Document Control

Revision no	Page	Change Description	Issued by	Date:
1	All	Created	Jasmin Hsu	29.10.2012
2	All	Page 1 & 2 :File link update Page 3 & 4: Document content revise	Jasmin	27.11.2012
3	All	Document format update	Jasmin Hsu	11.04.2013
4	All	Optimize the format according to newest template same as the dec.flyer.2013	Jasmin Hsu	02.12.2013
5	3	Add solder thickness and solder paste information	Jasmin Hsu	28.10.2014
6	5	Extend the information to MSL 3 on chapter 4	Jasmin Hsu	22.02.2018
7	5	Corrections of the chapter MSL 3 on wriiten mistakes	Jasmin Hsu	03.05.2018
8	7	Operation/Assembling ,extend handling information for design Tip for WS-TASL	Jasmin Hsu	11.03.2020

Precautions for the use of illuminated switch

1. General information:

Wuerth Elektronik starts to offer wide range of illuminated switch in Surface Mount and Through Hole types with different kind of outlooks, heights and dimension fit into different customer and application segments.
Wuerth Elektronik would like to give you few information of handling of our products.

If you choose products which can replace your existing source, please take care about the LED specification is also close or equally to your existing source, so that at the end you would not having to big color appearance difference on your products. All related information about the LED is to find in our catalogue and specification.

2. Recommend soldering profiles

The switch is design and approved for a 1.6mm single-side PCB.
Using the PCB with a different thickness or using double-sided, through hole PCBs may result in loose mounting, improper insertion, or poor heat resistance in soldering, The effects will occur, depending on the type of the holes and patterns of the PCB. Therefore it is recommended that a verification test on customer is conducted before use.

2.1 Recommend soldering profile for SMT parts

Please download our Reflow standard from our website under following link:

http://www.we-online.com/web/en/passive_bauelemente_standard/download_center_pbs/Download_Center_PBS.php?p=2#dbfilter

File name: “Standard Reflow Soldering Profile”

For our SMD illuminated switches 2 times reflow soldering max.
The component could become a color change or deformed, in case to get in touch with exceeding temperature or overstress the component as we define.
For internal test, WE use solder thickness of 150µm and solder past SAC305

2.2 Recommend soldering for THT parts

Please download our Reflow standard from the Internet under following link:

http://www.we-online.com/web/en/passive_bauelemente_standard/download_center_pbs/Download_Center_PBS.php?p=2#dbfilter

File name: “Standard Reflow Soldering Profile”

The component could become a color change or deformed, in case to get in touch with exceeding temperature or overstress the component as we define.

2.3 Recommendation for hand soldering:

350°C for 3 sec. max
Note : Please make sure, that the solder heat is not come in contact with the product body as it may can cause the damage to the part and result in malfunction.

2.4 Recommendation of vapor phase soldering

Our Products are not proven for the VPH. Verification on this process is required on customer side.

2.5 Cleaning, washing and coating after reflow?

For our illuminated products, we normally do not suggest to put into the cleaning process, because the cleaning agent mind be damage the LED. For individual case, please help to provide details information of cleaning process, name of the cleaning agent and if possible the specification of the cleaning agent for our evaluation.

Do not pot the parts into the potting material, by doing so it may cause malfunction of the switch.
If our product is potted in customer applications, the potting material might shrink during and after hardening. Accordingly to this the product is exposed to the pressure of the potting material with the effect that the product is possibly damaged by this pressure and so the electrical as well as the mechanical characteristics are in danger of being affected. After the potting material is cured, the products needs to be checked if any malfunction or destructions on the product have occurred.

If coating the PCB, please take care that some aggressive chemicals can cause capillary ingress into the switch and cause malfunction. Verification process is required on customer side.

3. Handling of the component

The schematic of the LED and the Switch itself is separate as it shows in our specification, please read carefully our specification.

The LED characteristics is showing in the specification, please be carefully not to overload the LED.

ESD prevention methods need to be applied for manual handling and processing by machinery.

Do not use excessive force to operate the switch, or it may damage or deform the switch.

For Anode/Cathode direction of the LED’s, please refer to our specification.

4. Storage & operation condition

Operation temperature: -40°C ~ 85°C

Our SMD-parts (Match code WS-TASL) has MSL 3, others are specify as MSL1

Storage temperature for MSL 3 :

	Condition and Time
Sealed	<40℃/90%RH, Max. storage time 12 months at this condition
Unsealed	<30℃/60%RH, Max. allowable exposure time less than 168 hours

When open the sealing, a check on humidity indicator card is require to check if a pre-baking before reflow process is necessary.
We do recommend customer immediately to re-seal the packaging to the original seal status. With a new sealing, it is mandatory to use a new humidity indicator card.
In the event, that the exposure time is ≤12 hours, a minimum desiccating period of 5 times to the exposure time is required to dry. This can be accomplished by dry pack according to clause 3.3 or a dry cabinet that capable of maintaining not greater than 5%RH.
In the event, that the exposure time is >12 hours, a baking process according to IPC/JEDEC-J-STD-033 is required.
The Floor life can time be re-start after the baking process.
After bag is opened, devices that will be subjected to reflow solder or other higher temperature process must be mount within 168 hours of factory conditions ≤30°C / 60% RH or store per IPC/JEDEC J-STD-033

2. Baking time for components exposure ≤ 72 hours:

	Temperature	Duration
Single component	125 ℃	17hours
	90 ℃ ≤5%RH	2day
Component on Tray	40 ℃ ≤5%RH	23days
Component on Tape on Reel or Tube	40℃ ≤5% RH	23days

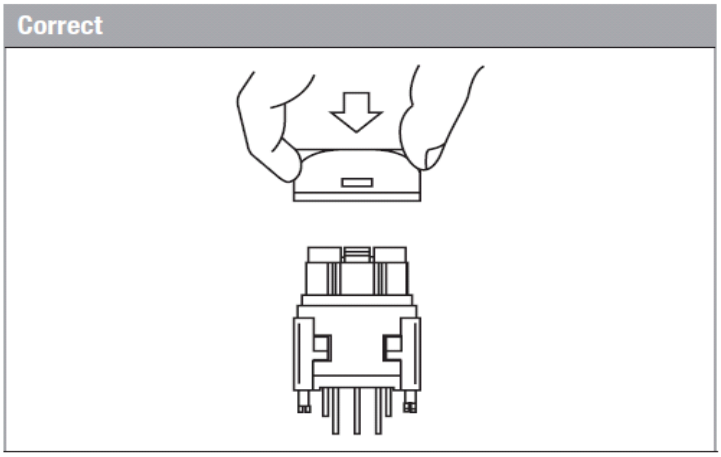
Other terms than above mentioned is on customer own risks.

All products are supposed to be use the end of the period of 12 months base on the product date code, if not a 100% solder ability cannot be warranted.

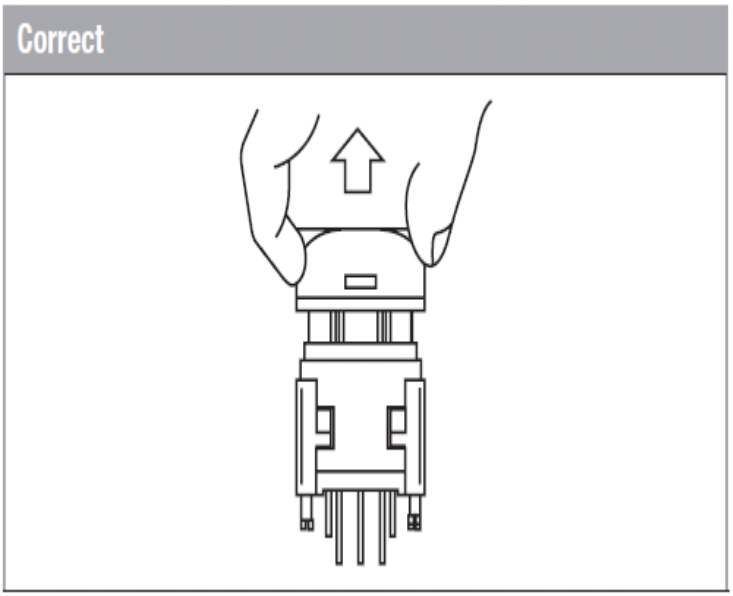
5. Operation /Assembling

Do not repeatedly operate the switch with excessive force, or it may damage or deform the switch.

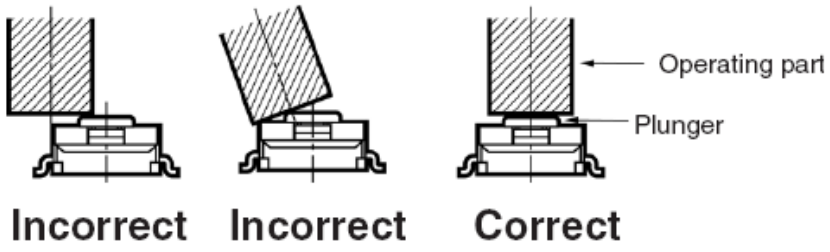
To assemble the caps :
Our caps are designed with notches to avoid the fall out afterwards.
By insertion of the cap, please put the cap on the strait vertical down to the actuator. By hearing a crispy sound, the cap is latched.



If you need to remove the cap, please use with your finger(nail) to pull up one side of the cap. Please do not use any sharp tools because it can damage the switch or the cap.



To design our SMD illuminated switch WS-TASL :
WS-TASL is the only series from our illuminated switches, which is not use for front panel. To design the cap or knob for it, please design so, that the operating part will operate in a straight vertical line to the center of the actuator or plunger of the switch. A decrease in the life of the switch may result if the operating part is pressed off-center or from an angle. Also it may cause function errors or broken actuators or plunger of the switch.



6. Packaging

Our SMD parts are generally pack on Tape on reel with ESD vacuum bag.

Our THT parts are generally pack in ESD Tray with Dry back and sealed in plastic bag.

7. Compliance

Wuerth Elektronik products are RoHS compliance. For a 3rd parties test report, please contact us.

For any further information, please feel free to contact our sales representatives.