



**THE DATASHEET OF
SML-412MWT86**



- 1. CONSTRUCTION AlGaInP on GaAs green surface mount LEDs package with diffused epoxy.
- 2. USAGE Source of light for display unit.
- 3. DIMENSIONS See Figure.1

10. ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Power Dissipation	P D	65mW
Forward Current	I F	25mA
Peak Forward Current	I F P	60mA (Notes 1)
Reverse Voltage	V R	4V
Operating Temperature	Topr	-30°C~+85°C
Storage Temperature	Tstg	40°C~+85°C

(Notes1 Duty 1/5 Pulse Width 1ms)

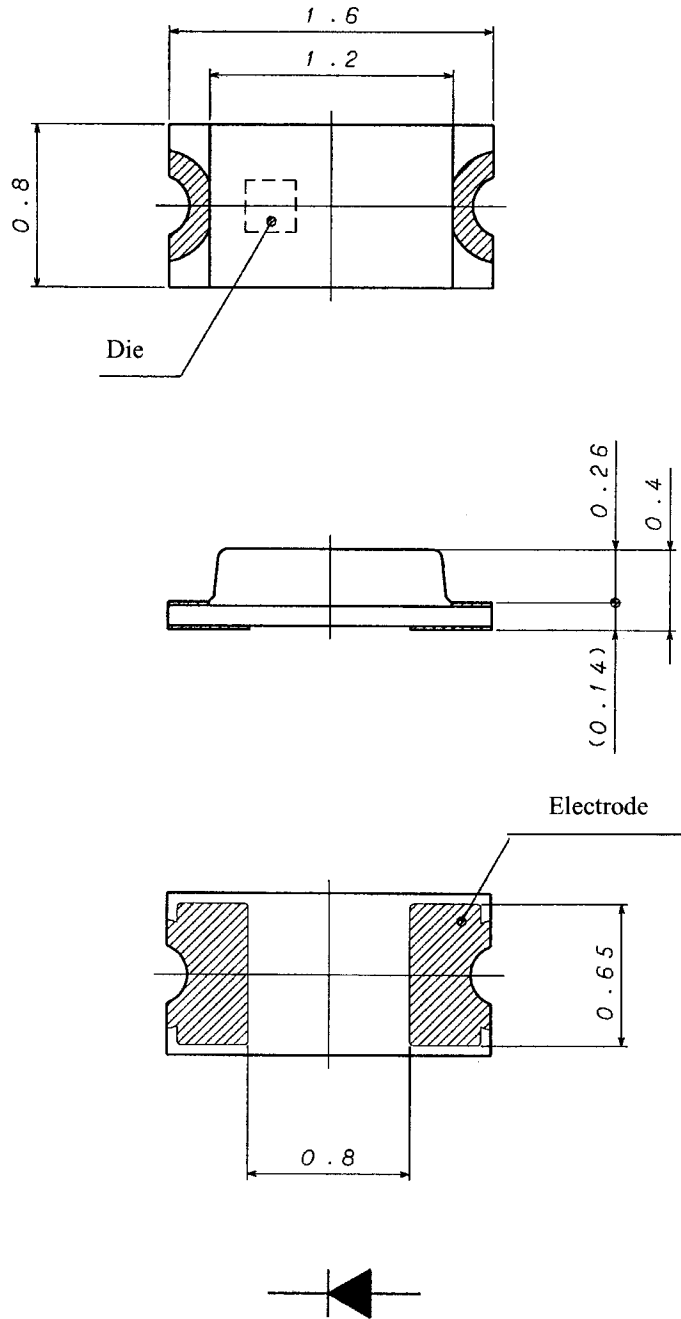
11. ELECTRO-CHARACTERISTICS (Ta=25°C)

DISCRIPTION	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNITS
Luminous Intensity	IV	IF=20mA	14	40	—	mcd
Forward Voltage	VF	IF=20mA	—	2.1	2.6	V
Reverse Current	IR	VR=4V	—	—	100	μ A
Peak Wave Length	λ P	IF=20mA	—	570	—	nm
Spectral Line Half Width*2	Δ λ	IF=20mA	—	18	—	nm

12. LUMINOUS CLASSIFICATION (Ta=25°C, IF=20mA)

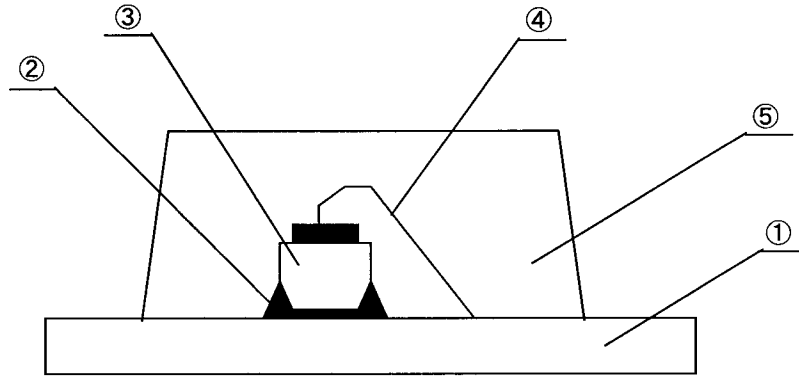
SYMBOL	LUMINOUS CLASSIFICATION RANGE
“N”	14 ~ 28 mcd
“P”	22 ~ 45 mcd
“Q”	36 ~ 71 mcd

- 7. PRODUCT WEIGHT Product weight per piece, approx 0.001gm.

【Figure.1】

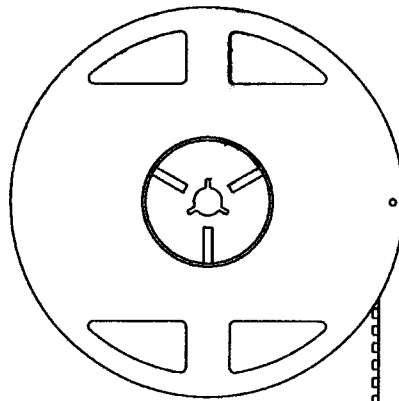
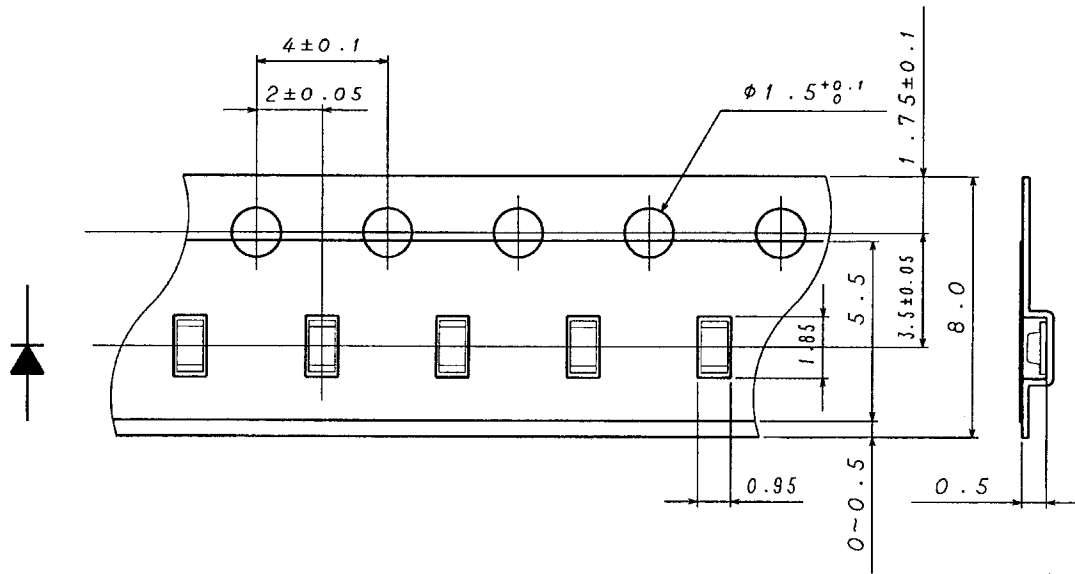
(Unit : mm)

(Note) Tolerance is within ± 0.1 mm unless otherwise specified.

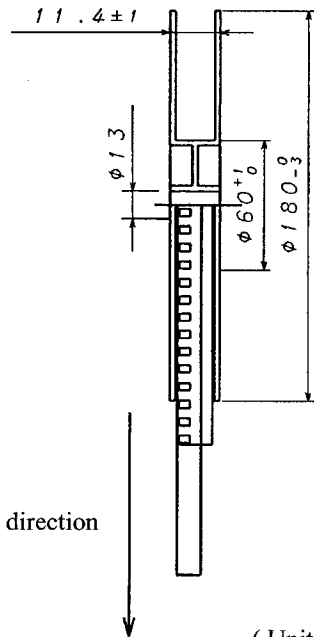
【STRUCTURE · MATERIAL】

No.	APPELLATION	MATERIAL
1	Printed Wiring Board	BT Resin, Glass Fabric
2	Die Bond	Ag Paste
3	Chip	410 : GaP 411, 412 : AlGaInP on GaAs
4	Bonding Wire	Gold
5	Resin	Epoxy Resin

【T86】



Packing quantity 5000pcs / reel



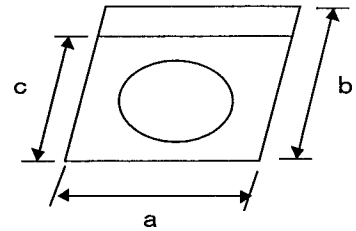
(Unit : mm)

(Note) Tolerance is within ± 0.2 mm unless otherwise specified

【PACKAGING REQUIREMENTS】

1. PACKING

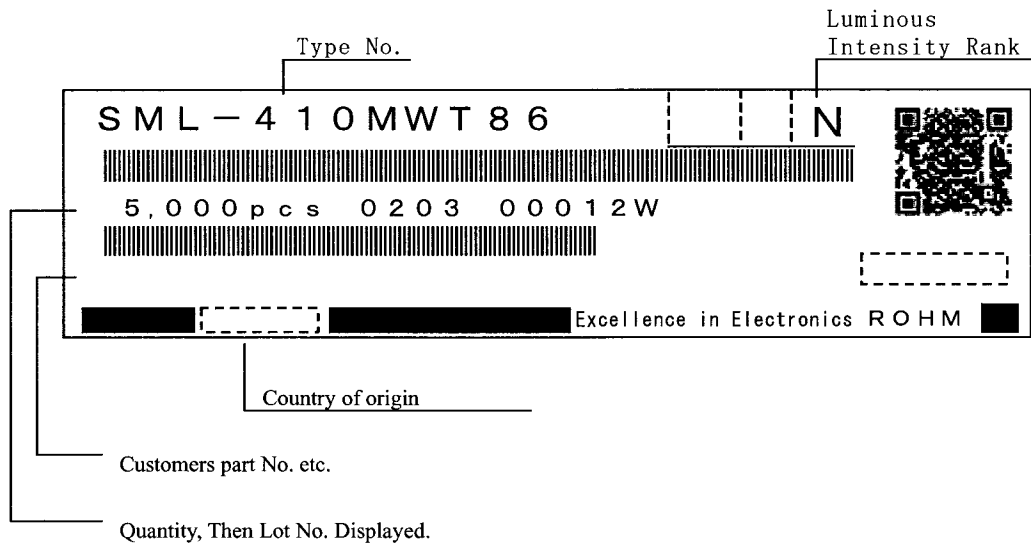
- (1) 5000pcs are packed in one reel.
- (2) One reel is packed in aluminum bag.
The size of aluminum bag is 240(a) × 250(b)mm.
The size up to 230(c)mm is to zipper.
- (3) Aluminum bag is sealed by pressured for all directions.



2. MARKING

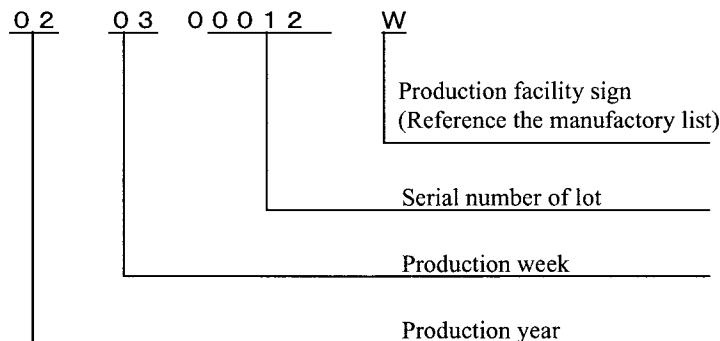
The following information shall be described on a box label:
ROHM Type number, Packing quantity, Luminous intensity rank,
Lot number.

【FORMER LABEL SPECIFICATION】



Note) Indicates bar code expressed by code 39.

【EXAMPLE OF LOT NO. MARKING】



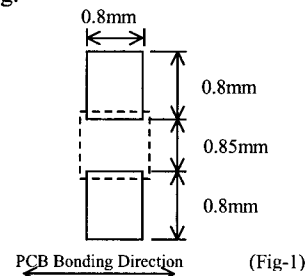
【ATTENTION POINT IN HANDING】

This product was developed as a surface mount LED especially suitable for soldering.
Please take care of following points when using this device.

1. DESIGNING OF PCB

As for a recommendable solder pattern, Please refer to Fig-1.

The size and direction of the pad pattern depends on the condition of the PCB,
So, please investigate about the adjustment thoroughly before designing.



2. SOLDERING (Sn-Pb)

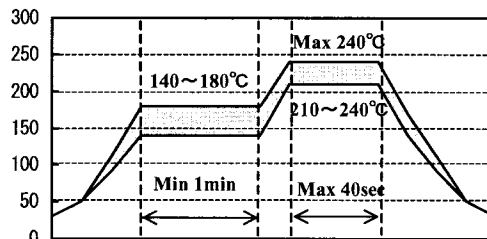
LED products do not contain reinforcement materials such as glass fillers.

Therefore, thermal stress by soldering greatly influence its reliability.

The temperature conditions for reflow soldering should therefore be set up according to the characteristic of this product. (See Fig-2)

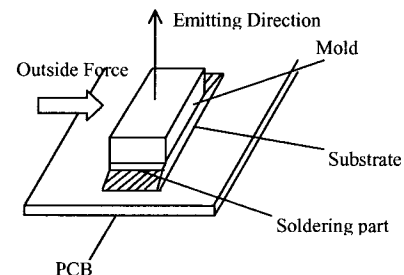
Number of reflow process shall be max 2 times and these processes shall be performed in a row.

Cooling process to normal temperature shall be required between first and second soldering process.



3. HANDING AFTER MOUNTING

As shown right drawing, in case outside force of around 700g is given to the device, stress is concentrated to the jointed part between mold resin and substrate. Therefore there is a possibility to breath the device or PCB. Careful handing is needed as ROHM cannot guarantee the falling of the device by outside force after mounting.



4. WASHING

Please note the following points when washing is required after soldering.

4-1) WASHING SOLVENT

Isopropyl alcohol or other alcohol solvent is recommendable.

4-2) TEMPERATURE

Below 30°C, immersion time ; within 3 minutes.

4-3) ULTRA SONIC WASHING

Below 15 / 1 liter of solvent tub.

4-4) CULING

Below 100°C within 3 minutes.

5. STRAGE

At reflow soldering, the reliability of this product is often influenced by moisture

absorption so we apply the packaging with moisture proof for better condition is use, please also note that

5-1) Not to be opened before using.

5-2) To be kept in our moisture proof packaging with some desiccant (SILICA GEL) after opening it.

To be baked in case the SILICA GEL indicator loses its blue color.

5-3) Please use within 168 hours after the package was opened. (Condition at 30°C, max.70%Rh.)

In case it is not used within 168 hours, please put it back into our packaging.

5-4) BAKING

Please bake under reel condition at 60°C, 12~24 hours (max.20%Rh) after un-sealing.

While baking is done, the reel and emboss tape may be easily deformed.

Please be careful not to give any stress.



PRODUCTS
Surface Mount
Chip LED

TYPE
SML Series

PAGE

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【MANUFACTORY】

FACTORY	SYMBOL
ROHM WAKO CO.,LTD. (KASAOKA CITY, OKAYAMA PREF.JAPAN)	W
ROHM-WAKO ELECTRONICS (MALAYSIA) SDN.BHD. (MALAYSIA)	D
ROHM ELECTRONICS WAKO (TIANJIN) CO.,LTD. (TIANJIN. CHAINA)	N

ROHM CO., LTD.

REV. : A

SPECIFICATION No. : SML

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- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management