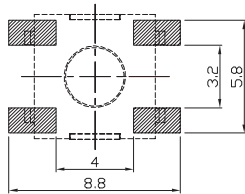
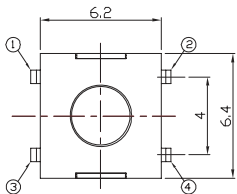
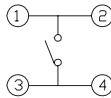
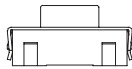
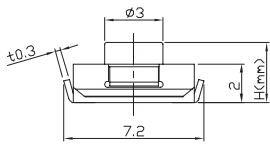
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100m Ohma max.
- Insulation resistance: 100M Ohms min at 100VDC.
- Dielectric strength: 250VAC for 1 minute.

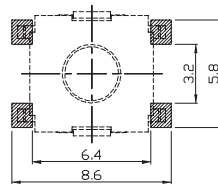
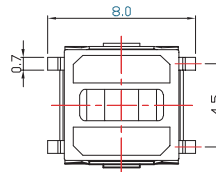
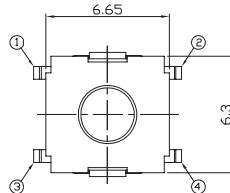
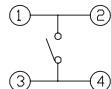
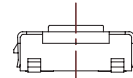
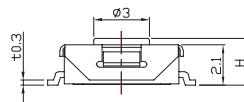
## FEATURES

- Surface mount type
- Body size: 6.2mmx6.2mm and 2.5mm or 3.1mm height
- SPST, push ON
- With anti-ESD ground cover
- Flat SMT terminals type
- Reel package

1157	U	S	N	G	
SERIES SYMBOL	TERMINAL TYPE	ACTUATOR HEIGHT	CASE EMBOSS	COVER	OPERATING FORCE
1157 SERIES	U BEND UPWARD A PARALLEL	S 2.5mm H 3.1mm	N NO EMBOSS	G GROUND PIN D NO GROUND PIN	100g 130g 160g 250g



1157UHND



1157ASND



# TACT SWITCH 1181 SERIES




TACT

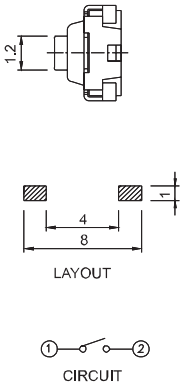
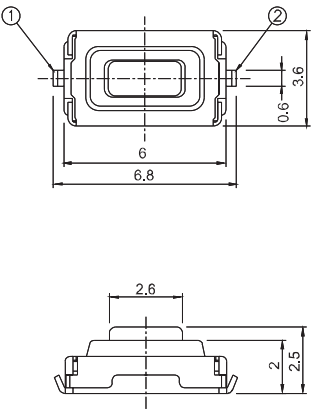
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100m Ohms max.
- Insulation resistance: 100M Ohms min at 500VDC.
- Dielectric strength: 250VAC for 1 minute

## FEATURES

- Surface mount type
- Body size: 6.2mmx6.2mm and 2.5mm or 3.1mm height
- SPST, push ON
- With anti-ESD ground cover
- Flat SMT terminals type
- Reel package

1181	U	
SERIES SYMBOL	TERMINAL TYPE	OPERATING FORCE
1181 SERIES	 F  U 	160g 260g



1181U



# TACT SWITCH 1184 SERIES

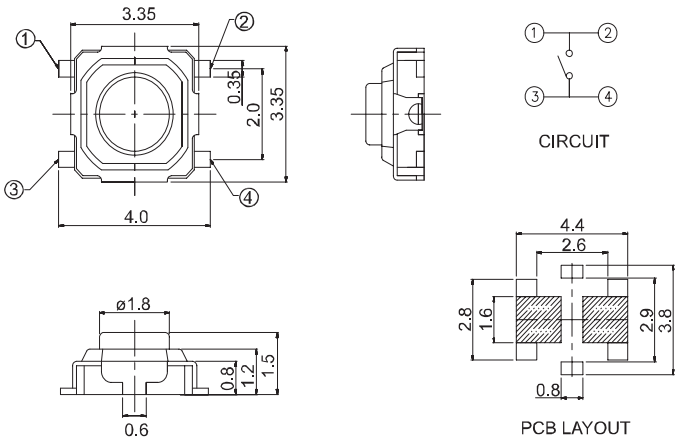
## RATING

- 50mA, 12VDC
- Action: SPST, push on
- Initial contact resistance: 100m Ohms max.
- Insulation resistance: 100M Ohms min at 100VDC.
- Dielectric strength: 250VAC for 1 minute.

## FEATURES

- Surface mount type
- Body size: 3.3mmx3.3mm and 1.5mm height
- SPST, push ON
- With or without knob, Flat SMT terminals
- Reel package

1184	
SERIES SYMBOL	OPERATING FORCE
1184 SERIES	160g 240g



1184





# TACT SWITCH 1185 SERIES

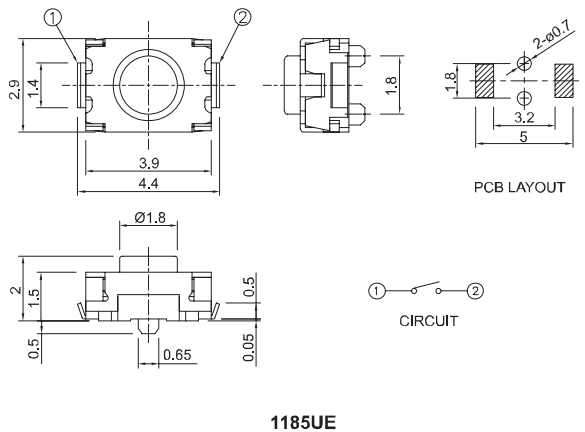
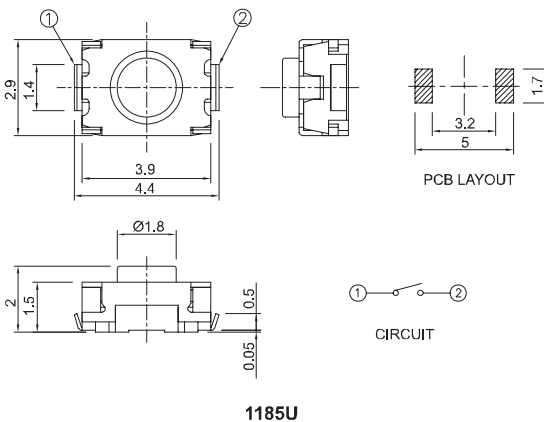
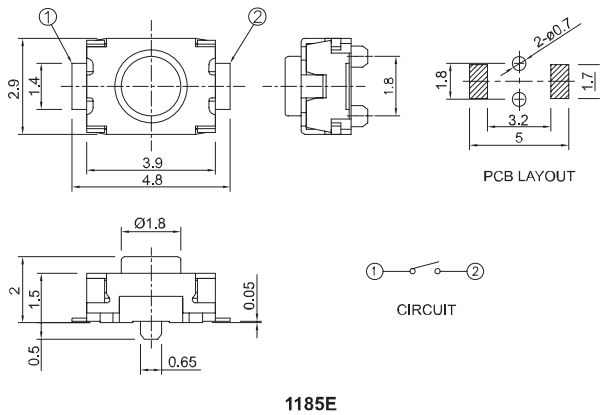
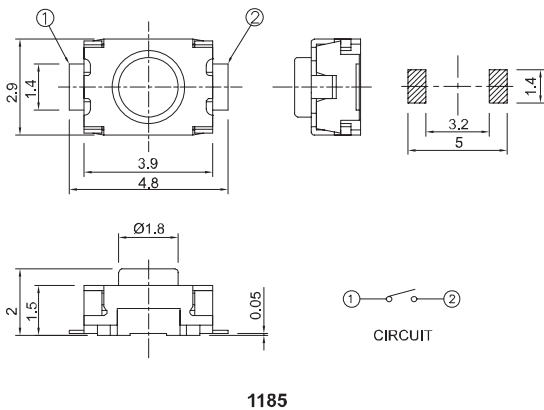
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100m Ohms max.
- Insulation resistance: 100M Ohms min at 100VDC.
- Dielectric strength: 100VAC for 1 minute

## FEATURES

- Surface mount type
- Body size: 6.2mmx6.2mm and 2.5mm or 3.1mm height
- SPST, push ON
- Flat SMT terminals and J-bent SMT terminals
- Reel package

1185	UE	
SERIES SYMBOL	POST / PIN TYPE	
OPERATING FORCE		
1185 SERIES	E	UE
	U	





# TACT SWITCH 1188 SERIES

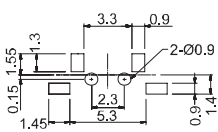
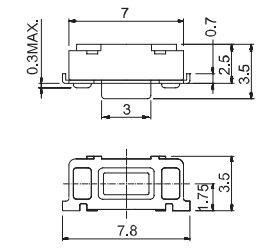
## RATING

- 50mA, 12VDC
- Initial contact resistance: 100m Ohma max.
- Insulation resistance: 100M Ohms min at 100VDC.
- Dielectric strength: 250VAC for 1 minute.

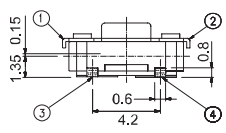
## FEATURES

- Surface mount type
- Body size: 7mmx3.3mm and 3.5mm height
- SPST, push ON
- SMT terminals
- Reel package

1188	E	
SERIES SYMBOL	POST TYPE	OPERATING FORCE
1188 SERIES	 E 	160g 260g

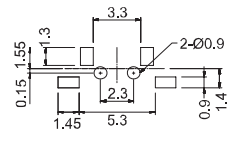
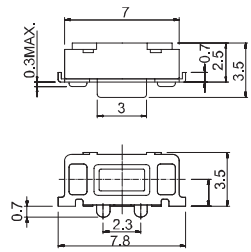


PCB LAYOUT

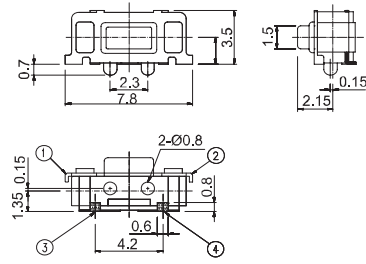


CIRCUIT

1188



PCB LAYOUT



CIRCUIT

1188E



# TACT SWITCH 1198 SERIES

Miniature tact switches, up to 50mA 12VDC  
SMT, 4.5mm X 4.5mm

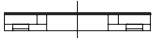
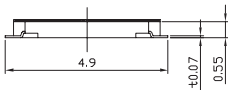
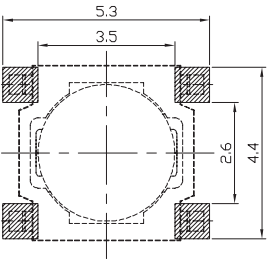
## FEATURES

- Rating: 50mA 12VDC
- Action: SPST, push on ,
- Travel: 0.2+/-0.1mm
- Bounce: 10m sec.max.
- Initial contact resistance : 100m ohms (max.)
- Insulation resistance : 100M ohms (min.) at 100VDC
- Dielectric strength : 100VAC for 1 minute
- Electrical life : 100,000 cycles
- Operating force: 160gf+/-30; 250gf+/-50
- Operating Temperature: -20 C ~ + 70 C (45%~85%RH)

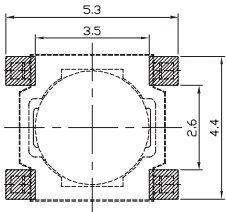
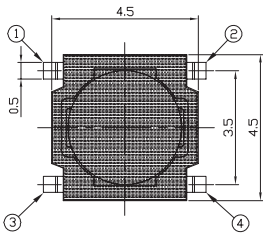
1198 — 160g

Operating Force
160g
250g

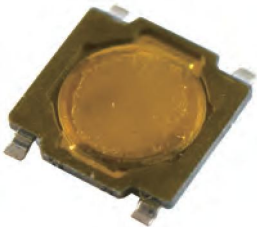
P.C.B. MOUNTING PATTERN DIMENSION  
The following soldering patterns are recommended for reflow soldering



CIRCUIT



PCB LAYOUT



1198