



Features:

Long electrical life cycles.
 Choice of multiple colored caps.
 Choice of painted colored caps.
 Laser marking service.
 Available for Push button with LCD display.

产品特点：

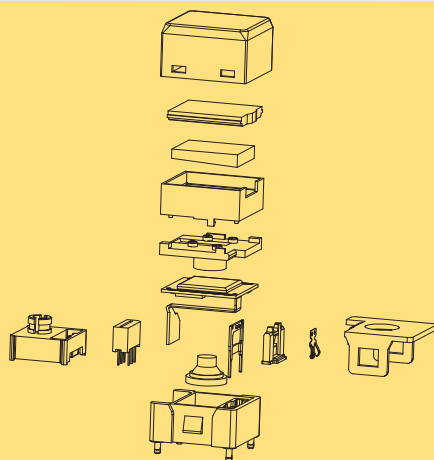
提供带触感型及无触感型两种选择
 超高亮RGB背光源,耐久鲜明
 LCD液晶屏,显示模式自定义
 超长距离,高信耐接触,无杂讯

Applications

Studio equipment.
 Audio/Video products.
 Broadcast system.
 Instrumentation.
 Telecommunications...etc.

使用范围

音响、影像等录音室器材设备
 广播系统、电信仪器设备。



绝佳顿感，滑顺均匀

Tactile or non-tactile feel, perfectly poise

超长距离，高信耐接触，无杂讯
 Long distance connection,
 high contact resistance, no noise



Studio equipment.
 Audio/Video products,
 Broadcast system,
 Instrumentation,
 Telecommunications ...etc.
 音响、影像等录音室器材设备、广播系统、
 电信仪器设备

General Specifications: (产品规格)

CONTACT RATING: 12 V DC, 0.1A.
CONTACT RESISTANCE: 200 mΩ MAX. (Initial).
INSULATION RESISTANCE: 100MΩ MIN (DC 250V).
WITHSTAND VOLTAGE: AC 125 V / 1 MINUTE.
OPERATING TEMPERATURE: -25°C~70°C.
OPERATING FORCE: 180±50 gf.
FULL TRAVEL: 1.8±0.3mm .
LIFE CYCLE: 1,000,000 CYCLES.
64(horizontal)X32(vertical) Pixel format.

Material: (产品材质)

Cover: Polycarbonate (PC)
Actuator: Polyoxymethylene (POM)
Base Frame: Polyamide (PA) + GF
Terminal: Brass with silver plating
Moving Contact: Phosphor Bronze with gold plating
Display: LCD

Terminal's Configuration

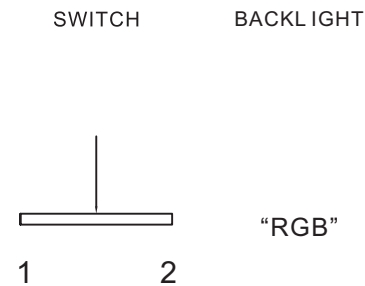
PIN 1	Switch Terminal	PIN 2	Switch Terminal
PIN 3	GND[Gorund]	PIN 4	V _{DD} [Power]
PIN 5	SD0[Data Out]	PIN 6	SDI[Data In]
PIN 7	SCK[Serial Clock]	PIN 8	\overline{SS} [Slave Select]

HOW TO ORDER

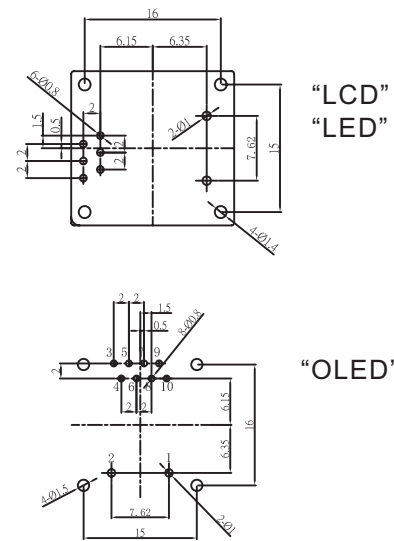
SERIES	OPERATION	POLE	TERMINAL	BACKLIGHT	DISPLAY	FRAME TYPE	CAP COLOR	PLATE COLOR
DSP	N	1	T	F	D	A	T	W
	N=NON-LOCK	1=1 POLE	T=TACTILE TYPE N=NON TACTILE X=NON OPERATION	R=RED G=GREEN B=BLUE Y=YELLOW W=WHITE F=FULL COLOR N=NONE	D=DISPLAY[LCD] L=DISPLAY[LED] O=DISPLAY[OLED] N=NONE	A=A TYPE B=B TYPE C=C TYPE D=D TYPE	T=TRANSPARENT R=RED G=GREEN B=BLUE Y=YELLOW S=SILVER N=NONE	W=WHITE R=RED G=GREEN B=BLUE Y=YELLOW N=NONE (LCD TYPE) F=FILM PLATE

CAP Symbol: Please refer to cap selection for all available symbols on cap surface, and any customization is welcomed

SCHEMATIC



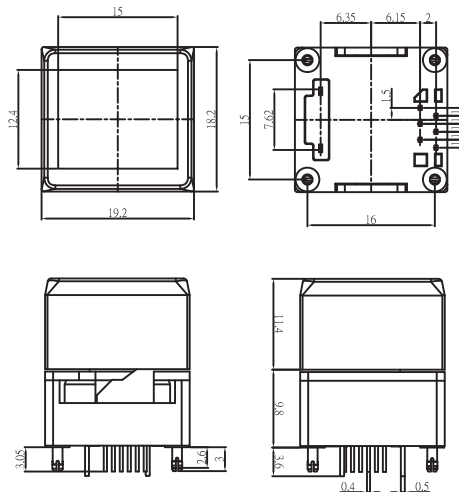
P. C. B LAYOUT



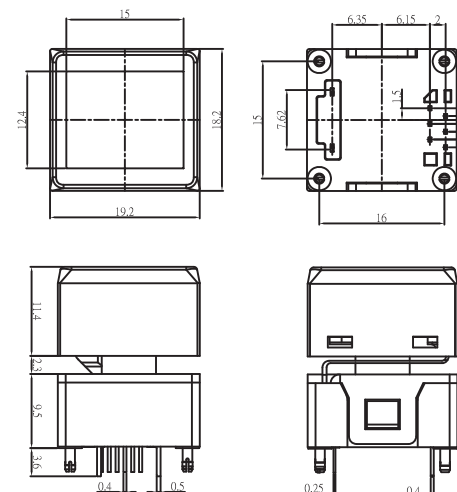
DISPLAY MODE

INTERFACE
 "LCD"
 "LED"
 "SPI"
 "LCD"
 "OLED"

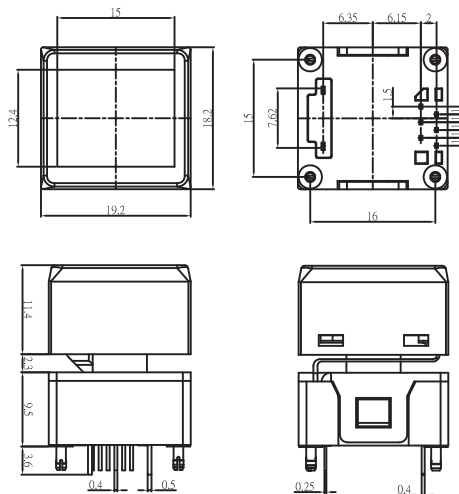
DSP-N1XFD-ATN



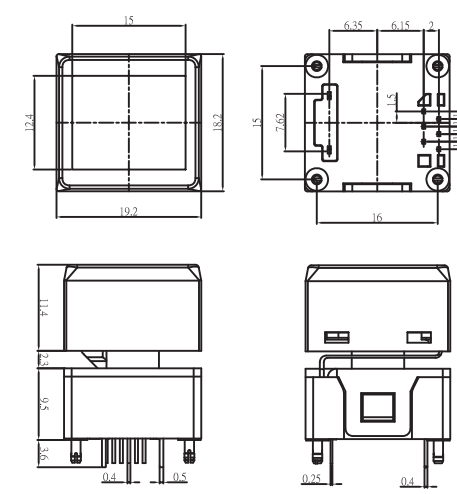
DSP-N1TFD-ATN



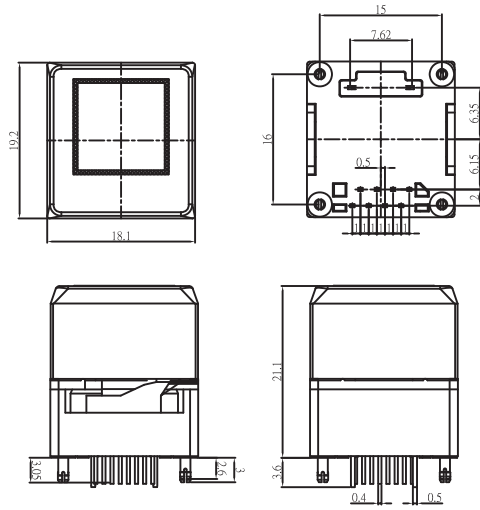
DSP-N1NFD-ATN



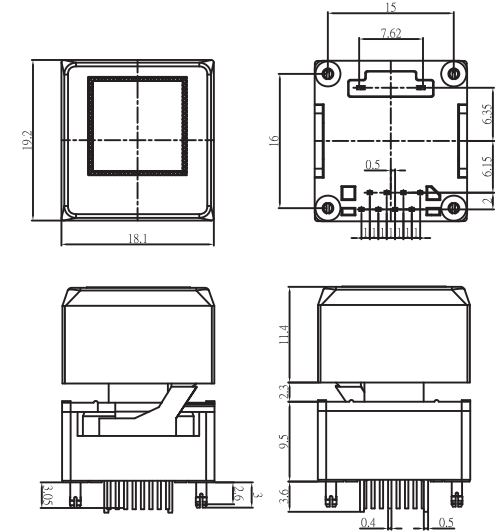
DSP-N1TFL-ATW



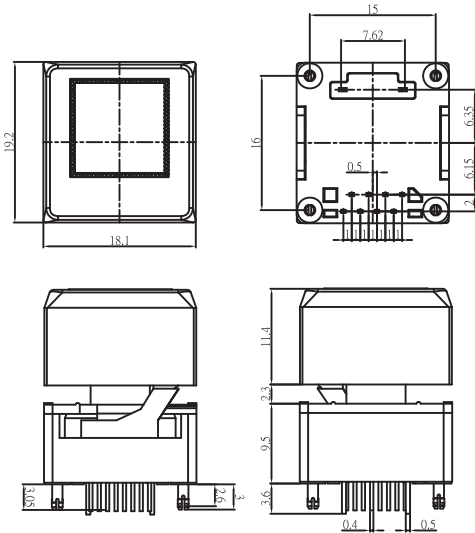
DSP-N1XFO-CKTF



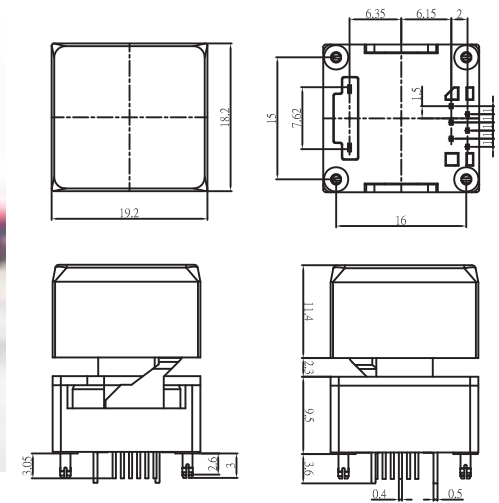
DSP-N1TFO-CKTF



DSP-N1NFO-CKTF

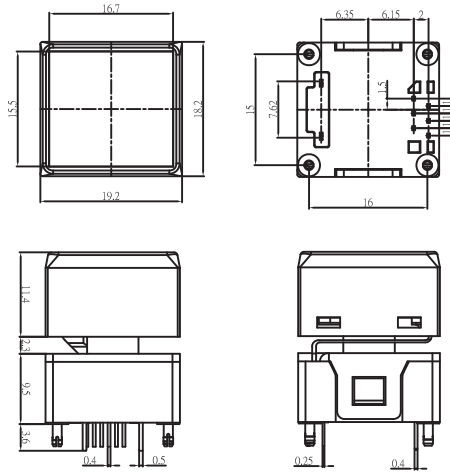


DSP-N1TFL-CKTW

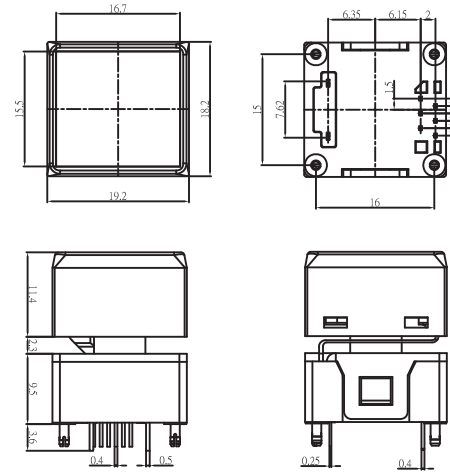




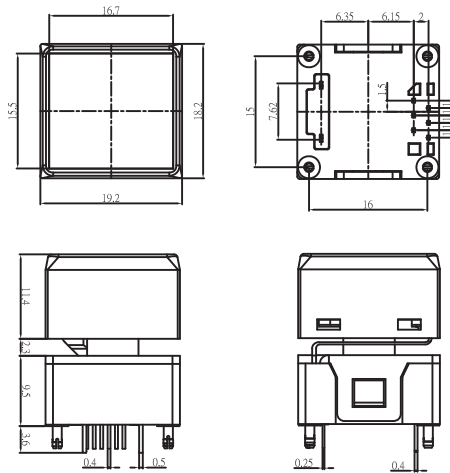
DSP-N1TFL-BTW



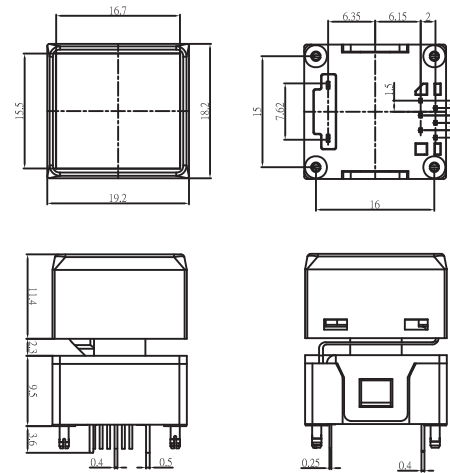
DSP-N1NFL-BTW



DSP-N1TFL-BTW



DSP-N1NFL-BTW





DSP3

Features:

Long electrical life cycles.
 Choice of multiple colored caps.
 Choice of painted colored caps.
 Laser marking service.

产品特点:

提供带触感型及无触感型两种选择
 超高亮OLED照光,耐久鲜明
 高信耐接触,彩屏显示模式

Applications

Studio equipment.
 Audio/Video products.
 Broadcast system.
 Instrumentation,
 Telecommunications...etc.

使用范围

音响、影像等录音室器材设备
 广播系统、电信仪器设备。

視覺切换

Visual switch



General Specifications: (产品规格)

DISPLAY MODE:PASSIVE MATRIX.
DISPLAY COLOR:65,536 COLORS(MAXIMUM)
DRIVE DUTY:1/64 DUTY
RESOLUTION:64(RGB)X64
ACTIVE AREA:10.73X10.73
PIXEL PITCH:0.056X0.168
PIXEL SIZE:0.034X0.143
MODULE SIZE:15X32.66X1.2
PANEL SIZE:15X17.5X1.2 INCLUDING “ANTI-GLARE POLARIZER”

Material: (产品材质)

Cover: Polycarbonate(PC)
Actuator:Polyoxymethylene(POM)
Base frame:Polyamide(PA)+GF
Terminal:Brass with gold plating
Moving Contact:Phosphor bronze with gold plating

Terminal's Configuration

PIN 1	N.C.(GND)[Reserved pin (Supporting pin)]
PIN 2	VCC[Power Supply for oel panel]
PIN 3	VCOMH[Voltage Output High Level for COM Signal]
PIN 4	SDIN[Serial Data Input Signal]
PIN 5	SCLK[Serial Clock Input Signal]
PIN 6	D/C#[Data/Command Control]
PIN 7	RES#[Power Reset for Controller and Driver]
PIN 8	CS#[Chip Select]
PIN 9	IREF[Current Reference for Brightness Adjustment]
PIN 10	VDD[Power Supply for Core Logic Circuit]
PIN 11	VSS[Ground of logic Circuit]
PIN 12	N.C.(GND)[Reserved Pin(Supporting Pin)]

HOW TO ORDER

SERIES	OPERATION	ACTUATION TYPE	DISPLAY	PIXEL	INTERFACE	FRAME TYPE	CAP COLOR	PLATE COLOR
DSP3	N	X	F	A	S	A	T	F
	N=NON-LOCK	T=TACTILE TYPE N=NON TACTILE X=NON OPERATION	W=WHITE F=FULL COLOR	A=64X64[0.6寸]	S=SPI	A=13.8 TYPE [H=13.8] B=16 TYPE [H=16] C=18 TYPE [H=18]	T=TRANSPARENT KT=BLACK RT=RED GT=GREEN BT=BLUE YT=YELLOW OT=ORANGE WT=WHITE N=NONE	F=FILM PLATE[BLACK] R=RED G=GREEN B=BLUE Y=YELLOW O=ORANGE W=WHITE

CAP Symbol:Please refer to cap selection for all available symbols on cap surface,and any customization is welcomed

SCHEMATIC

PIXET FORMAT

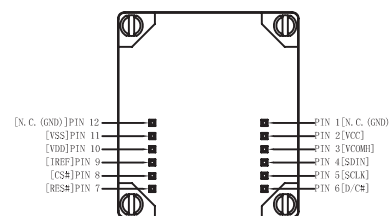
“64X64”

DISPLAY MOLD

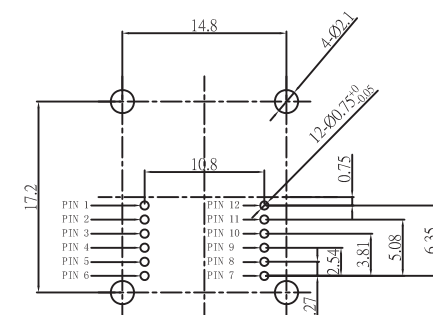
“OLED”
[PASSIVE MAXTRIX]

“SPI”

TERMINAL'S VIEW



P.C.B LAYOUT

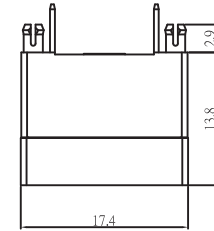
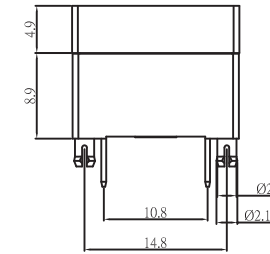
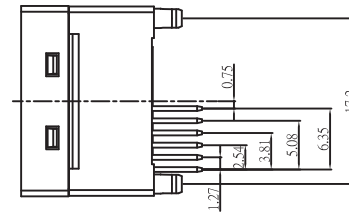
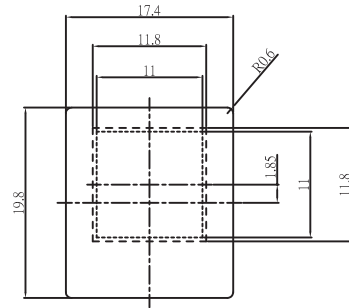




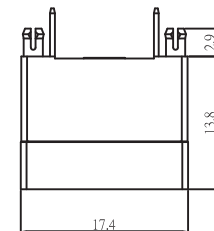
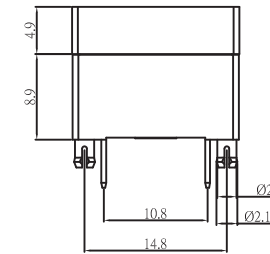
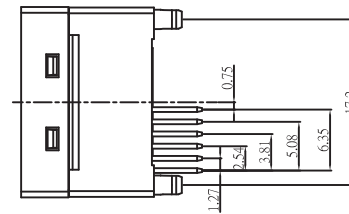
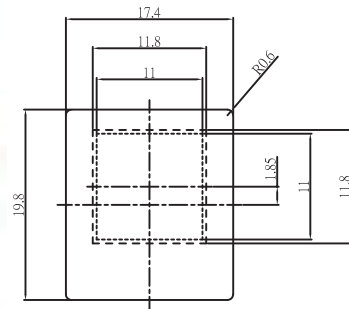
DSP3

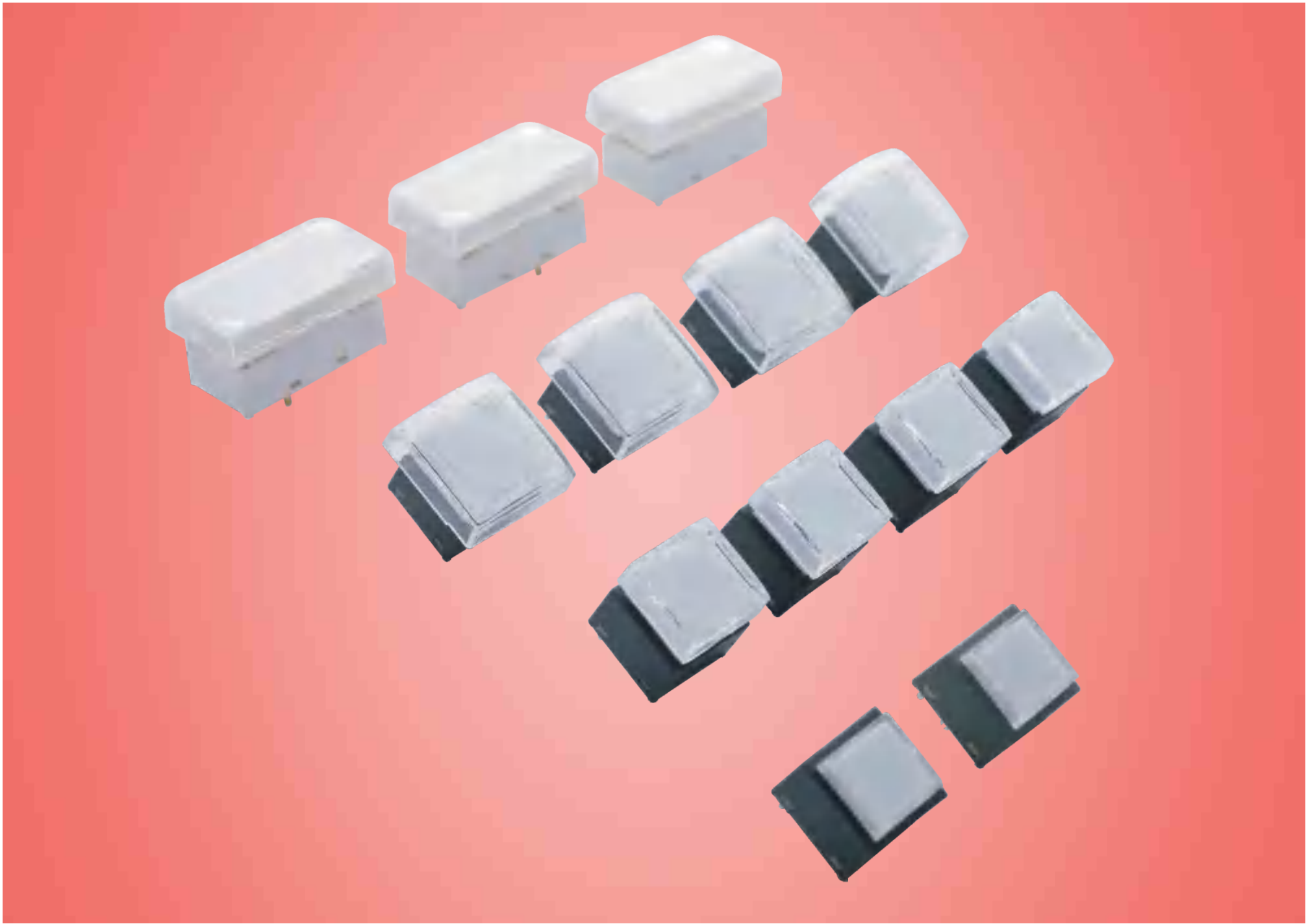
■ LED ILLUMINATED PUSH BUTTON SWITCH

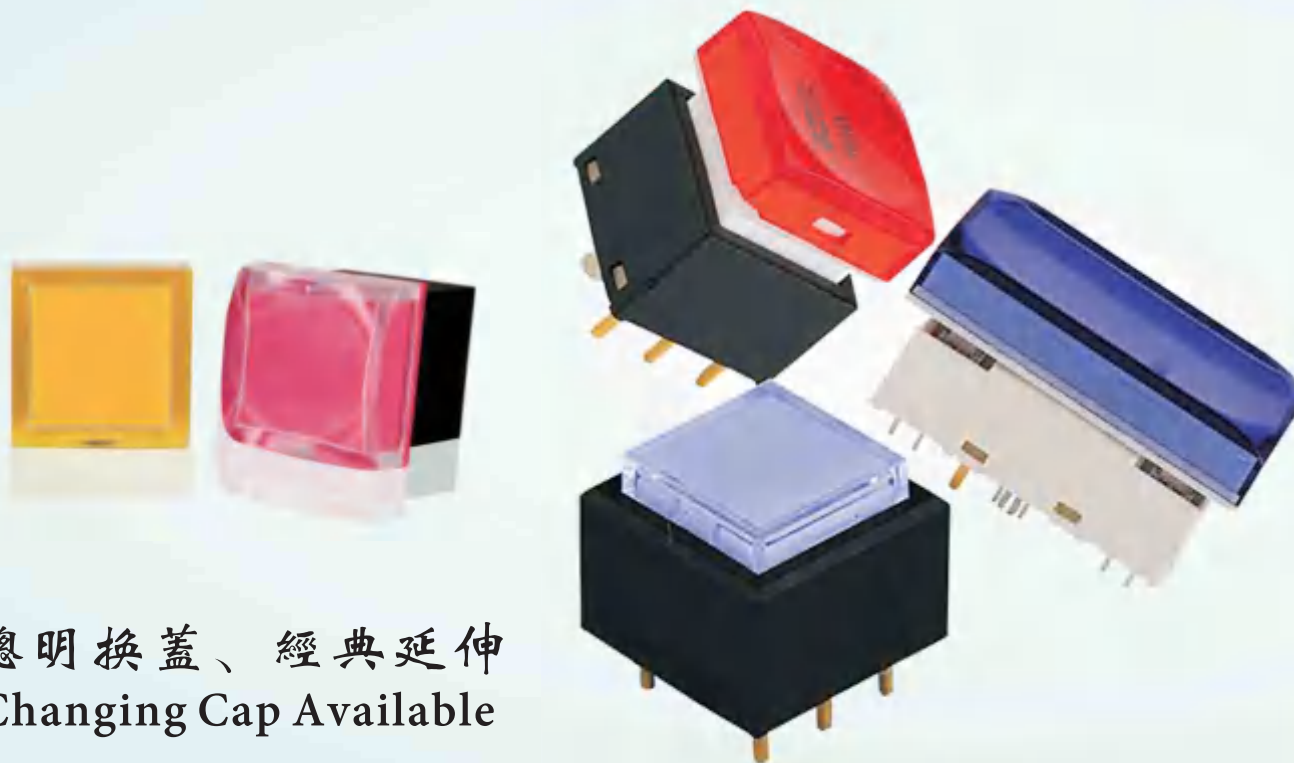
DSP3-NXFAS-AKTF



DSP3-NXFAS-AKTF







聰明換蓋、經典延伸 Changing Cap Available

Features:

- Clear actuation feeling.
- Many LED color options are available.
- Momentary and Alternate available.
- Positive tactile response.
- RGB color options are available.
- Long life cycles.

Applications:

- Audio/Video products.
- Communication equipment.
- Broadcast system, Instrumentation, telecommunications...etc.

绝佳顿感，滑顺均匀

Tactile or non-tactile feel, perfectly poise



镀金接点,稳定耐用



Gold plated pins,
more stable and durable

LED照光颜色多变，耐久鲜明



Various and durable LED colors



Studio equipment.
Audio/Video products,
Broadcast system,
Instrumentation,
Telecommunications ...etc.

音响、影像等录音室器材设备、广播系统、
电信仪器设备

General Specifications (产品规格)

Function: Momentary or Alternate
Contact Rating: Gold, 0.4A Max. @ 28V (AC or DC)
Silver, 0.5A @ 25V DC; 0.2A @ 250V AC
Contact Resistance: 50mΩ silver, 100mΩ gold (initial max)
Insulation Resistance: 100MΩ @ 500V DC
Dielectric Strength: Breakdown is not allowable; 500V AC for 1 minute
Actuation Force: 200 ± 100 gf SPDT
300 ± 150 gf DPDT
Total Travel: 2.2mm ± 0.2mm
Life Expectancy (Mechanical): 1,000,000 cycles
Life Expectancy (Electrical): 200,000 cycles silver
200,000 cycles gold
Operating Temperature: -20° C to 70° C

Material: (产品材质)

Cover: Polycarbonate(PC)
Actuator: Polyoxymethylene(POM)
Base frame: Polyamide(PA)+GF
Terminal: Brass with gold plating

LED Specifications:

Color	V		Recommended Operating Current	VF	
				Nom	Max
Red	DC 5V	20mA	20mA	1.7V	2.4V
Green	DC 5V	20mA	20mA	1.9V	2.4V
Yellow	DC 5V	20mA	20mA	1.9V	2.4V
Blue	DC 5V	20mA	20mA	3.0V	3.6V
White	DC 5V	20mA	20mA	3.0V	3.6V

HOW TO ORDER

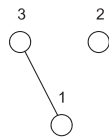
SERIES	OPERATION	POLE	TERMINAL	LED COLOR	LED COLOR	FRAME TYPE	CAP COLOR	DIFFUSER COLOR	CAP SYMBOL
PLB	N	1	P	N	R	A	T	W	P5
	N=NON-LOCK L=LOCK TYPE	1=1 POLE 2=2 POLE	P=P.C.B TYPE W=WIRE TYPE	B=BLUE G=GREEN R=RED Y=YELLOW F=FULL COLOR N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW F=FULL COLOR N=NONE	A=A TYPE A1=A1 TYPE B=B TYPE C=C TYPE D=D TYPE E=E TYPE F=F TYPE F1=F1 TYPE	T=TRANSPARENT R=RED G=GREEN B=BLUE Y=YELLOW S=SILVER	W=WHITE R=RED G=GREEN B=BLUE Y=YELLOW	

CAP Symbol: Please refer to cap selection for all available symbols on cap surface, and any customization is welcomed

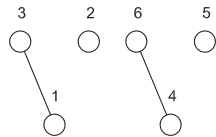
SCHEMATIC

SWITCH

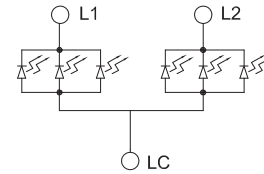
1P2T



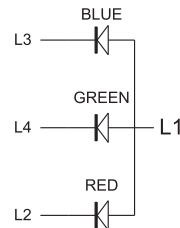
2P2T



LED

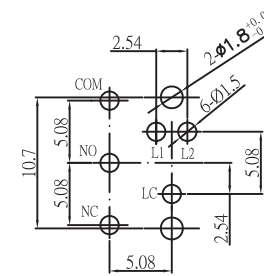


SW CIRCUIT

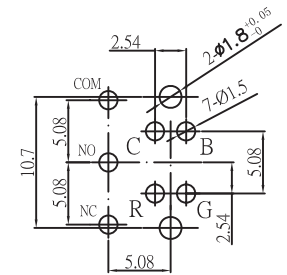


LED CIRCUIT

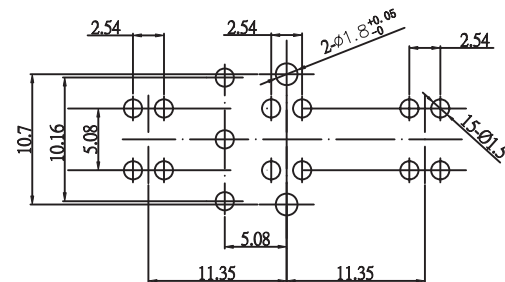
SINGLE & DOUBLE COLOR



RGB1

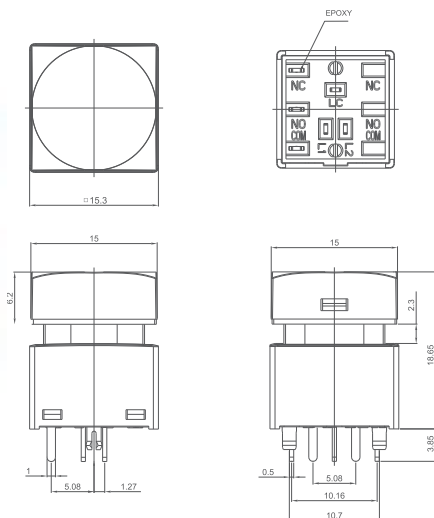


RGB2

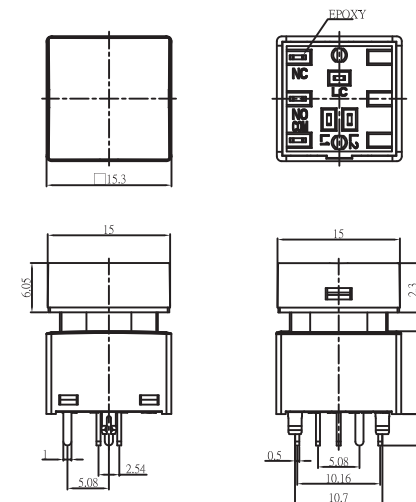


For the specification about the other LED colors, please contact with sales department.

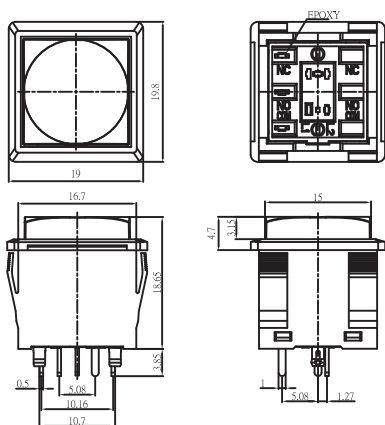
PLB-N1PNR-ATW ::



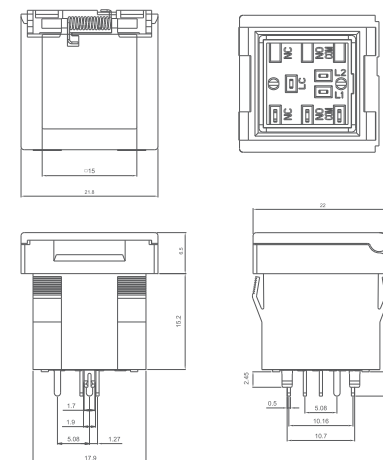
PLB-N1PNG-A1TW ::



PLB-N1PNR-ATW-P1KN ::



PLB-N1PRG-ATW-PKT ::



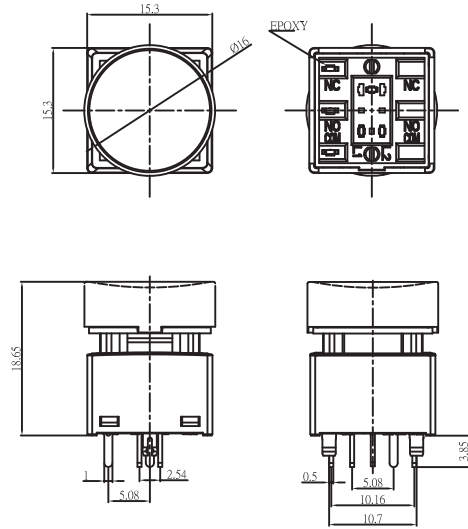


PLB

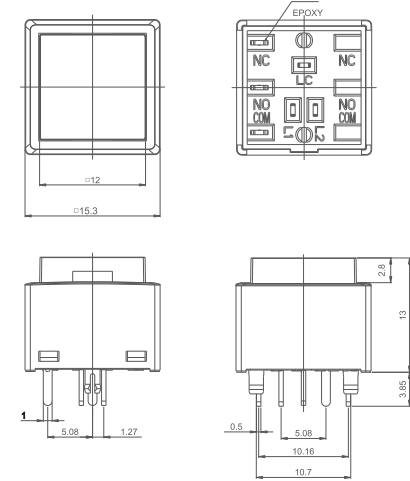
LED ILLUMINATED PUSH BUTTON SWITCH



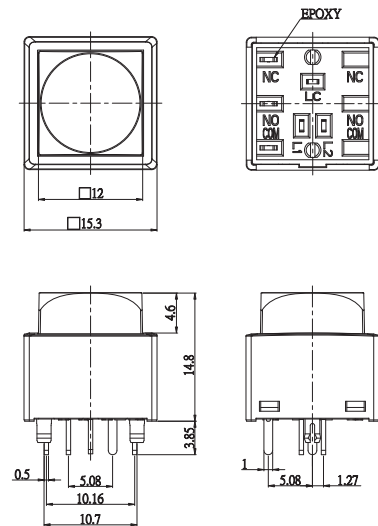
PLB-N1PRG-RA1TW ::



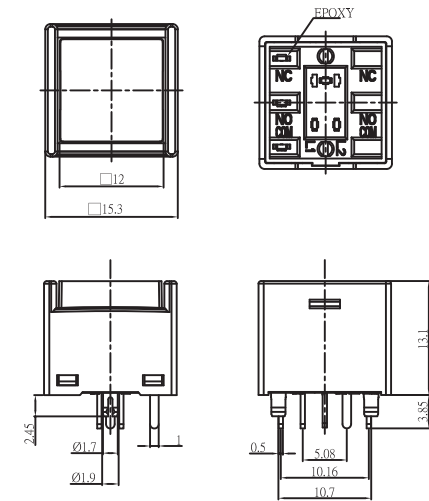
PLB-N1PNB-BTW ::



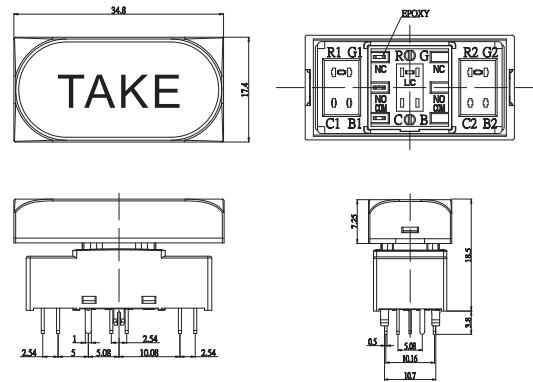
PLB-N1PRB-B1TW ::



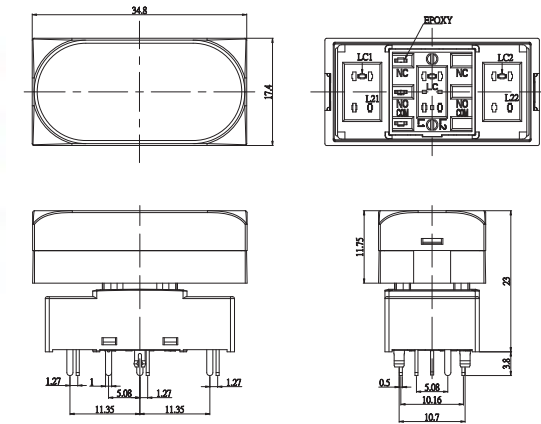
PLB-N1PRG-B2TW ::



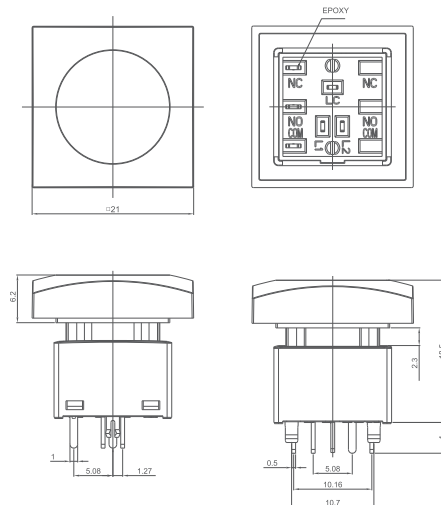
PLB-N1PRGB-DTW ::



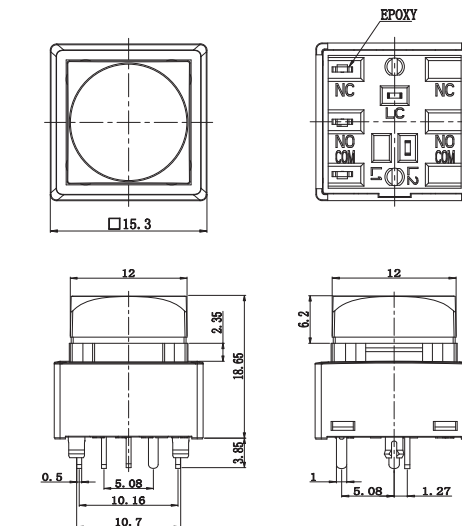
PLB-N1PNG-D1TW ::



PLB-N1PNG-ETW ::



PLB-N1PNR-FTW ::

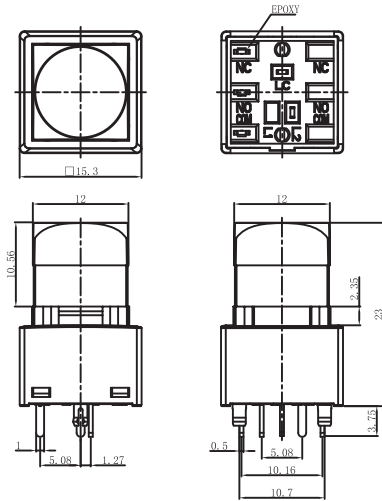




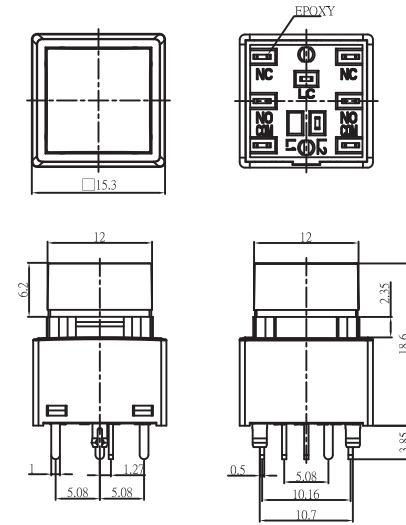
PLB

LED ILLUMINATED PUSH BUTTON SWITCH

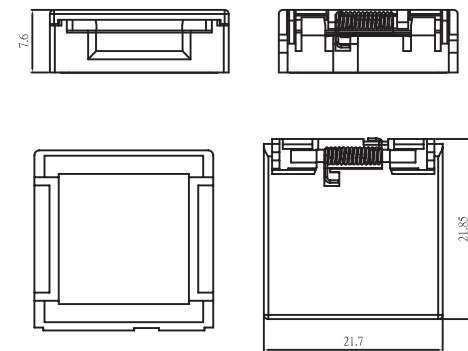
PLB-N1PNR-FTW-A ::



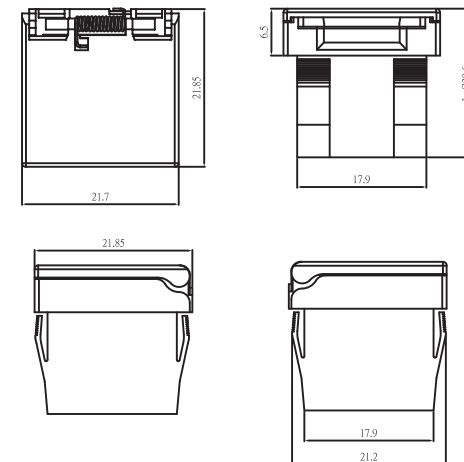
PLB-N2PNG-F1TW ::

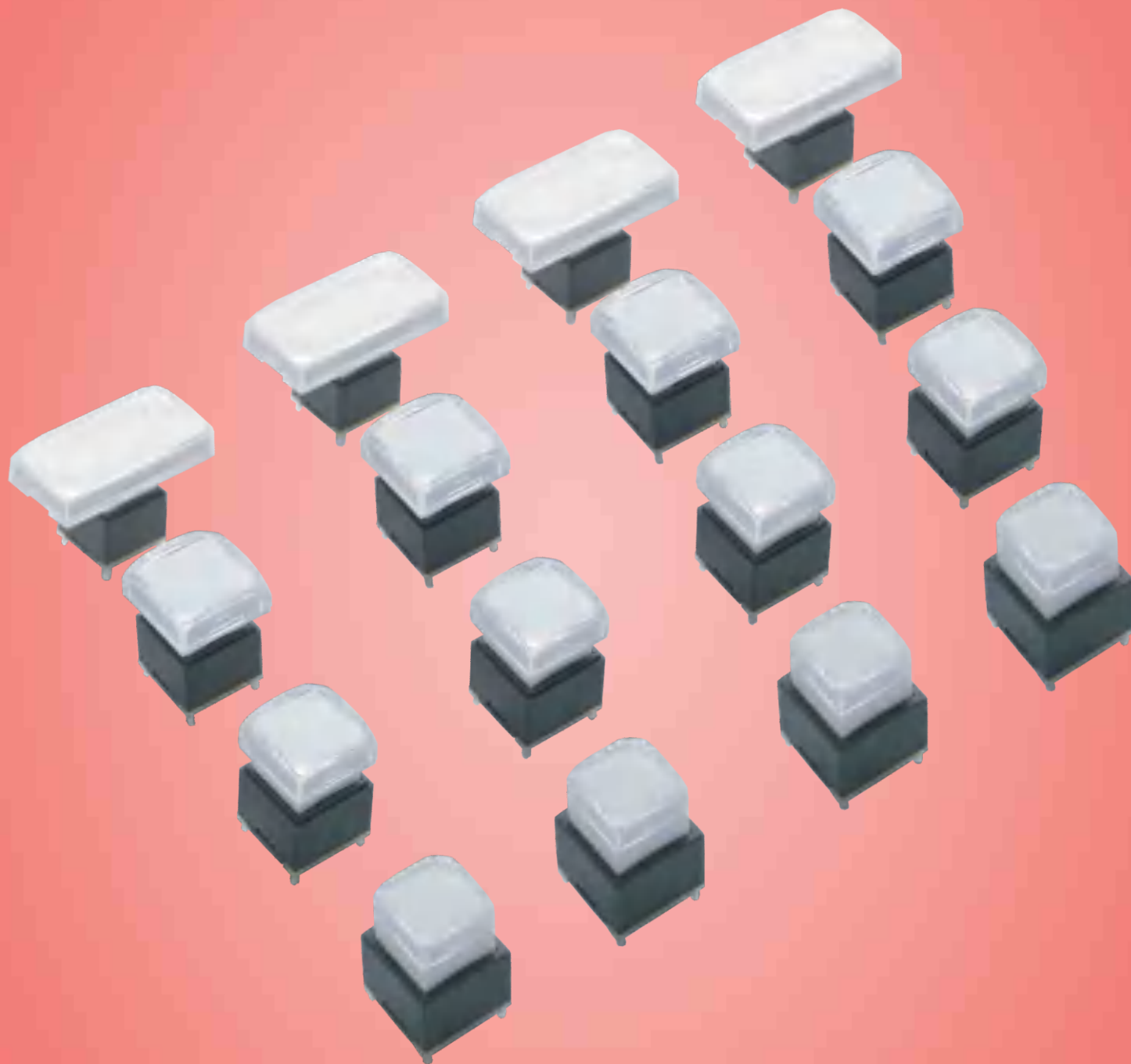


PLB-P1KT ::



PLB-PKT ::







Features:
 Long electrical life cycles.
 Choice of multiple colored caps.
 Choice of painted colored caps.
 Laser marking service.

产品特点
 提供带触感型及无触感型两种选择
 超高亮LED照光，耐久鲜明
 超长距离，高信耐接触，无杂讯
 客制化帽盖选择，喷漆色盖&镭射雕刻服务

Applications
 Studio equipment.
 Audio/Video products,
 Broadcast system,
 Instrumentation.,
 Telecommunications ...etc.

使用范围
 音响、影像等录音室器材设备
 广播系统、电信仪器设备

绝佳顿感、滑顺均匀
 Tactile or non-tactile feel, perfectly poise



General Specifications: (产品规格)

Function:OFF-<ON>For Momentary Type,SPST
Contact Rating: 100mA 12V DC
Contact Resistance: 200mΩ Max
Insulation Resistance: 100MΩ Min.500 V DC
Dielectric Strength:Breakdown is not allowable; 500V AC for 1 minute
Actuation Force: 250 ± 100gf
Total Travel:4.5mm ± 0.2mm
Operating Life: 2,000,000 cycles
Operating Temperature: -20° C to 70° C

Material: (产品材质)

Cover: Polycarbonate(PC)
Actuator:Polyoxymethylene(POM)
Base frame:Polyamide(PA)+GF
Terminal:Brass with gold plating
Moving Contact:Phosphor bronze with gold plating

LED Specifications:

Color	V		Recommended Operating Current	VF	
				Nom	Max
Red	DC 5V	20mA	20mA	1.7V	2.4V
Green	DC 5V	20mA	20mA	1.9V	2.4V
Yellow	DC 5V	20mA	20mA </td <td>1.9V</td> <td>2.4V</td>	1.9V	2.4V
Blue	DC 5V	20mA	20mA	3.0V	3.6V
White	DC 5V	20mA	20mA	3.0V	3.6V

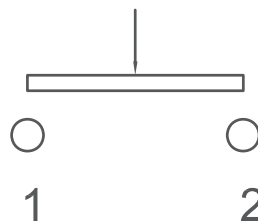
HOW TO ORDER

SERIES	OPERATION	POLE	ACTUATION TYPE	LED COLOR	LED COLOR	CAP TYPE	CAP COLOR	PLATE COLOR	CAP SYMBOL
PLC	N	1	T	R	N	A	T	W	A
	N=NON-LOCK	1=1 POLE	T=TACTILE TYPE N=NON TACTILE	B=BLUE G=GREEN R=RED Y=YELLOW F=FULL COLOR F1=FULL COLOR N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW F=FULL COLOR F1=FULL COLOR N=NONE	A=12.0mm sq A1=12.0mm sq B=15.0mm sq B1=15.0mm sq C=17.4mm sq C1=17.4mm sq D=17.4x34.8 mmsq	T=TRANSPARENT R=RED G=GREEN B=BLUE Y=YELLOW S=SILVER	W=WHITE R=RED G=GREEN B=BLUE Y=YELLOW	A=2.5mm

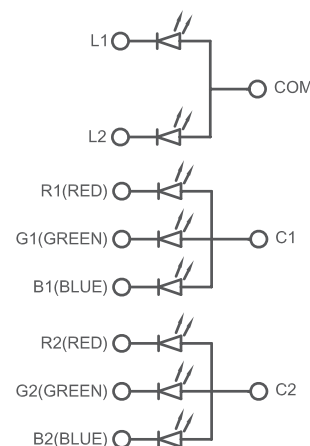
CAP Symbol:Please refer to cap selection for all available symbols on cap surface,and any customization is welcomed

SCHEMATIC

SWITCH

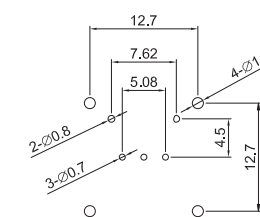


LED

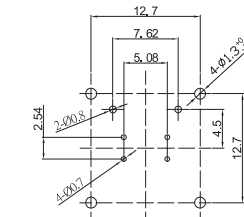


P. C. B LAYOUT

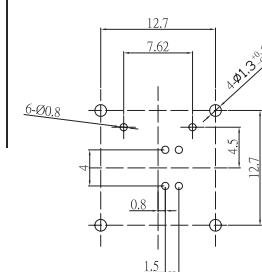
Single color or two color



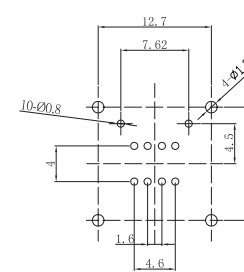
RGB TYPE1



RGB TYPE2

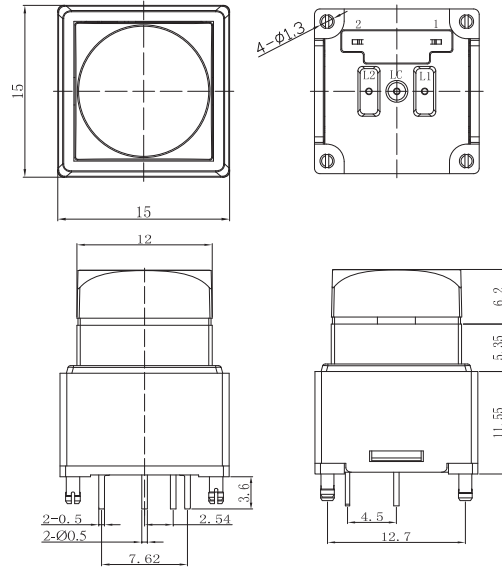


RGB+RGB TYPE

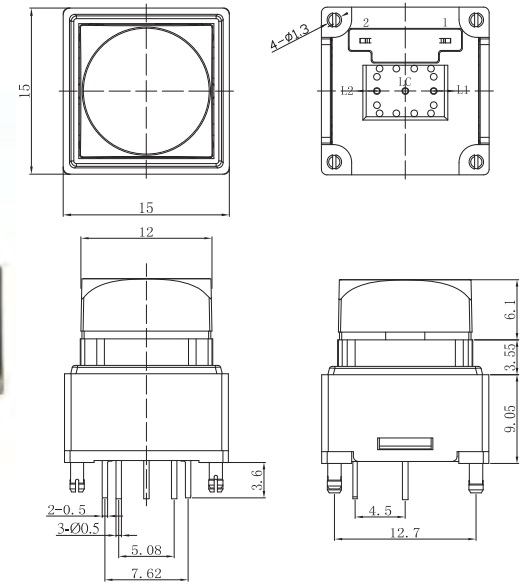


For the specification about the other LED colors ,Please contact with sales department.

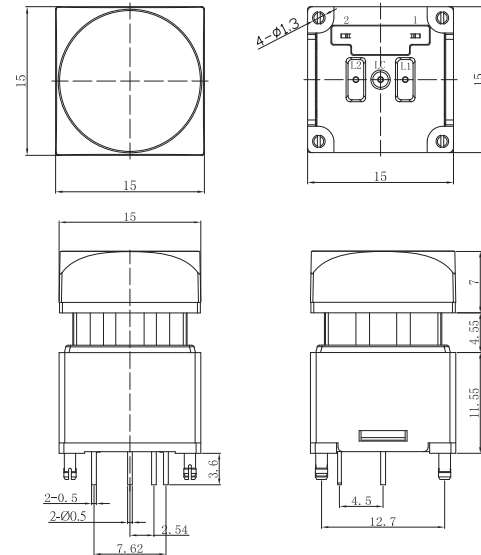
PLC-N1TYN-ATW



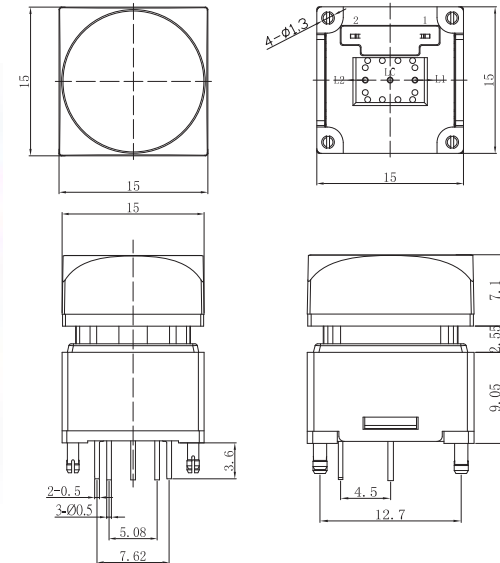
PLC-N1TRG-ATW-A



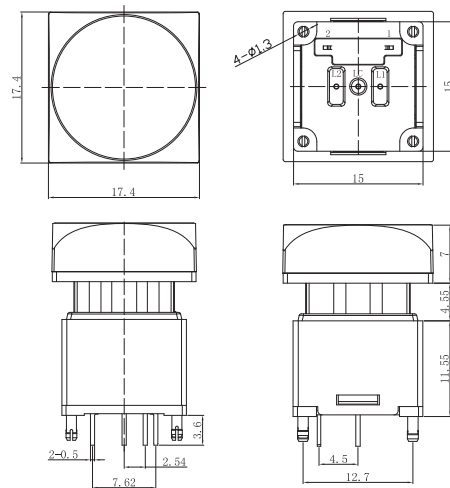
PLC-N1TRN-BTW



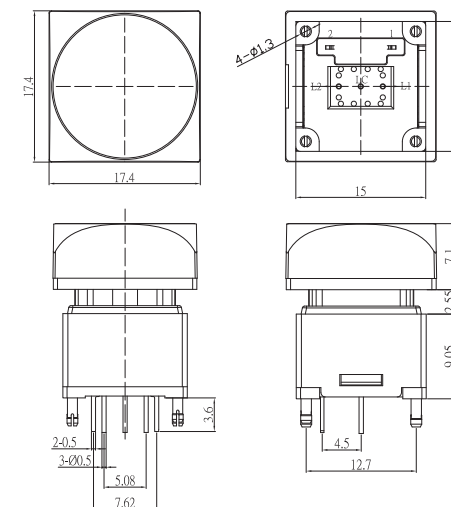
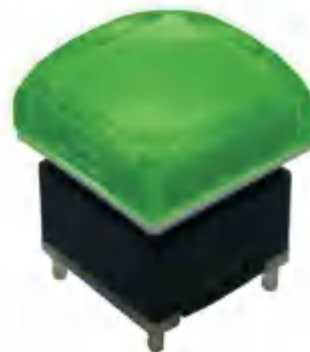
PLC-N1TGR-BTW-A



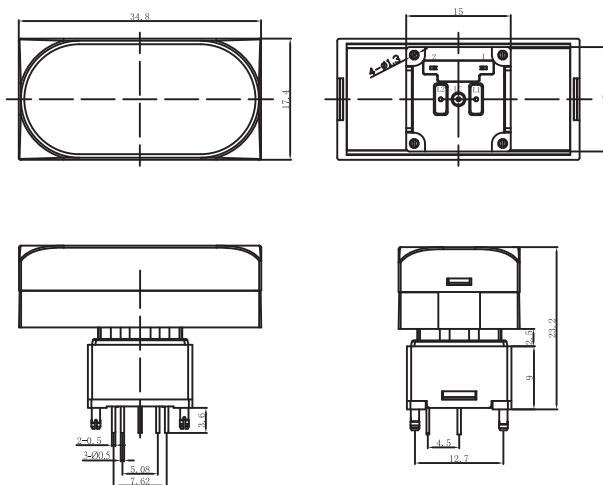
PLC-N1TYN-CTW



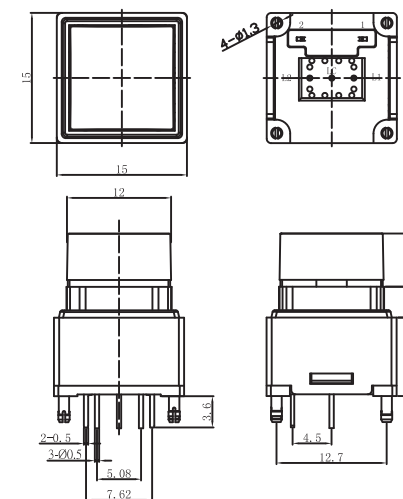
PLC-N1TGR-CTW-A



PLC-N1TGR-D1TW-A

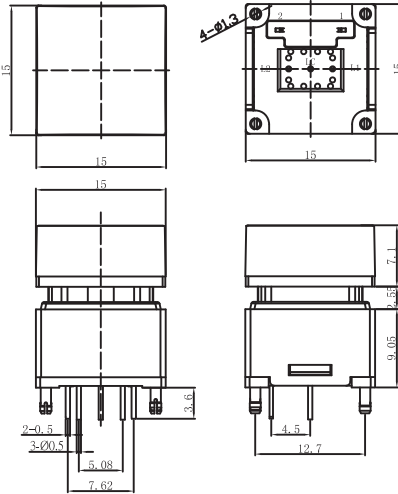


PLC-N1TBN-A1TW-A

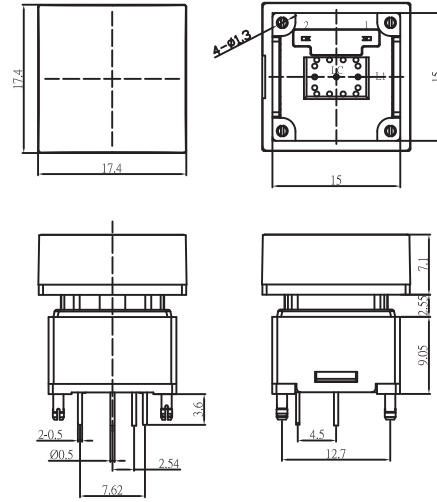




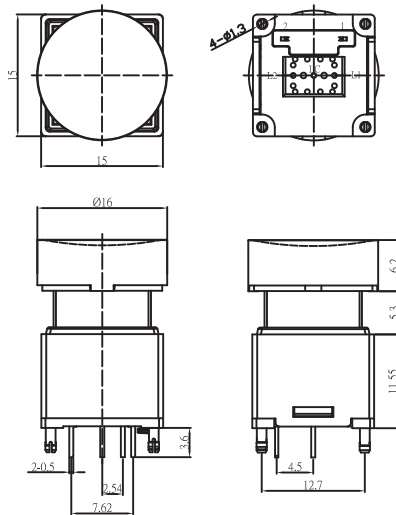
PLC-N1TRN-B1TW-A



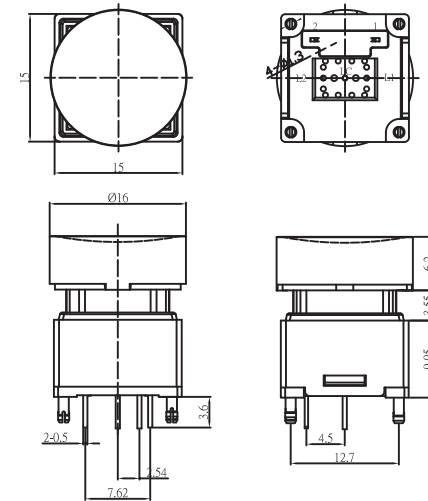
PLC-N1TGN-C1TW-A



PLC-N1TBN-RATW



PLC-N1TRN-RATW-A



Features:

- Panel mounting.
- Durable, vivid LED illumination.
- Choice of painted colored caps.
- Laser marking service.
- Available for wires soldering to terminal.

产品特点

- 安装方便，节省空间
- LED照光颜色丰富，耐久鲜明
- 客制化帽盖选择，镭射雕刻服务
- 可提供焊接 线材整套方案

Applications

- Automotive industry.
- Office appliance.
- Communication equipments.
- Racing helmet...etc.



小巧精品，安静无声

Exquisite Fine Quality, Silent Operation

PLE SERIES ILLUMINATED PUSH BUTTON

**Water proof IP67 sealed
Panel mount with cable and connector**

LED照光颜色多变，耐久鲜明

Various and durable LED colors

超长距离，高信耐接触，无杂讯
Long distance,
high contact resistance, no noise

无杂讯

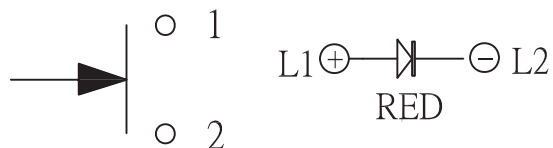
镀金接点,稳定耐用

**Gold plated pins
more stable and durable**

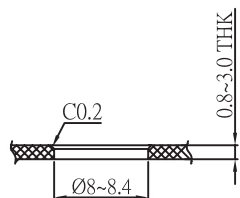
General Specifications: (产品规格)

Function: Momentary Type, SPST with LED
Contact Rating: 0. 2A 30V DC
Contact Resistance: 50mΩ Max. 1.5V DC/100mA, by method of voltage drop
Insulation Resistance: 100MΩ Min 500V DC
Dielectric Strength: Breakdown is not allowable; 500V AC for 1 minute
Actuation Force: 250±100gf
Tot al Travel: 2.0mm±0.3mm
Operating life: 50, 000 cycles
Operating Temperature: -20℃ to 70℃

LED CIRCUIT DIAGRAM



PANEL CUT OUT



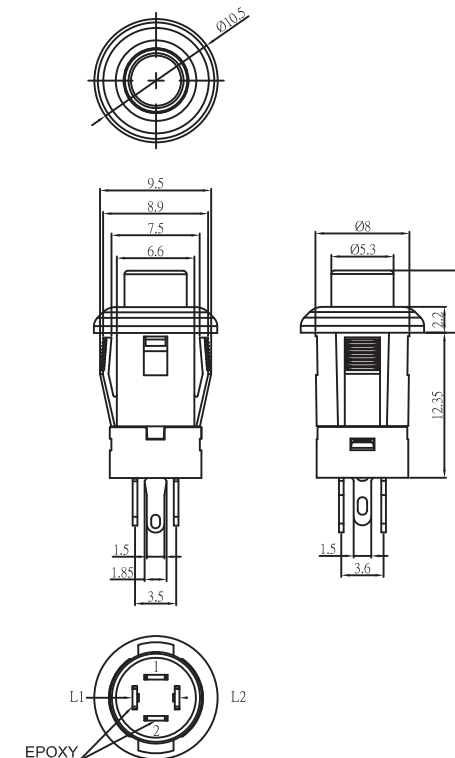
Z	D
1.0~2.0	8.0~8.2
2.0~3.0	8.2~8.4

HOW TO ORDER

SERIES	OPERATION	POLE	TERMINAL	LED COLOR	LED BRIGHTNESS	LED COLOR	LED BRIGHTNESS	CAP SYMBOL
PLE	N	1	W	R	1	N	N	P5
	N=NON-LOCK	1=1 POLE	W=WIRE TYPE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	

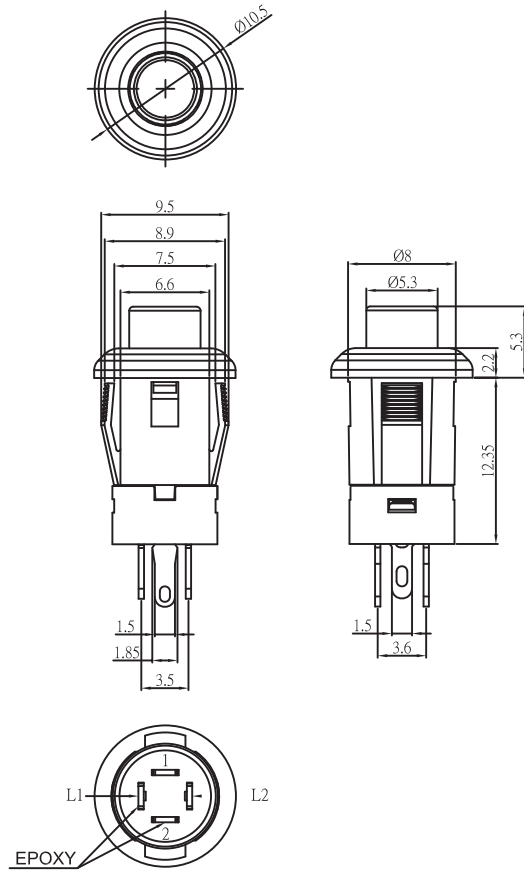
CAP Symbol: Please refer to cap selection for all available symbols on cap surface, and any customization is welcomed

PLE-N1W-B1NN

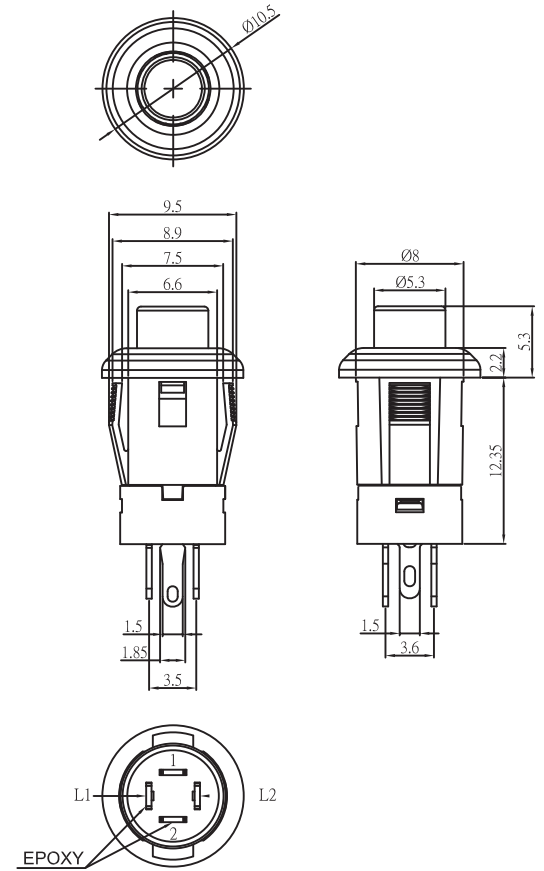




PLE-N1W-G1NN



PLE-N1W-R1NN





产品特点：

超高亮LED照光，耐久鲜明
 客制化帽盖选择，喷漆色盖、镭雕雕刻服务
 提供轻触型跟无声型
 具防尘结构，保护触电清洁



Features:

Super bright LED of single, dual or RGB colors
 Choice of colored caps
 Choice of painted colored caps
 Laser marking service
 Tactile or silent feel for option
 Silicon dust covered contact point, more stable

使用范围：

时尚消费产品
 电脑周边
 仪器通讯、居家...等

Applications

Consumer products
 Computer products
 Instrumentation
 Communication equipments
 Home security...etc.



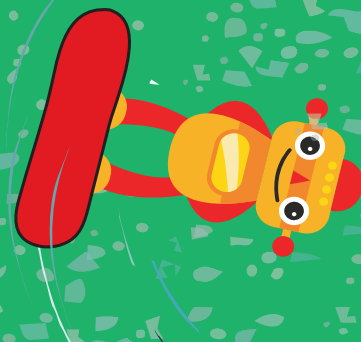
小巧精品，安静无声

Exquisite Fine Quality, Silent Operation

LED照光颜色多变，可少量定制



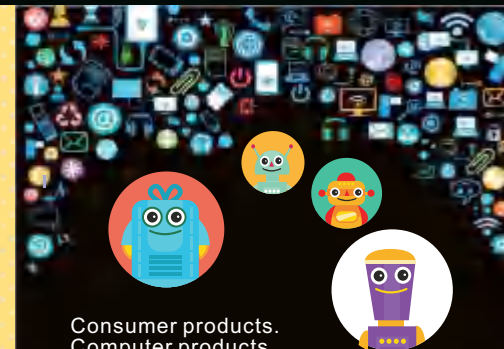
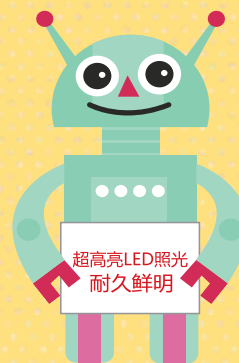
Various and durable LED colors
 small quantity order available



绝佳顿感，滑顺均匀

Tactile or non-tactile feel, perfectly poise

超高亮LED照光，耐久鲜明
 Long electrical life cycles.



Consumer products.
 Computer products.
 Instrumentation.
 Communication equipments.
 Home Security...etc.

时尚消费产品、电脑周边、仪器通讯、居家。



TL2

Applications : (使用范围)

Consumer products	时尚消费产品
Computer products	电脑周边
Instrumentation	仪器通讯
Communication equipments	居家
Home security...etc.	

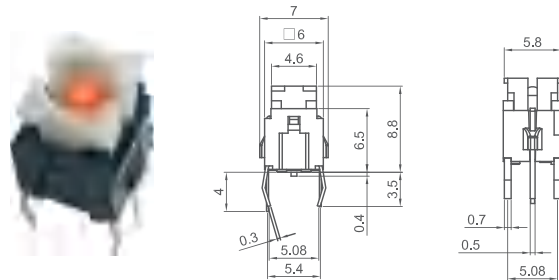
General Specifications: (产品规格)

Contact Rating: 50mA 12V DC
Contact Resistance: 100mΩ Max. (initial)
Insulation Resistance: 100MΩ Min.500V DC
Dielectric Strength:Breakdown is not allowable; 500V AC for 1 minute
Actuation Force: 180 ±50gf
Total Travel:0.2mm±0.1mm
Operating Life: 500,000 cycles Min.
Operating Temperature: -20°C to 70°C

Material: (产品材质)

Cover: Polycarbonate(PC)
Actuator:Polyamide(PA)+GF
Base frame:Polyamide(PA)+GF
Terminal:Brass with gold plating

TL2-NNNN-R1NN

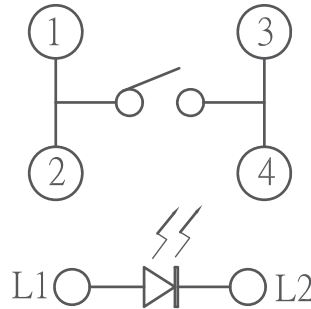


HOW TO ORDER

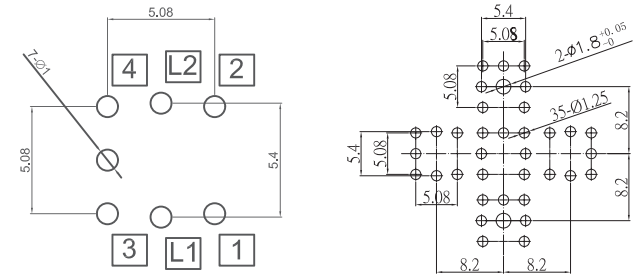
SERIES	FRAME TYPE	FRAME COLOR	CAP TYPE	CAP COLOR	LED COLOR	LED BRIGHTNESS	LED COLOR	LED BRIGHTNESS	TERMINAL	CAP SYMBOL
TL2	S	A	S	A	R	1	N	2		
	S=SQUARE S1=S1 sq S2=S2 sq S3=S3 sq R=ROUND R1=R1 ro R2=R2 ro R3=R3 ro N=NONE	K=BLACK W=WHITE A=GRAY N=NONE	S=SQUARE S1=S1 sq S2=S2 sq S3=S3 sq R=ROUND R1=R1 ro R2=R2 ro R3=R3 ro N=NONE	T=TRANSPARENT R=RED W=WHITE K=BLACK A=GRAY S=SILVER N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	--P,C,B TYPE S=SMT TYPE	

CAP Symbol:Please refer to cap selection for all available symbols on cap surface,and any customization is welcomed

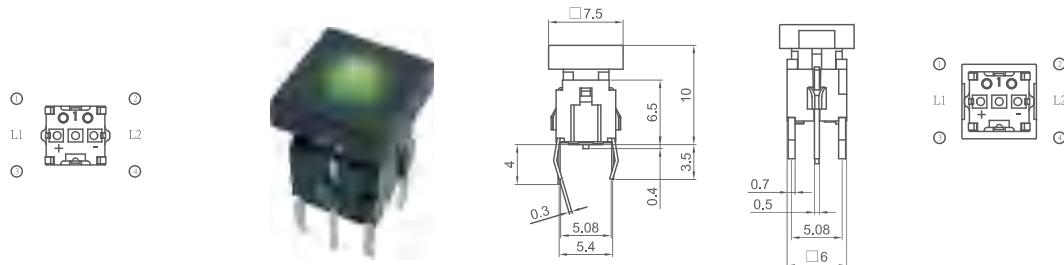
CIRCUIT



P.C.B LAYOUT

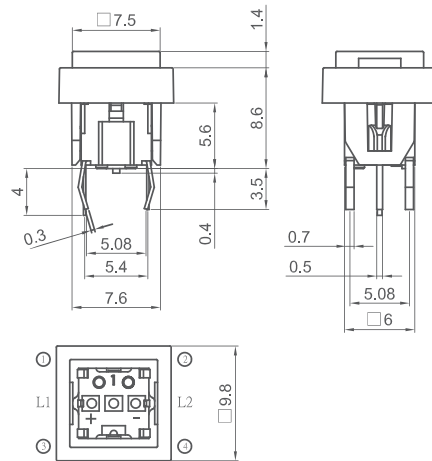


TL2-NNSK-G1NN

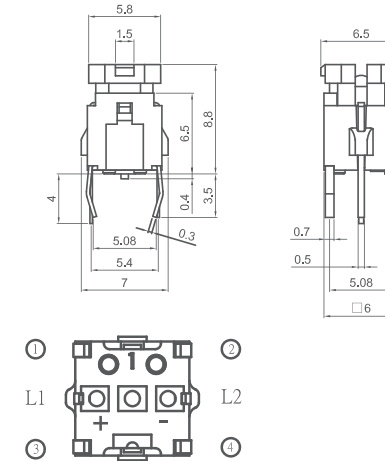




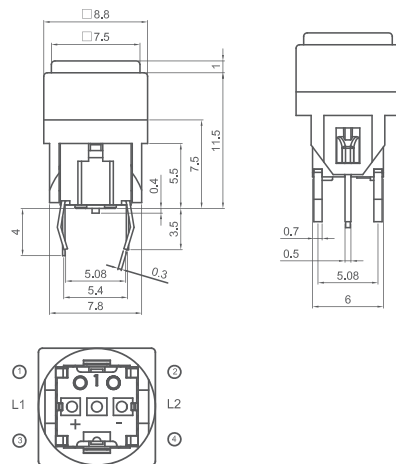
TL2-SKSK-Y1NN



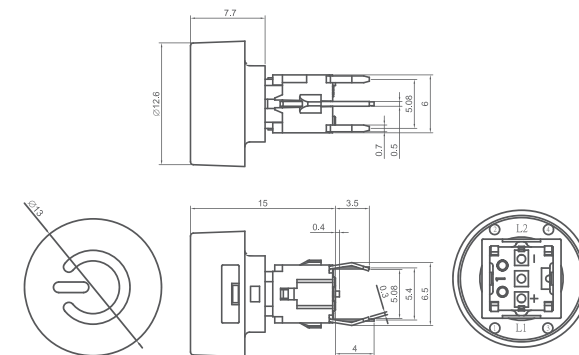
TL2-S1NNN-R1NN



TL2-S1KS1T-Y1NN



TL2-NNR2W-R1NN-KJ0

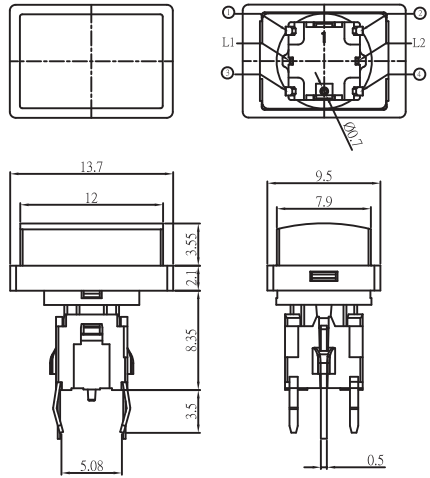




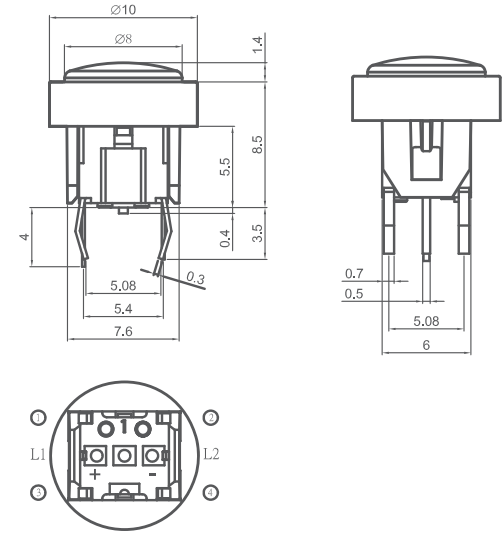
TL2

LED ILLUMINATED TACTILE SWITCH

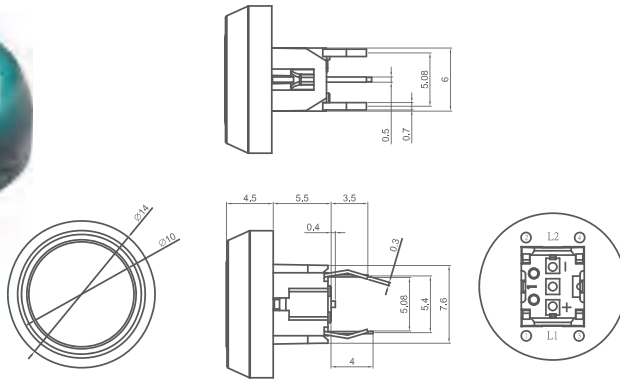
TL2-NNS3W-Y1NN



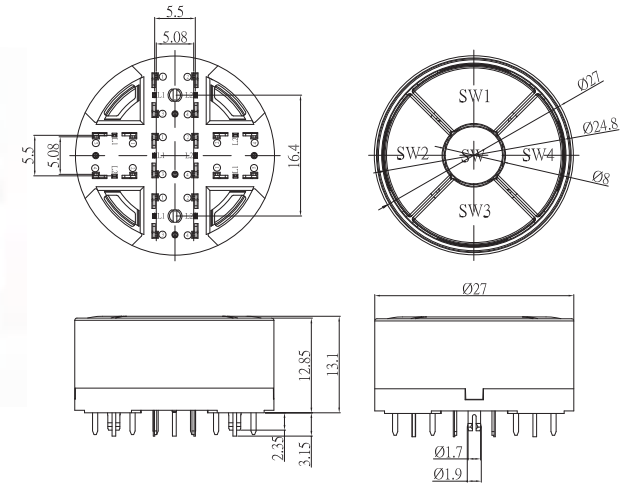
TL2-RKRW-G1NN



TL2-R1KR1W-B1NN

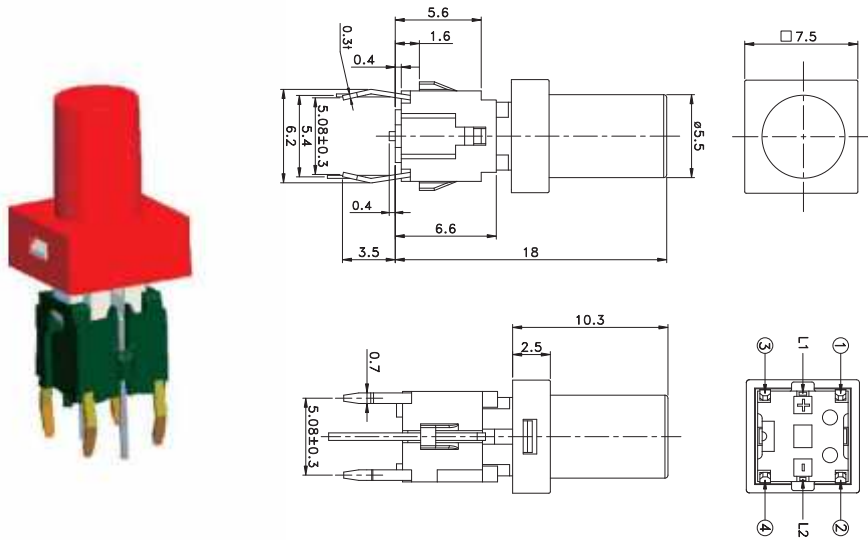


TL2-5-A

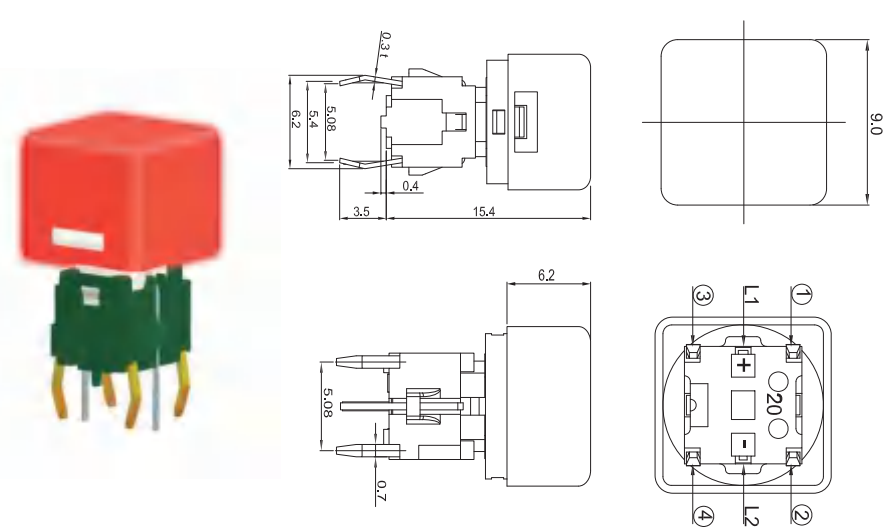




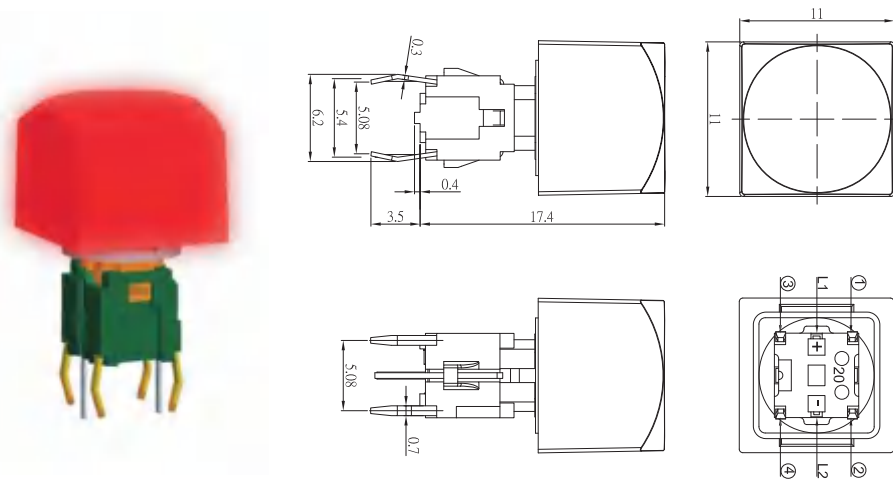
TL2-NNS1T-R1NN



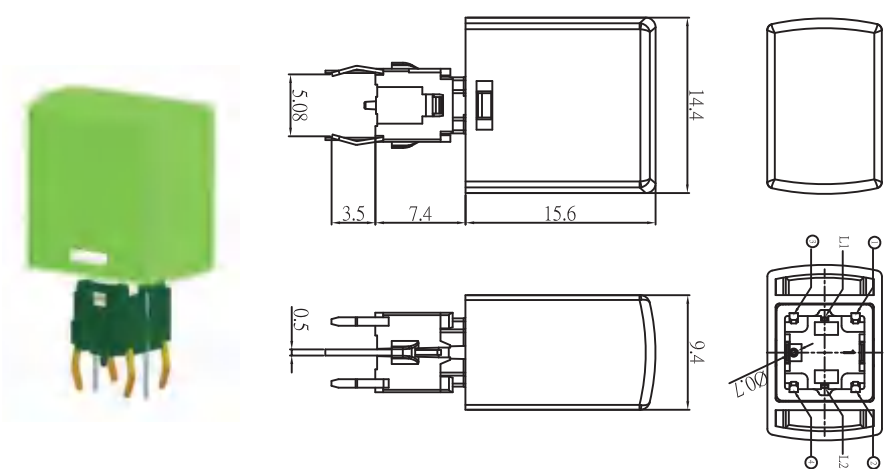
TL2-NNS7W-R1NN

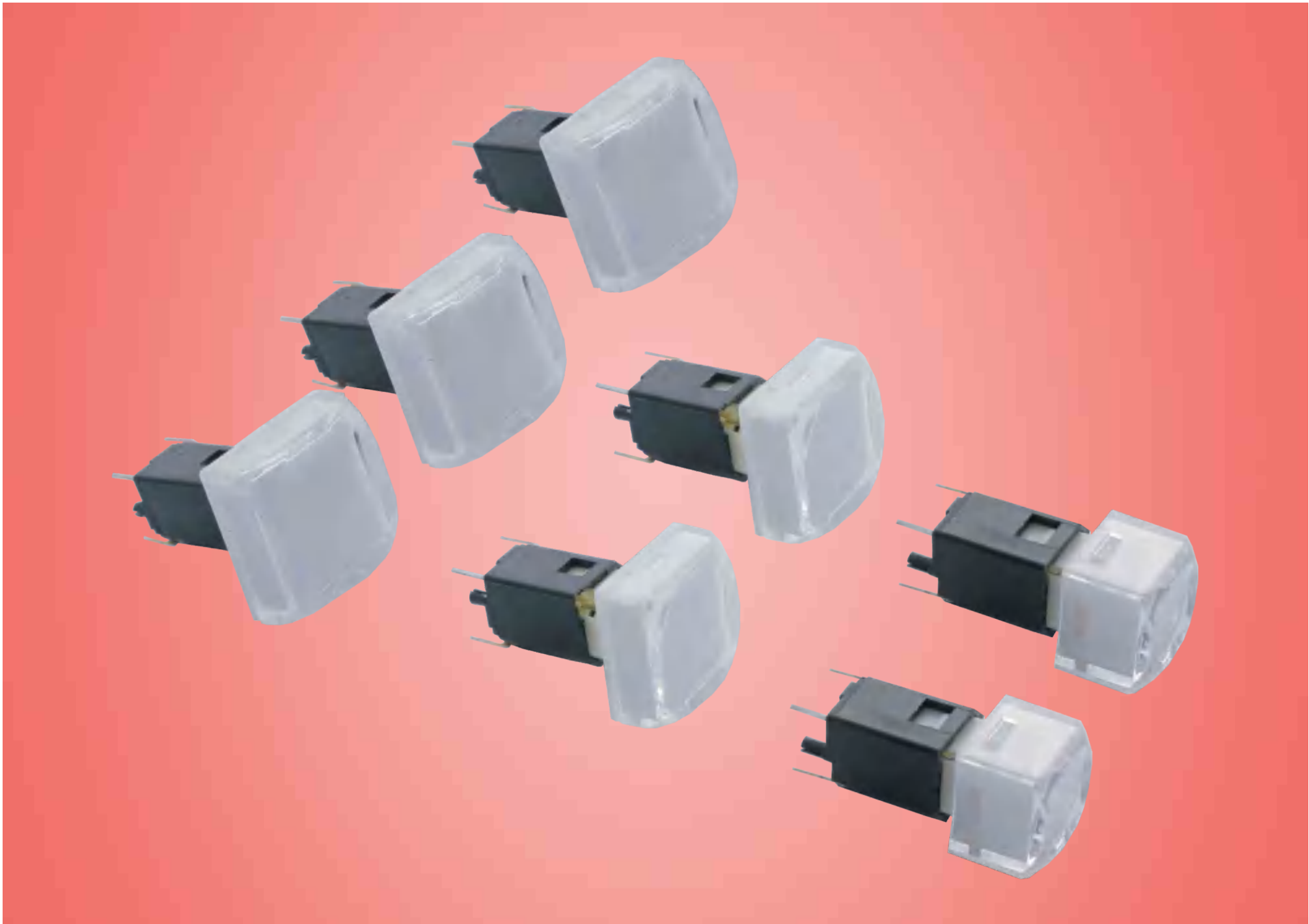


TL2-NNS7WT-R1NN



TL2-NNS8W-G1NN





静音开关、创新体验

Silent switch, new experience

Features

Long electrical life cycles
Choice of colored caps
Choice of painted colored caps
Laser marking service
Small quantity order available

Applications:

Audio/video products
Instrumentation
Communication equipments...etc

产品特点:

超高亮LED照光，耐久鲜明
客制化帽盖选择
喷漆色盖、镭射雕刻服务
手感绝佳，质量可靠

使用范围：

音频、视频产品
仪器、通讯设备等...



行云流水、滑顺有感
Smooth Operation



鍍金雙接點、穩定耐用



Twin contacts with gold plating
assure high reliability and long life

LED照光顏色多變、可替換Cap



Various and durable
LED colors changeable cap

安靜無聲
Silent operation



Applications

Audio/video products.

Instrumentation.

Communication equipments...etc.

General Specifications: (产品规格)

Circuit: Momentary Type, SPST

Contact Rating: Max:100 mA 30V
Min: 1mA 5V DC

Contact Resistance: 200mΩ Max 5V DC/1 mA
by method of voltage drop

Insulation Resistance: 100MΩ Min. 100V DC

Dielectric Strength: Breakdown is not allowable: 250V AC for 1 minute

Actuation Force: 125±50gf

Operating Life: 300,000 cycles Min

Operating Temperature:-20°C to 70°C

Material: (产品材质)

Cap: Polycarbonate(PC)

Actuator: Polyamide(PA)+GF

Base Frame:Polyamide(PA)+GF

Terminal:Brass with gold plating

LED Specifications:

Color	V		Recommended Operating Current	VF	
				Nom	Max
Red	DC 5V	20mA	20mA	1.7V	2.4V
Green	DC 5V	20mA	20mA	1.9V	2.4V
Yellow	DC 5V	20mA	20mA	1.9V	2.4V
Blue	DC 5V	20mA	20mA	3.0V	3.6V
White	DC 5V	20mA	20mA	3.0V	3.6V

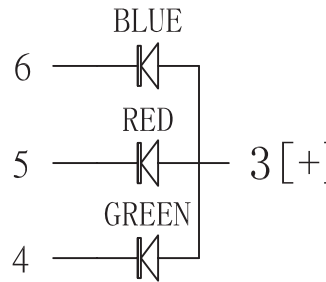
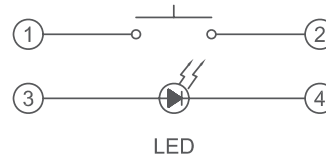
For the specification about the other LED colors ,Please contact with sales department.

HOW TO ORDER

SERIES	OPERATION	POLE	LED COLOR	LED BRIGHTNESS	LED COLOR	LED BRIGHTNESS	ACTUATOR	CAP TYPE	CAP COLOR	CAP SYMBOL
TL3	N	1	R	1	N	2	A	A	T	P5
	N=MOUMENTARY	1=1 POLE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE F=FULL COLOR N=NONE	1=HIGH 2=STANDARD N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE F=FULL COLOR N=NONE	1=HIGH 2=STANDARD N=NONE	A=A TYPE	A=6.0mm sq B=8.6mm sq C=11.0mm sq D=11.0mm ro D-A=12mm ro E=15mm sq E1=15mm sq F=17.4mm sq F1=17.4mm sq	T=TRANSPARENT W=WHITE R=RED G=GREEN B=BLUE	

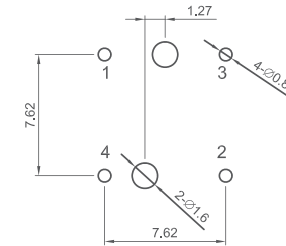
CAP Symbol:Please refer to cap selection for all available symbols on cap surface,and any customization is welcomed

CIRCUIT

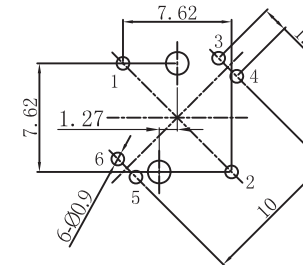


P. C. B LAYOUT

SINGLE&DOUBLE COLOR

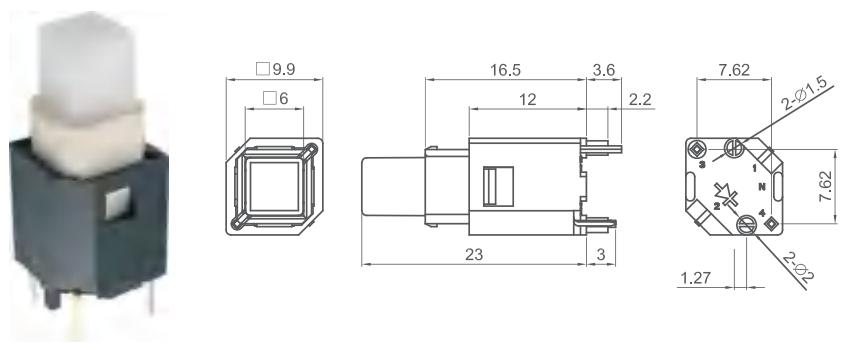


RGB

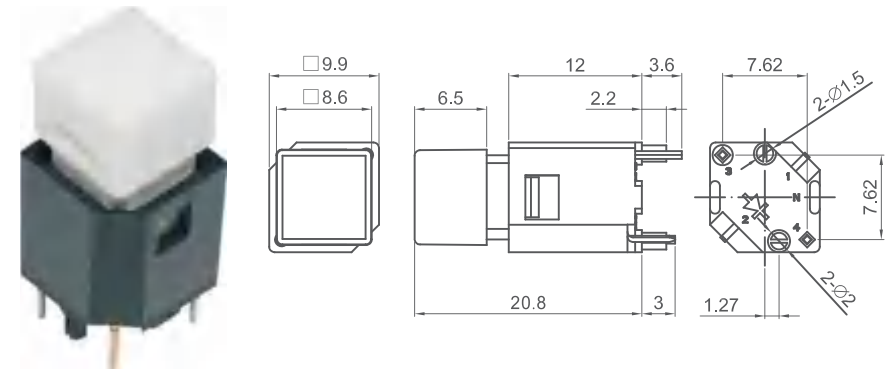




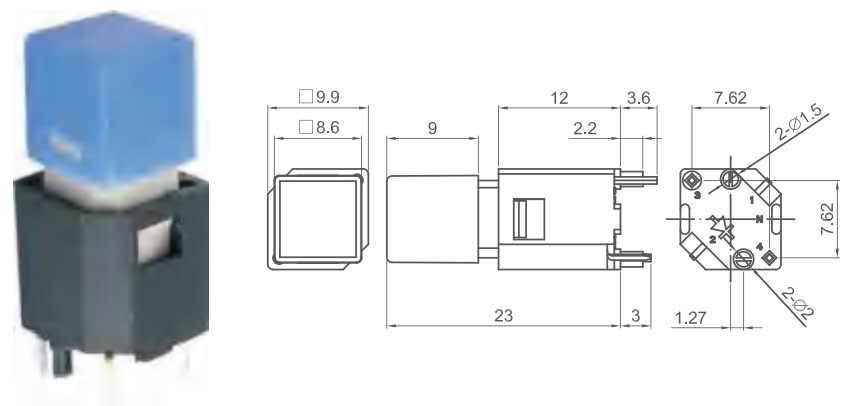
TL3-N1W1NN-AAW



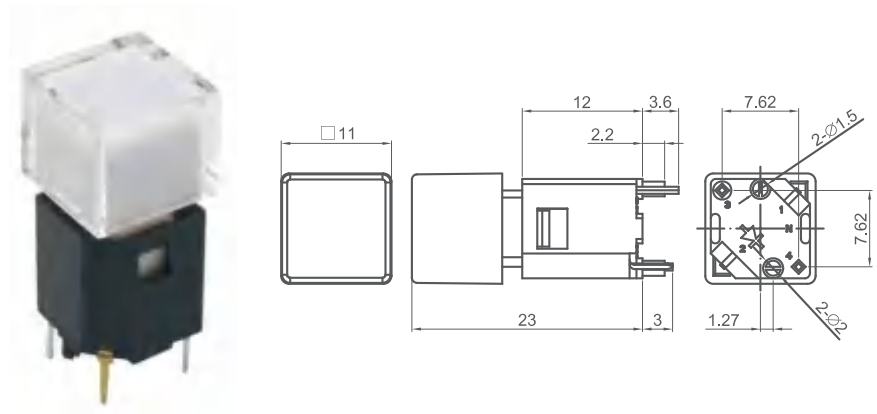
TL3-N1W1NN-AB1W



TL3-N1B1NN-ABB



TL3-N1R1NN-ACT

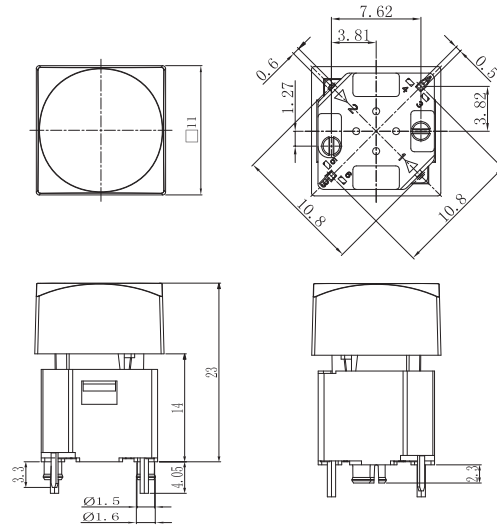




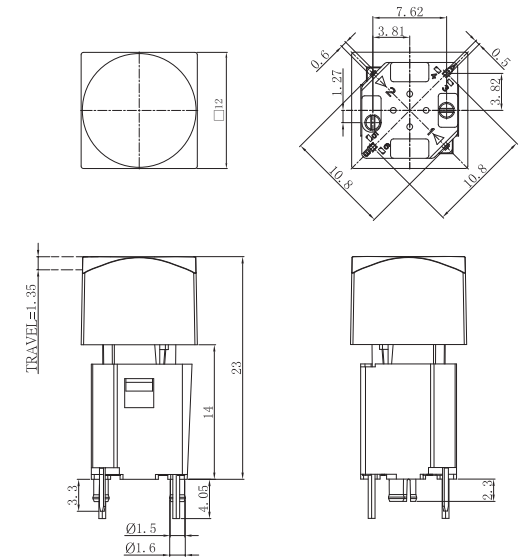
TL3

LED ILLUMINATED TACTILE SWITCH

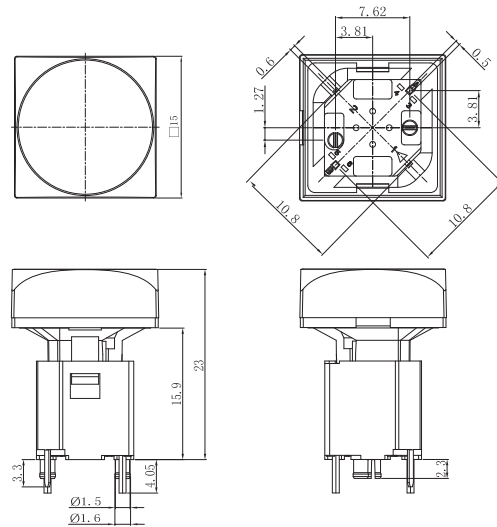
TL3-N1B1NN-ADT



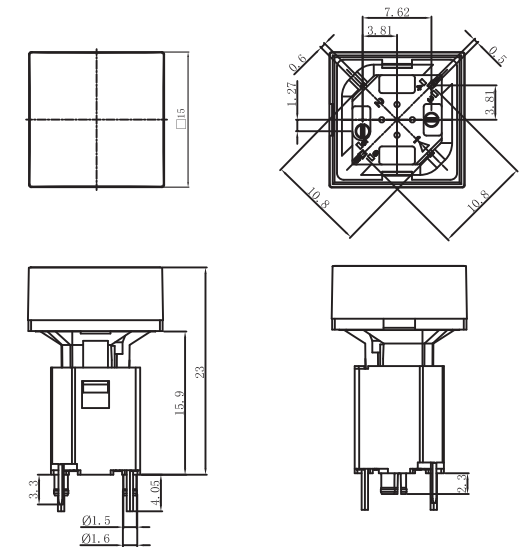
TL3-N1R1NN-ADT-A



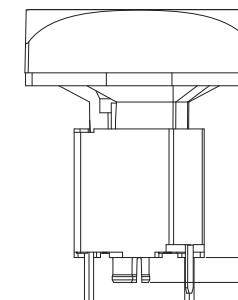
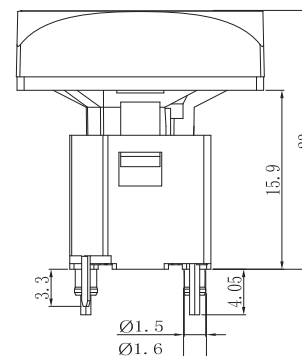
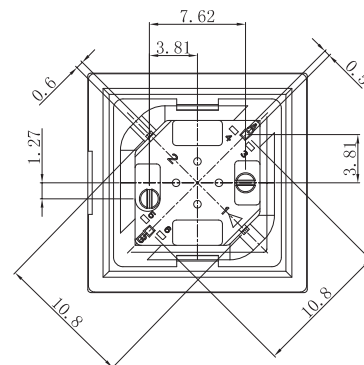
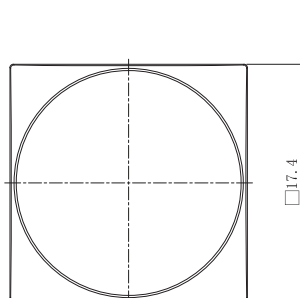
TL3-N1R1NN-AET



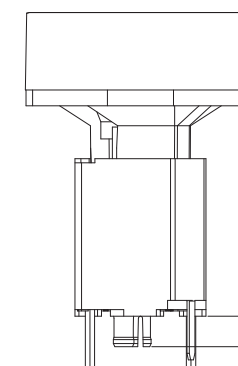
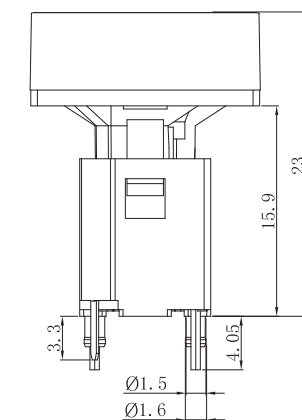
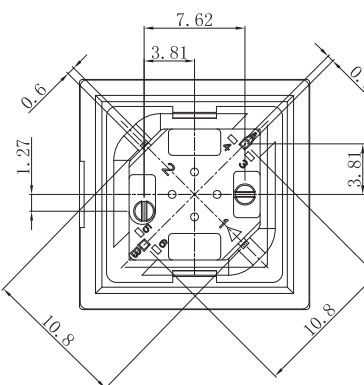
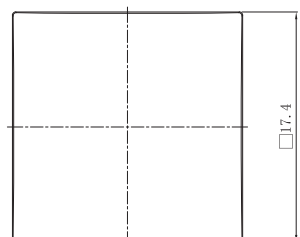
TL3-N1G1NN-AE1T

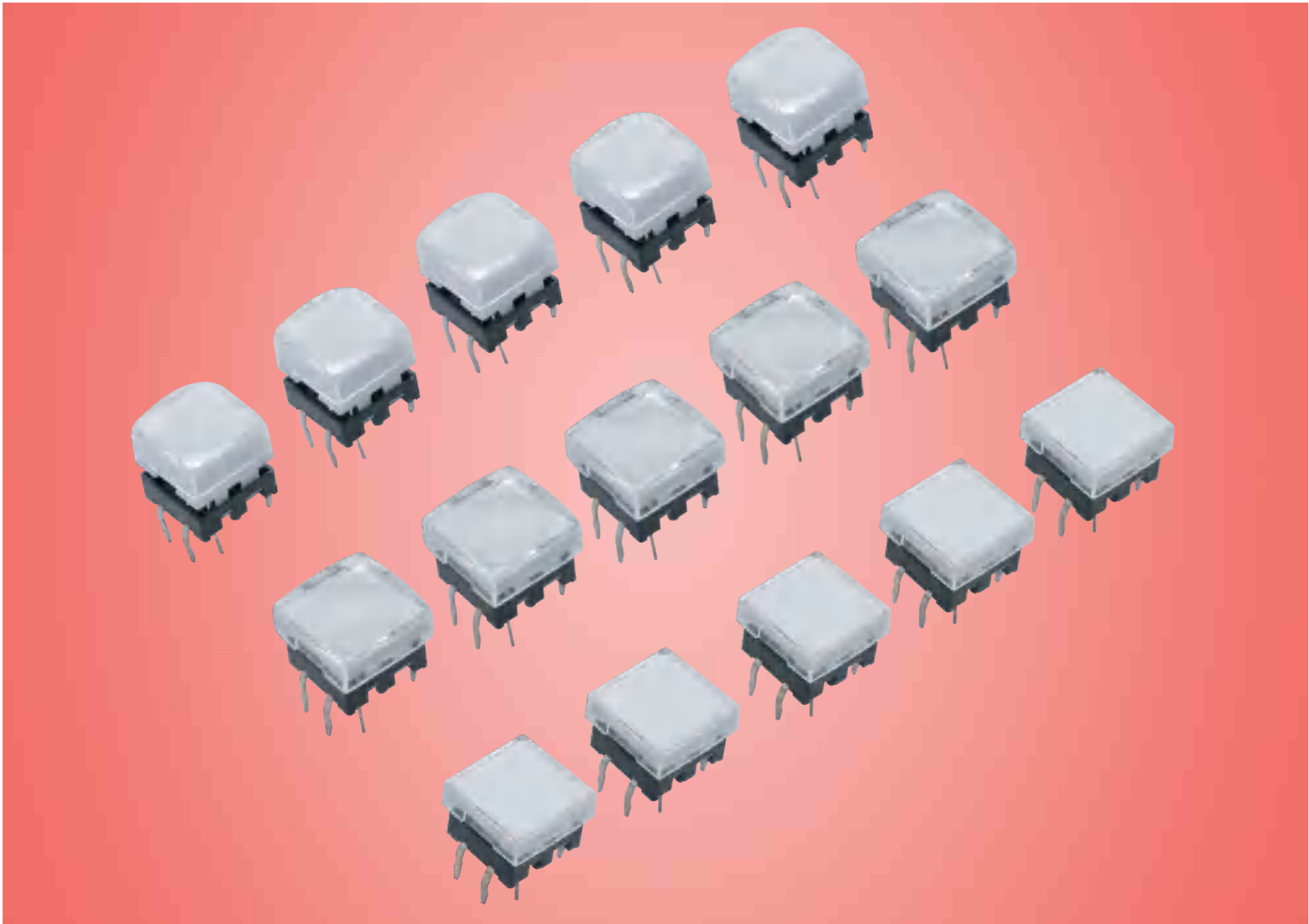


TL3-N1G1NN-AFT



TL3-N1R1NN-AF1T





TL12 SERIES ILLUMINATED TACTILE SWITCH



活力宽屏，照光均匀

Vibrant large cap, super smooth illumination

Features

- Sound clearly&excellent contact feeling
- Super bright LED, smooth illuminating
- Choice of colored caps
- Choice of painted colored caps
- Laser marking service

产品特点

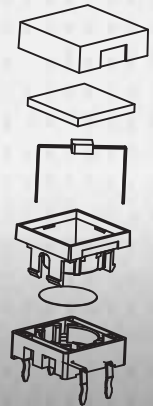
- 声音干脆&手感绝佳
- 超高亮LED照明，耐久鲜明
- 克制化帽盖选择，可提供符号多彩转印服务

Applications

- Studio equipment
- Audio/video products
- Broadcast system
- Instrumentation
- Telecommunications...etc

使用范围

- 音响、影像等录音室器材设备
- 广播系统、电信仪器设备

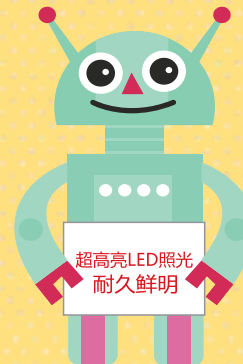


鍍金雙接點、穩定耐用



Twin contacts with gold plating,
assuring high reliability and long life cycles

超高亮LED照明，耐久鲜明
Long electrical life cycles.



超高亮LED照明
耐久鲜明



Studio equipment,
Audio/Video products,
Broadcast system,
Instrumentation,
Telecommunications ...etc.
音响、影像等录音室器材设备、广播系统、
电信仪器设备







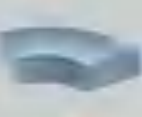

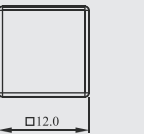
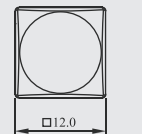
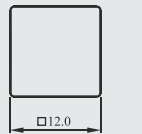
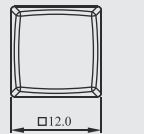
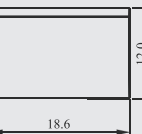
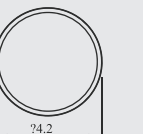
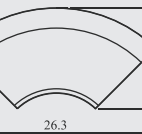
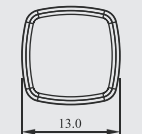

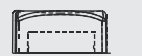






General Specifications: (产品规格)

Contact Rating: 50mA 12V DC
Contact Resistance: 100mΩ Max.(initial)
Insulation Resistance: 100MΩ Min. 500V DC
Dielectric Strength: Breakdown is not allowable; 250V AC for 1 minute
Actuation Force: 250±50gf
Total Travel: 0.4±0.15mm
Operating Life: 500, 000 cycles Min
Operating Temperature: -20°C to 70°C

Material: (产品材质)

Cover: Polycarbonate(PC)
Actuator: Polyamide(PA)+GF
Base Frame: Polyamide(PA)+GF
Terminal: Brass with gold plating

Cap Choices

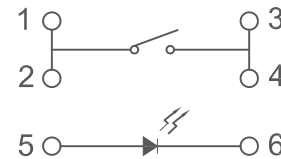
	S4A Type	S4B Type	S4C Type	S4D Type	S4E Type	R Type	R1 Type	R2 Type
Shape								
Dimension	 □12.0	 □12.0	 □12.0	 □12.0	 18.6 12.0	 ∅4.2	 26.3 13.4	 13.0
								

HOW TO ORDER

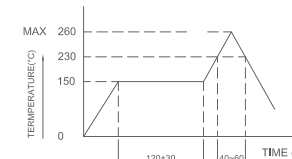
SERIES	FRAME TYPE	PLATE COLOR	CAP TYPE	CAP COLOR	LED COLOR	LED BRIGHTNESS 1	LED COLOR 2	LED BRIGHTNESS 2	TERMINAL	CAP SYMBOL
TL12	S	W	S	T	R	1	G	2		
	S=SQUARE R=ROUND	W=WHITE B=BLUE G=GREEN R=RED Y=YELLOW N=NONE	S=SQUARE S1=S1 sq S2=S2 sq S3=S3 sq R=ROUND N=NONE S4=S4sq S5=S5sq S6=S6sq S7=S7sq	T=TRANSPARENT S=SILVER N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	B=BLUE G=GREEN R=RED Y=YELLOW W=WHITE N=NONE	1=HIGH 2=STANDARD N=NONE	--P.C.B TYPE S=SMT TYPE	

CAP Symbol: Please refer to cap selection for all available symbols on cap surface, and any customization is welcomed

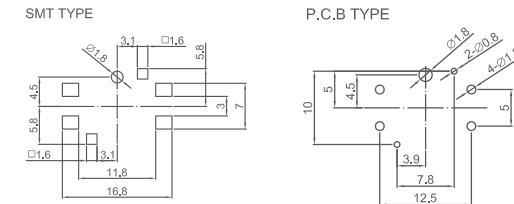
CIRCUIT



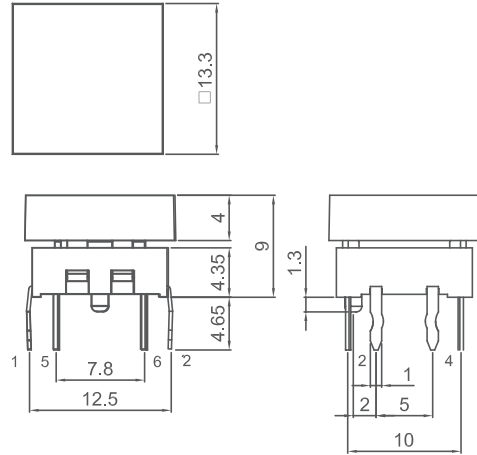
REFLOW SOLDERING



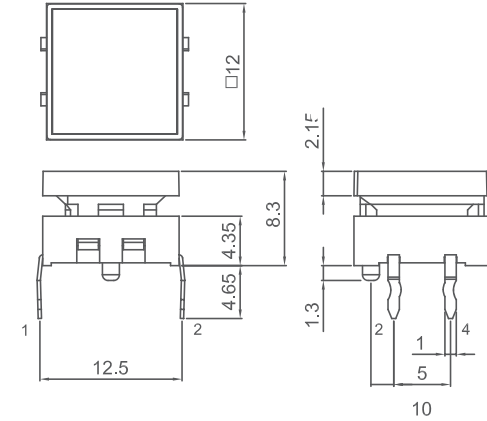
P.C.B LAYOUT



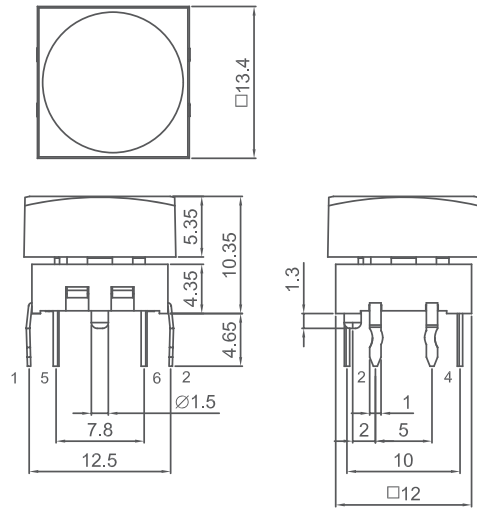
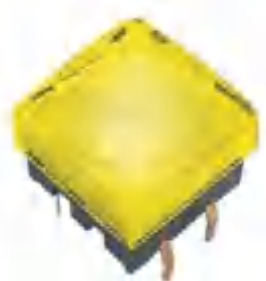
TL12-SWST-G1NN :.



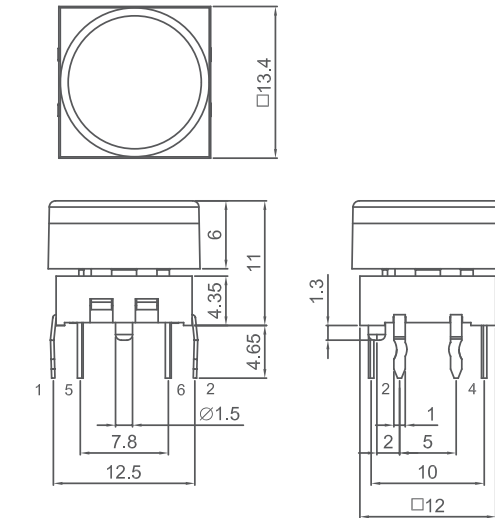
TL12-SWNN-NNNN :.



TL12-SWS1T-Y1NN :.

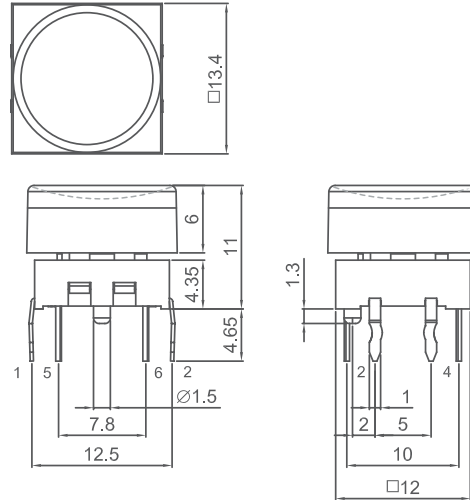


TL12-SWS2T-R1NN :.

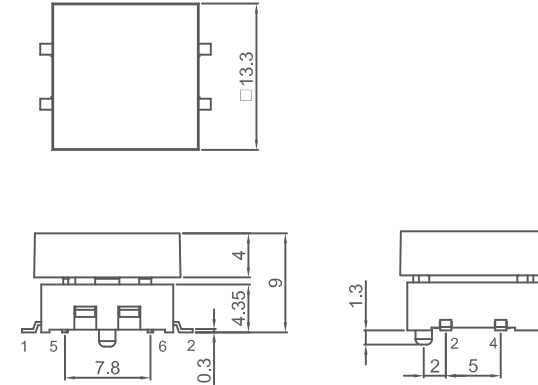




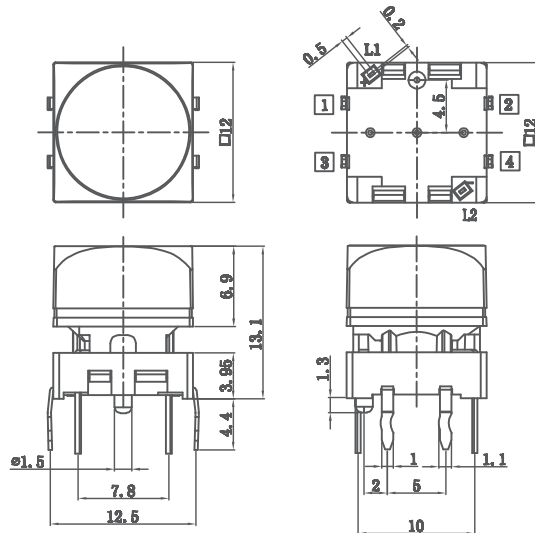
TL12-SWS3T-B1NN :.



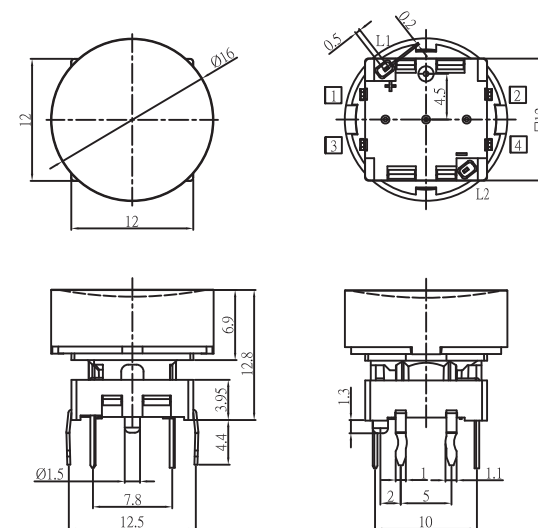
TL12-SWST-R1NNS :.



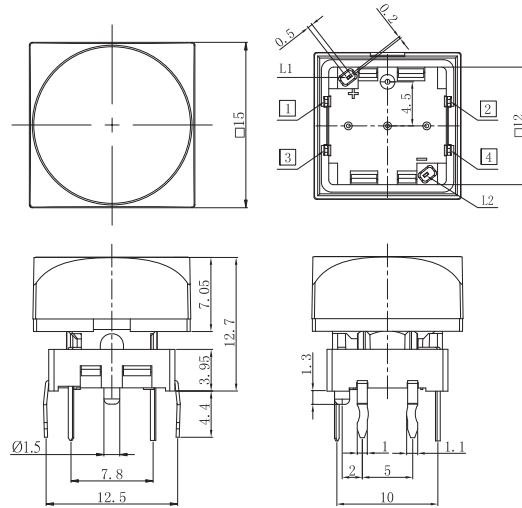
TL12-SWS4T-R1NN :.



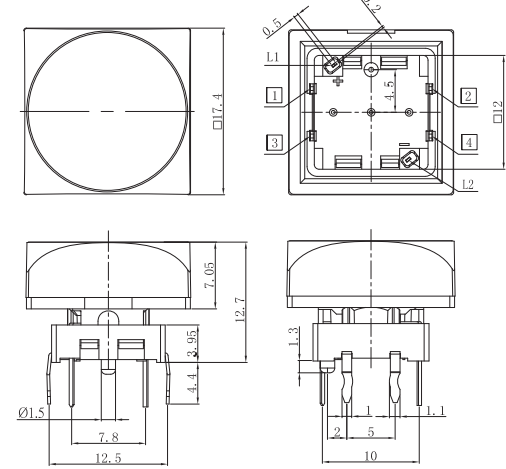
TL12-RWR4T-R1NN :.



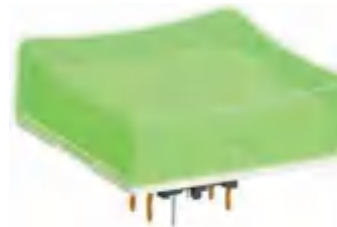
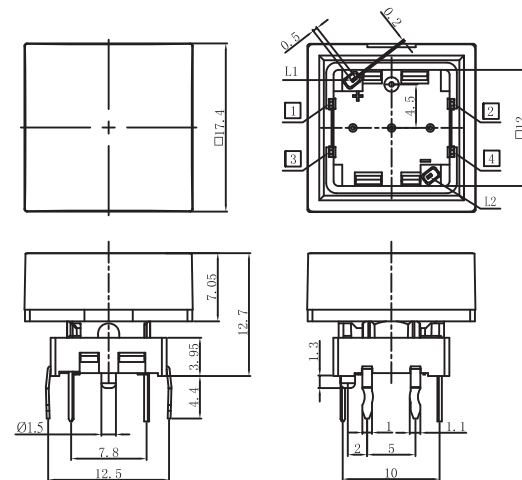
TL12-SWS5T-B1NN



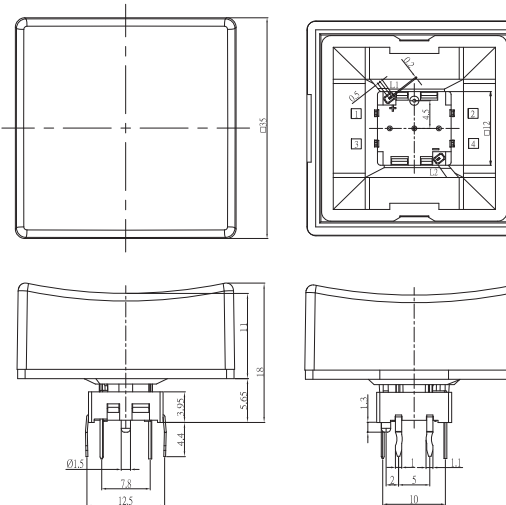
TL12-SWS6T-R1NN



TL12-SWS6AT-R1NN



TL12-SWS7T-G1NN



**Features:**

Water proof IP67 sealed
Medium size
Bi-color LED illuminating available
SMT and vertical PCB terminal

Applications:

Consumer products
Computer products
Instrumentation
Communication equipments
Automotive industry...etc

产品特点：

防水等级IP67密封
中等大小
双色LED照明可用
SMT和垂直PCB端子

使用范围：

时尚消费产品、电脑周边、
仪器通讯、汽车...



Features

Water proof IP67 sealed	Consumer products
Medium size	Computer products
Bi-color LED illuminating available	Instrumentation
SMT and vertical pcb terminal	Communication equipments
	Automotive industry...etc.

使用范围

时尚消费产品、电脑周边、仪器通讯、汽车...

General Specifications: (产品规格)

Circuit: SPST, with LED.
Contact Rating: 50mA 12VDC.
Contact Resistance: 100mΩ Max.
Insulation Resistance: 100MΩ Min.
Dielectric Strength: Breakdown is not allowable; 500VAC for 1 minute.
Actuation Force: 280±80gf.
Total Travel: 0.85±0.3mm.
Operating Life: 1,000,000cycles.
Operating Temperature: -20°C ~70°C
Waterprotection Level: IP67

Material: (产品材质)

Cover: Polycarbonate (PC)
Actuator: Polyoxymethylene (POM)
Base: Polyamide (PA)+GF
Terminal: Brass with nickel plating & gold flash
Moving Contact: Brass with nickel plating & gold flash

Applications

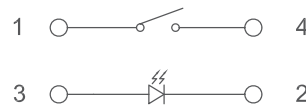
HOW TO ORDER

SERIES	OPERATION	POLE	LED COLOR	LED BRIGHTNESS	LED COLOR	LED BRIGHTNESS	CAP TYPE	CAP COLOR	PLATE COLOR	TERMINAL	CAP SYMBOL
TL13	N	1	R	1	W	1	S	T	W		P5
	A=A TYPE AA=AA TYPE B=B TYPE BB=BB TYPE C=C TYPE CC=CC TYPE D=D TYPE DD=DD TYPE E=E TYPE F=F TYPE	1=1 POLE	R=RED G=GREEN B=BLUE Y=YELLOW O=ORANGE W=WHITE F=FULL COLOR	1=HIGH 2=NOMAL N=NONE	R=RED G=GREEN B=BLUE Y=YELLOW O=ORANGE W=WHITE F=FULL COLOR	1=HIGH 2=NOMAL N=NONE	S=SQUARE TYPE S1=12X12 TYPE S1A=12X12 TYPE [FROSTING] S1B=12X12 TYPE [FLAT CAP] S2=15X15 TYPE S2A=15X15 TYPE [FROSTING] S2B=15X15 TYPE [FLAT CAP] S3=17X17 TYPE R=ROUND TYPE R1=R1 TYPE [R: 9, Convex surface] R2=R2 TYPE R3=R3 TYPE [R: 6, Concave] N=NONE	T=TRANSPARENT KT=BLACK TRANSPARENT RT=RED TRANSPARENT GT=GREEN TRANSPARENT BT=BLUE TRANSPARENT YT=YELLOW TRANSPARENT OT=ORANGE TRANSPARENT WT=WHITE TRANSPARENT N=NONE	R=RED G=GREEN B=BLUE Y=YELLOW O=ORANGE W=WHITE F=FULL COLOR	--=P.C.B TYPE S=SMT TYPE	

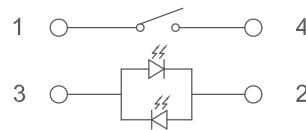
CAP Symbol: Please refer to cap selection for all available symbols on cap surface, and any customization is welcomed

CIRCUIT

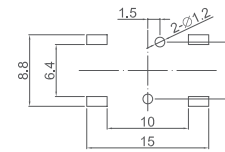
SINGLE LED COLOR



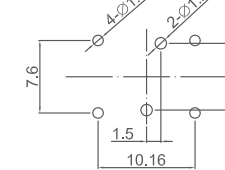
DUAL LED COLOR



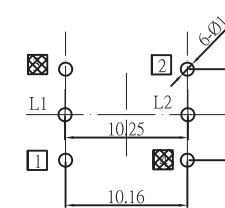
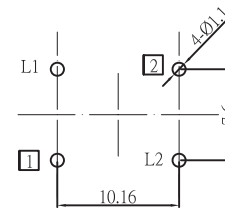
SMT TYPE



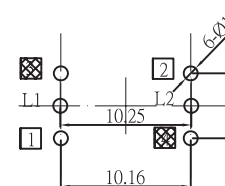
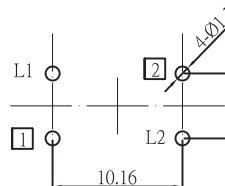
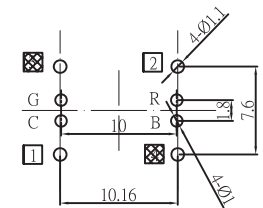
P.C.B. TYPE



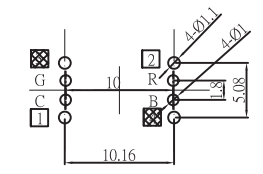
SINGLE & DOUBLE COLOR



RGB1

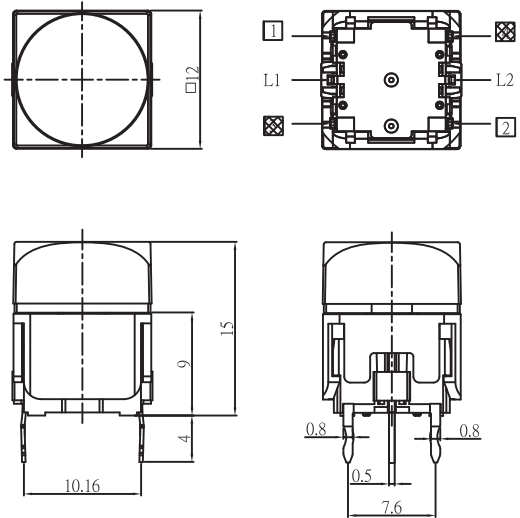


RGB2

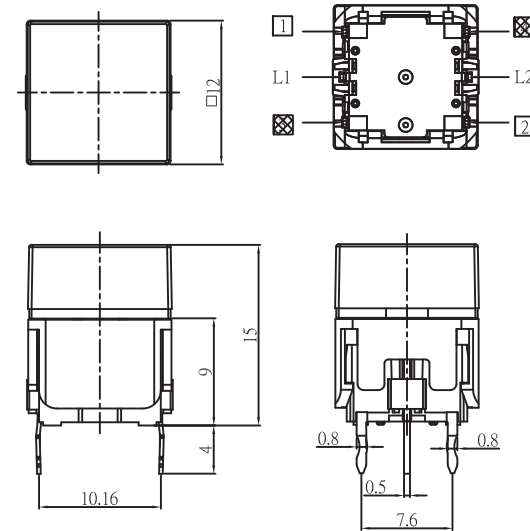




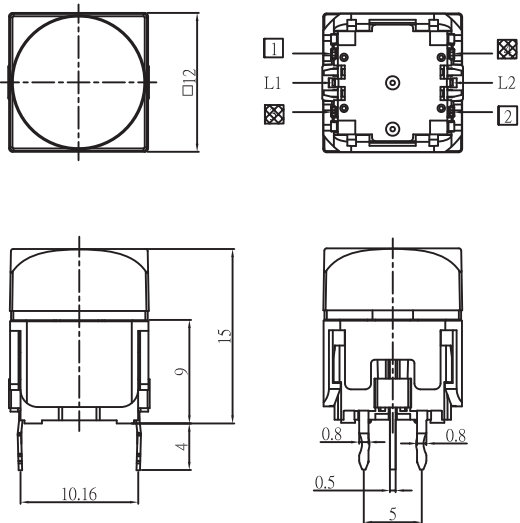
TL13-BB1R1NN-S1TW



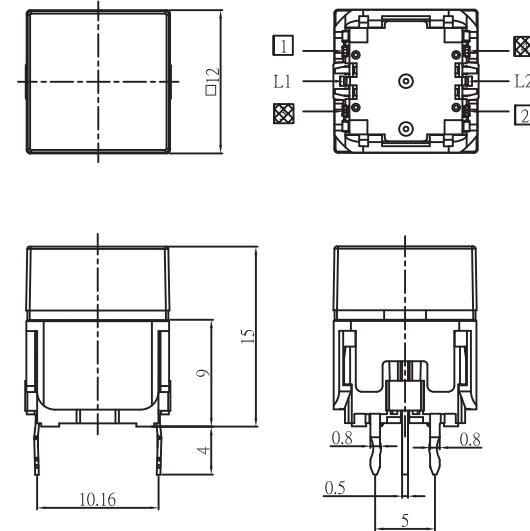
TL13-BB1G1NN-S1BTW



TL13-DD1B1NN-S1TW



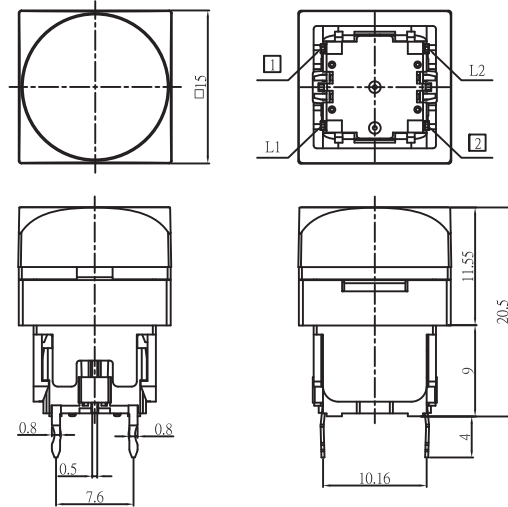
TL13-DD1Y1NN-S1BTW



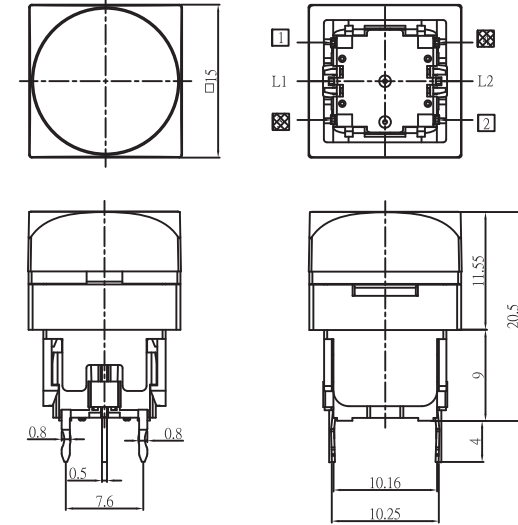
TL13

TL13 SERIES WATER PROOF ILLUMINATED TACTILE SWITCH

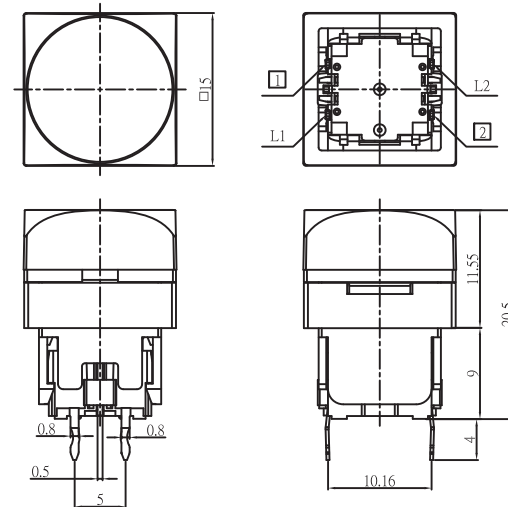
TL13-A1R1NN-S2TW



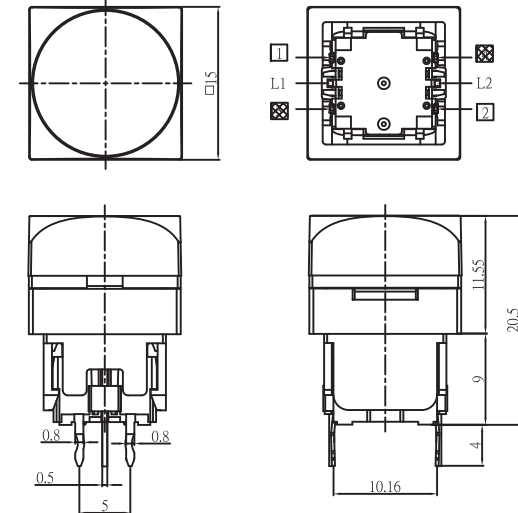
TL13-B1B1NN-S2TW



TL13-C1R1NN-S2TW

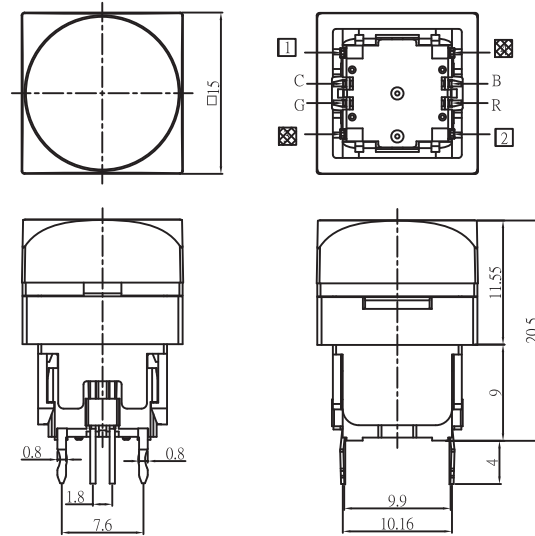


TL13-D1O1NN-S2TW

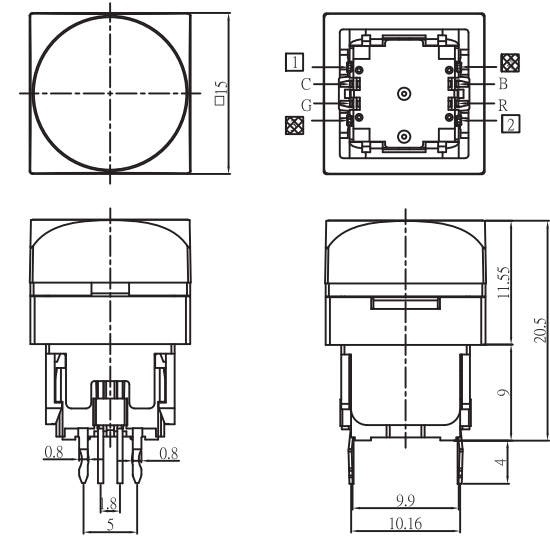
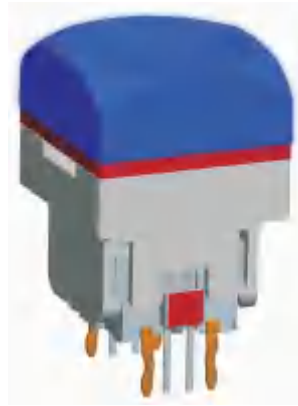




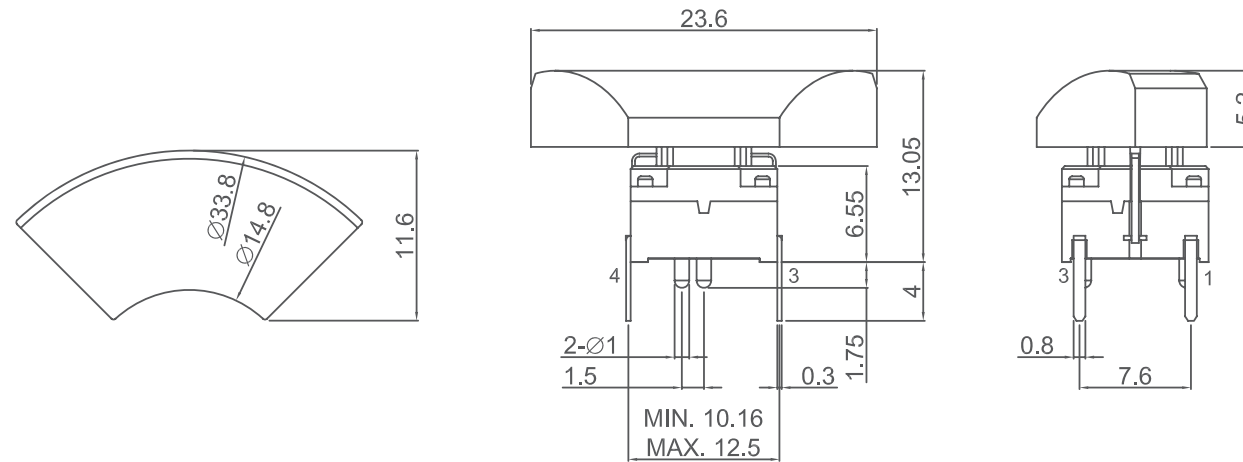
TL13-E1CBRG-S2TW



TL13-F1CBRG-S2TW



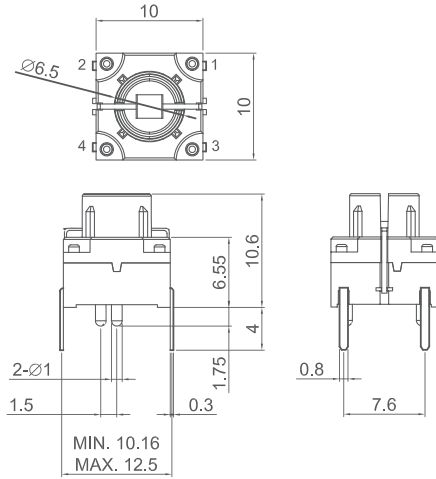
TL13-AA1B1NN-R2T



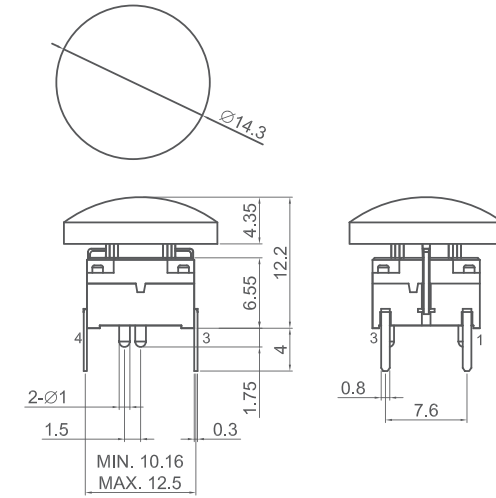


TL13

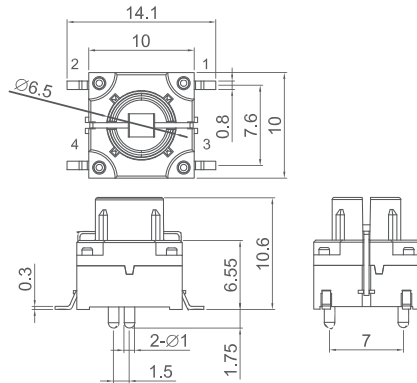
TL13-AA1R1NN-NNN



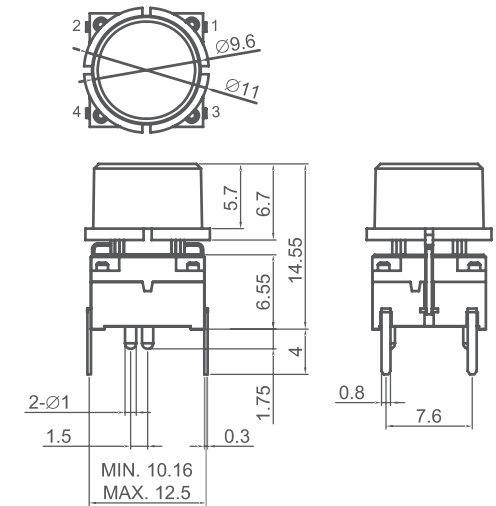
TL13-AA1Y1NN-RT



TL13-AA1W1NN-NNNS



TL13-AA1R1NN-R1T



TL13 SERIES WATER PROOF ILLUMINATED TACTILE SWITCH



! CAP Symbol

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
A	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
B	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
C	U	V	W	X	Y	Z	V1	V2	V3	V4	V5	V6	V7	V8	V9	F1	F2	F3	F4	F5	
D	F6	F7	GO	OK	WIN	ESC	MENU	BRIGHT	LAYOUT	TAKE	INVERT	LIGHT	SDI	VGA	DVI	PIP	P/F	Out-K	In-A	In-B	
E	M1	SAVE	SPLIT	HDMI	LOAD	Set	Menu	Win	In	Out	Load	Save	RTMP	PGM1	PGM2	PVW	MIX	PUSH	COVER	WIPE	
F	V1 ▲	VGA ◀	H1 ▼	H2 ▶	DVI ①	HDMI ②	EXT1 ③	EXT2 ④	VGA ⑤	CVBS ⊖	M6 Ⓢ	DDR1 PLAY	PPT On\Off	REC PGM	DDR2 PLAY	PAGE UP	PAGE DOWN	M.Prew Switch	In-A K-Out1	Overlay Fade	
G	TAKE 0	VID1 1	VID2 2	VGA1 3	VGA2 4	HDMI 5	FREEZE SAVE	RETURN SHIFT	BLACK ERASE	Auto Take	Bypass	Freeze	Mosaic	VOLUME UP ▲	VOLUME DOWN ▼	SELECT TRANS	INPUT SETUP	PTZ PRESET	PLAY BACK	REAL TIME	
H	In1	In2	In3	In4	M+	M1	M2	M3	CH1	CH2											R&HS compliant
I																					
J																					
K																					
L																					
M																					
N																					
O	Low Power																				