

SLIM STICK S-TYPE LED MODULE

APPLICATIONS MANUAL

WARNING

- **Direct LED emission can seriously damage the eyes. Never view a LED emission directly.**
- **Never use a disassembled LED module.**
- **A LED generates heat while it is emitting.**
(The ambient temperature is increased by 20°C by a 30 LED unit).
- **Pay attention to avoiding burns and to prevent deformation of the LED mount unit.**

INTRODUCTION

This Application Manual is produced for engineers who intend to design lighting items using the Stanley Slim Stick S-Type LED Modules.

Through the use of this Application Manual, the lighting items can use their unique characteristics effectively. Safety precautions and notes on the necessary quality conditions for design are described in this manual. Before the LED lighting item is designed, be sure to read this manual thoroughly and understand the functions of LED modules.

For performance and quality specifications of LED modules, refer to specifications (separately supplied).

SPECIAL FEATURES OF SLIM STICK S-TYPE LED MODULE

The Stanley Slim Stick S-Type is a unique brand-new LED illumination module which has the special characteristics described below.

- The thin and narrow stick shape of the LED module is applicable to illumination installed in the narrow spaces.
- Emission color can be selected from either warm white or normal white.
- Two LED configurations (15 or 30 LEDs) are available.
- The LEDs are aligned in the same pitch.
- By using a special connector supplied by BJB, LED modules can be joined and the joined LED module emits the same pitch.
- The LED module can operate on 12V DC power supply.
- The LED luminous intensity and emission color dispersion are minimized by the regulation specified by Stanley.
- The Stanley LED Modules all conform to the RoHS Directive.

APPLICABLE LED MODULES

This Application Manual applies to the following Stanley Slim Stick S-Type.

MODEL	EMITTED COLOR (COLOR TEMPERATURE)	NUMBER OF LEDS	REMARKS
STW0101N	Warm white (3,300K)	30 LEDs (10 mm pitch)	
STW0201N	Warm white (3,300K)	15 LEDs (20 mm pitch)	
STN0101N	White (5,000K)	30 LEDs (10 mm pitch)	
STN0201N	White (5,000K)	15 LEDs (20 mm pitch)	

TABLE OF CONTENTS

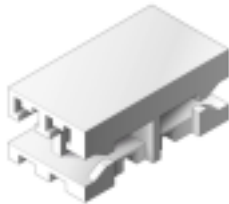
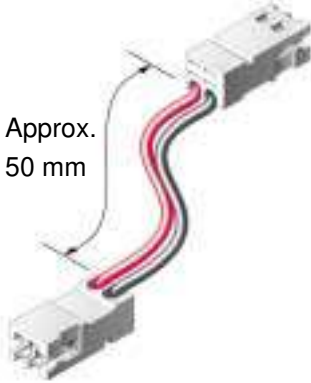

1. CHARACTERISTICS AND VARIATIONS	1
2. GENERAL VIEWS, NAMES, DESCRIPTIONS	2
3. INSTALLATION, CONNECTION	3
4. POWER SUPPLY REQUIREMENT	5
5. CAUTIONS	5
6. APPLICATION EXAMPLES OF SLIM STICK S-TYPE LED MODULES	6

1. CHARACTERISTICS AND VARIATIONS

Select the desired LED module from the table below according to the illumination plan which describes the emission color and the number of LED modules.

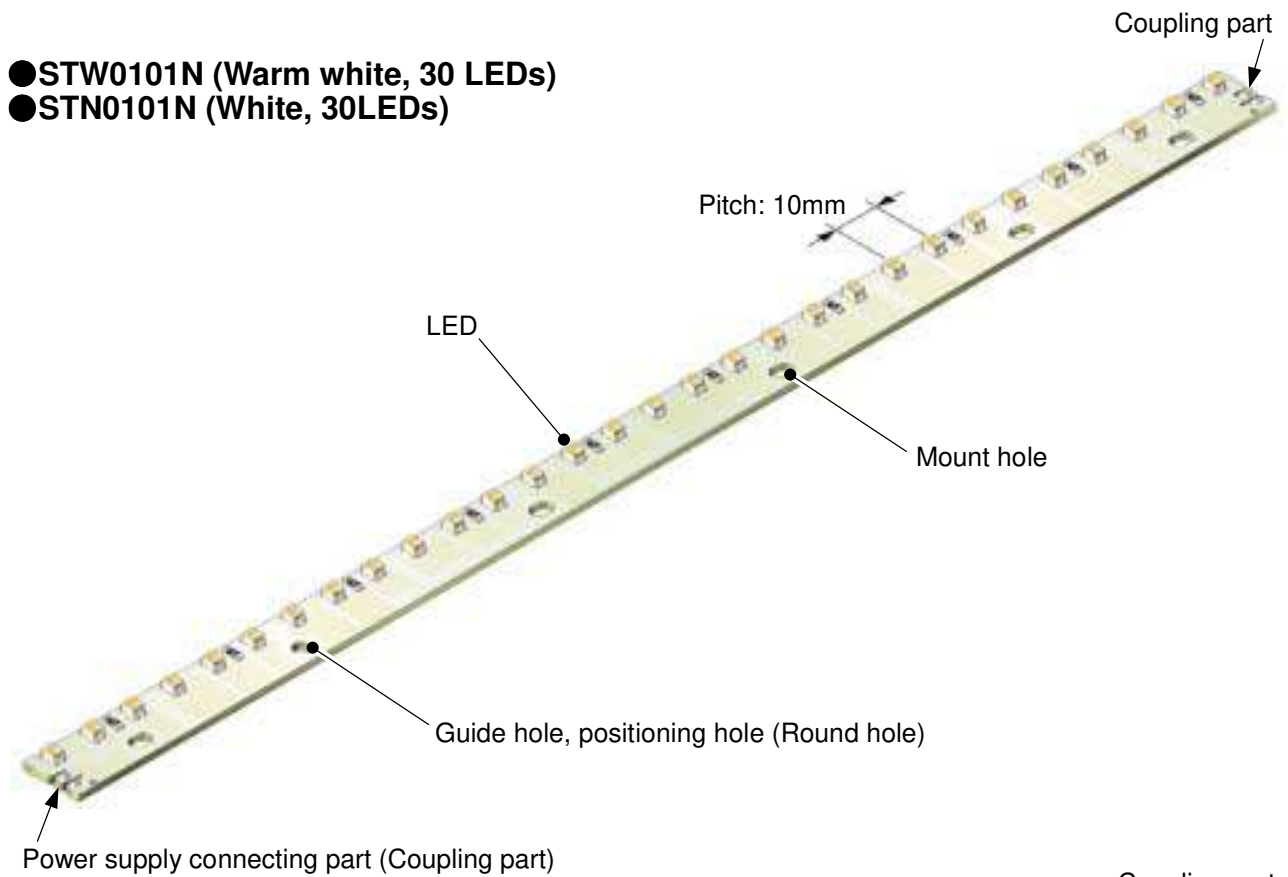
Model	Emitted Color (Color Temperature)	Number of LEDs	Forward Voltage TYP (V cc)	Forward Current (mA)	Central Illumination H=0.5m (lx)	Luminous Flux TYP (lm)	Power Consumption (W)
STW0101N	Warm white (3,300K)	30 LEDs (10 mm pitch)	12	200	80	45	2.4
STW0201N	Warm white (3,300K)	15 LEDs (20 mm pitch)	12	100	40	24	1.2
STN0101N	White (5,000K)	30 LEDs (10 mm pitch)	12	200	95	55	2.4
STN0201N	White (5,000K)	15 LEDs (20 mm pitch)	12	100	60	29	1.2

● BJB Special Connectors

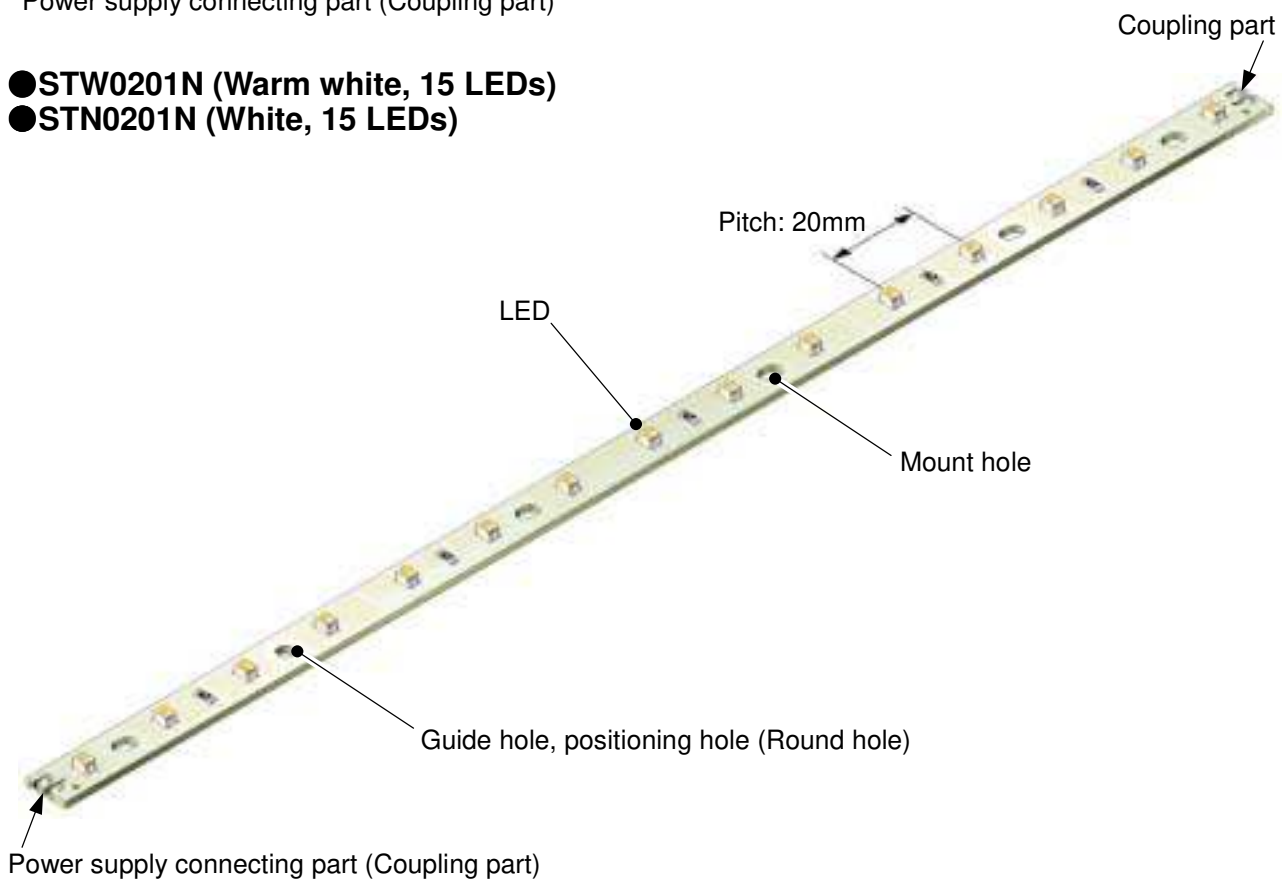
Stanley Model	BJB Part No.	Description	Outside View	Purposes
STCB1	47.302.2001.50	LED module block coupler		<ul style="list-style-type: none"> • To connect modules of the same pitch. • This part is used for straight connection between LED modules.
STCC2	47.342.3001	LED module coupler w/single wires	<p>Approx. 50 mm</p> 	<ul style="list-style-type: none"> • To connect modules. • When modules are separately installed, a maximum 50 mm separation distance is allowable.
STCC1	47.342.2001.50	LED module connector w/double wires		<ul style="list-style-type: none"> • To connect module and power supply.

2. GENERAL VIEWS, NAMES, DESCRIPTIONS

- STW0101N (Warm white, 30 LEDs)
- STN0101N (White, 30LEDs)



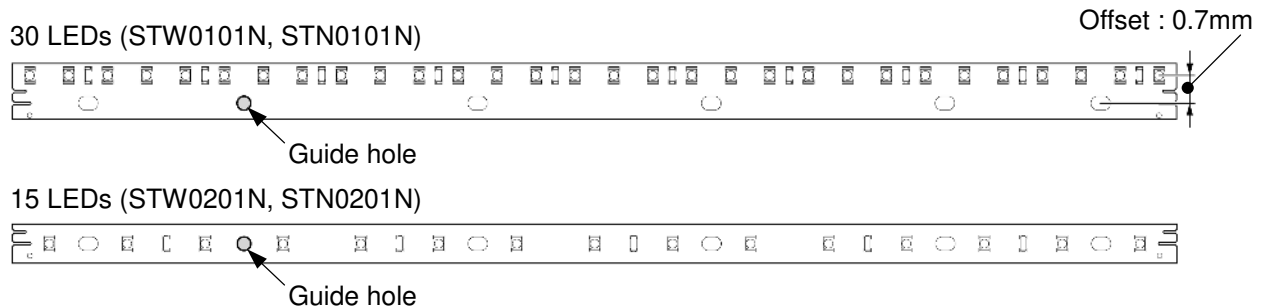
- STW0201N (Warm white, 15 LEDs)
- STN0201N (White, 15 LEDs)



3. INSTALLATION, CONNECTION

Two or more Slim Stick S LED modules can be installed by joining them with special couplers. A heat sink mounted LED module has superior reliability.

● Installation Procedure



(1) Installation with screws

Use M3 bolts (round head diameter < 0.7mm) for mounting LED module.

The LED module is equipped with one guide hole. Use this hole for positioning the LED module.

There are five mounting holes in addition to the guide hole. At least two holes must be secured with bolts.

[NOTE] In the case of 30 LED types (STW0101N, STN0101N), pay attention that the holes' line is offset from the LEDs' line.

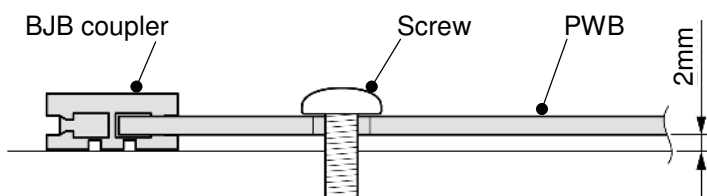
(2) Installation with double-faced tape

The LED modules can be installed with double-faced tape. (Recommended tape: NITTO 5000N)

⚠ WARNING

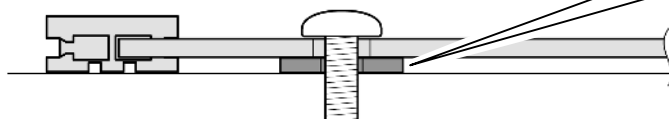
Pay attention not to warp the Slim Stick S-Type while installing. A warped installation will have shorter LED module life and low reliability.

When the special BJB connector is used for coupling LD modules, a 2mm gap will exist due to the coupler's thickness. To remedy this, a plate, washer or spacer of 2mm thickness must be used to mount the LED module with bolt.

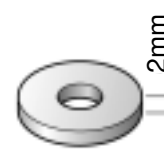


If the screw is secured without the above spacer, the LED module will warp 2mm stressing the part.

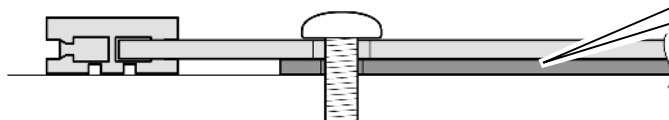
● When washers are used:



Washers (Thickness: 2mm)

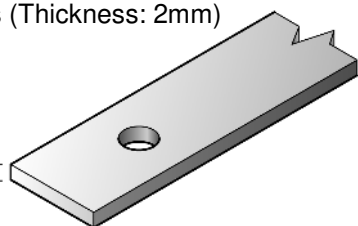


● When plates are used:




Plates (Thickness: 2mm)

2mm



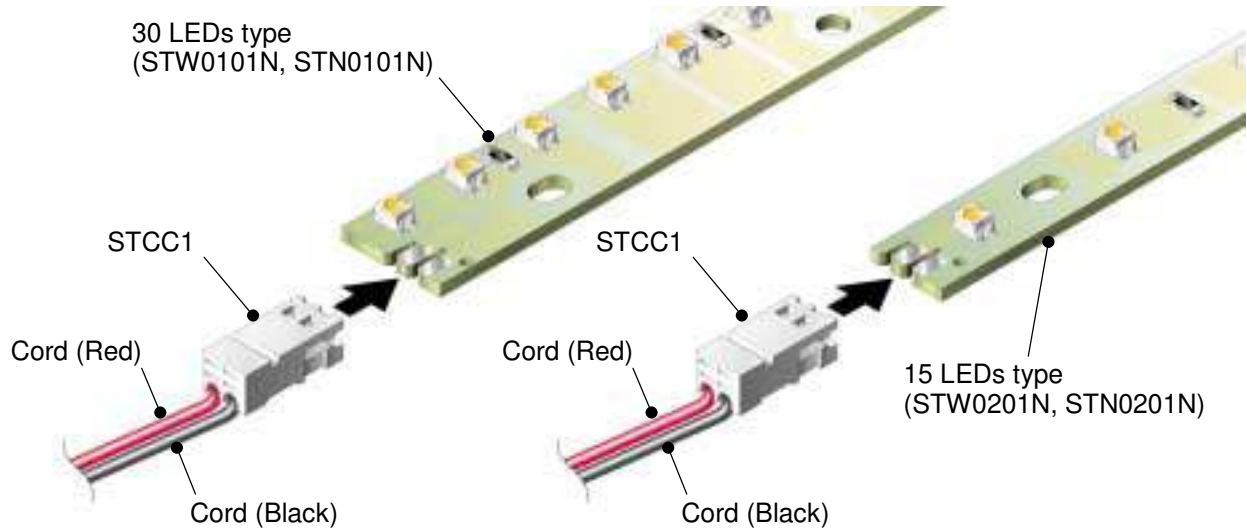
* When a metal plate is used, the insulator must be placed between the back of the circuit board and the metal plate. Apply the appropriate insulator such as vinyl tape to the metal plate.

●Connecting Procedure

 The number of connector connections/disconnections must not exceed five.

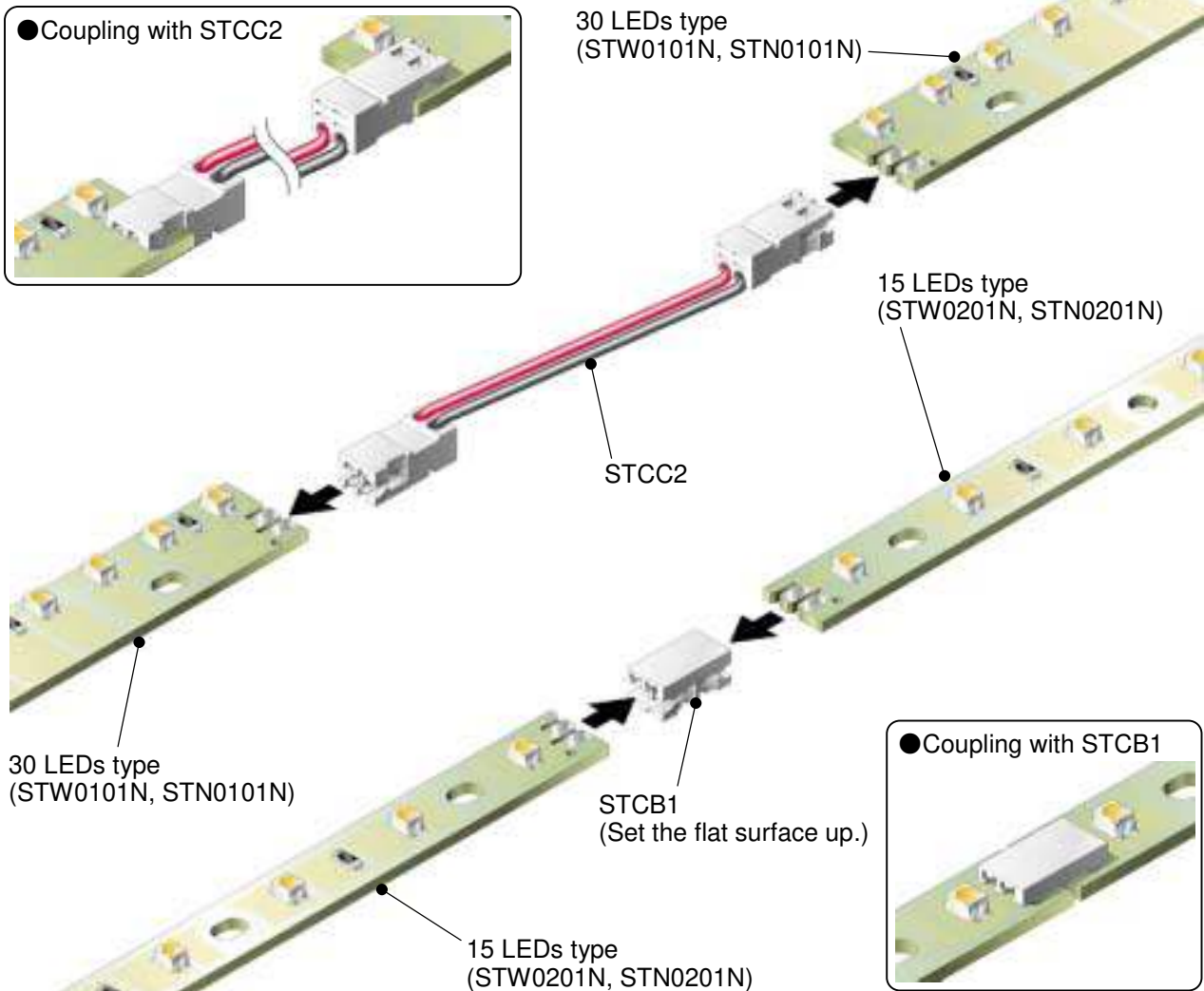
The connector has a projection for meshing with the LED module and guaranteeing polarity orientation. Insert the connector properly orientated until a click sounds informing complete insertion into the LED module.

■Power supplying part



■Module coupling part * Use STCC2 or STCB1 for coupling the LED modules.

* Use STCB1 to install the LED modules of the same LED pitch.



4. INSTALLATION, CONNECTION

Use a DC12V constant voltage power supply. Stanley recommends the following power supply.
The number of LED modules connected is limited by power supply capacity and LED module contact capacity.

Model	Recommended Power Supply	Number of LED modules connected
STW0201N, STN0201N (15 LEDs type)	COSEL PBA15F-12	8
STW0101N, STN0101N (30 LEDs type)	COSEL PBA15F-12	5
	COSEL PBA30F-12	8

* The aforementioned recommended power supplies have sufficient safe performance. However they are not PSE certified.

* The number of connectable LED modules can be limited by distance between power supply and LED module or cable resistance.

5. CAUTIONS



CAUTIONS

- (1) Please do not bend when using and storing this unit, anytime. Should this product be bent, it may crack in the soldering area, causing malfunction. Please check carefully that there will be no excessive stress on module in usage.
- (2) In order to prevent electrostatic breakdown at the time of a mounting, please be sure to protect from any electrostatic charge within the reassembling production process.
- (3) Please advise especially the parts (light emitting diode, resistor, etc.) that are mounted in the switching, the maintenance, etc. that it does not add too much load.
- (4) Please be sure to turn OFF the power source when a mounting and removal of this unit.
- (5) When connecting to another unit or power source, do not reverse connect.
- (6) In real usage, take care not to allow any conductive touch parts to touch the solder pattern and component part lead on the surface of Slim Stick S-Type.
- (7) Please take measures to dustproof the unit, as any dust etc. will effects the quality of output.
- (8) In this unit, please do not submit to strong impulse or vibration or do not scratch with sharp things, such as an edged tool.
- (9) Please keep the temperature and Moisture during storage + usage within the limits defined by the specification. Moreover, please avoid usage or storage in any environment exposed to the organic solvent, etching gas (gaseous chlorine and sulfuration gas), etc., or fire.
- (10) When cleaning the LED module post installation, use air pressure to blow off dust or softly wipe with dry cloth to remove dust. Non observance of this caution (such as wiping with moistened cloth, cleaning with detergent, solvent or alcohol, etc.) will result in LED lighting failure and/or shorter life.
If the LED modules are installed in an area needing frequent cleaning, cover the LED modules with a transparent acrylic cover or equivalent.
- (11) During real usage, constraints, such as an input voltage, an operating environment, etc. (temperature and Moisture) defined by the specification, should be observed. If used outside of specification, the unit may not be able to satisfy optical and the electric characteristics defined by the specification.
- (12) The characteristics described in this specifications may be altered without previous notice in order to improve the performance.

6. APPLICATION EXAMPLES OF SLIM STICK S-TYPE LED MODULES

■ Bed side illumination



■ Ambient illumination (Indirect lighting)



■ Under counter illumination



■ Cabinet illumination

