HIGH POEWR (1W) INFRARED EMITTING DIODE

1.ELEMENT APPEARANCE

Model No.	Material	Lighting Color	Lens Color
RT-HIENW-L1 RT-HIENW-L1S	AlGaAs	Non-Visible	Water Clear

2.ABSOLUTE MAXIMUM RATINGS AT Ta=25℃

Characteristic	Symbol	Rating	Unit
Forward direct current	IFM	1000	mA
Reverse voltage	VRM	5	V
Operating temperature	Topr	-40 to +85	℃
Storage temperature	Tstg	-40 to +100	℃
Power dissipation	Pd	2.3	W
Lead soldering temperature 260℃ for 5sec.			

3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25℃

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Radiant Intensity	Ie	IF=700mA		220		mW/sr
Forward voltage	VF	IF=700mA		2.1	2.3	V
Reverse current	IR	VR=4V			10	μA
Peak emission wavelength	λp	IF=700mA		855		nm
Spectral width at half height	Δλ	IF=700mA		25		nm
Viewing angle	2θ 1/2	IF=700mA		140		deg.

※Radiant Intensity Measurement allowance is ±15%

※Forward voltage Measurement allowance is ±0.05V

※Peak emission wavelength Measurement allowance is ±0.5nm

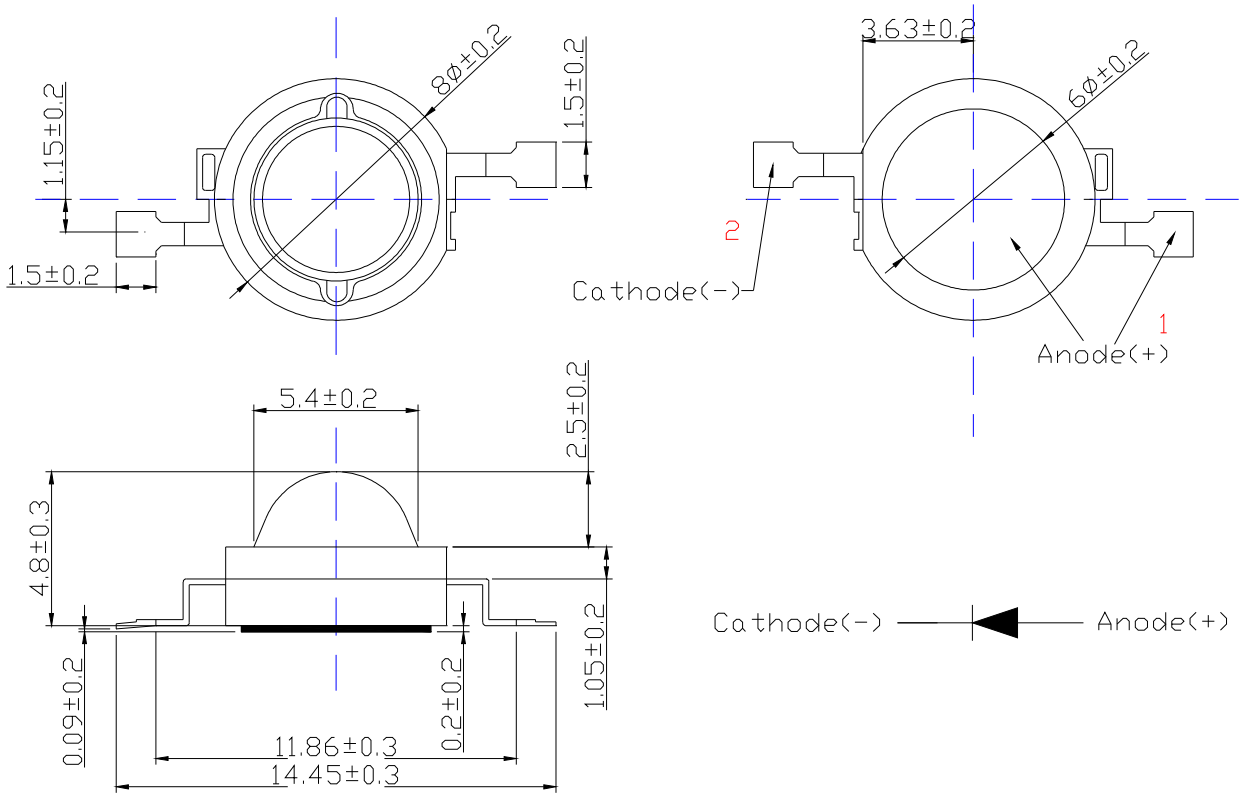
4.DIMENSIONS UNIT： m/m

Tolerance is ±0.25mm unless otherwise specified.

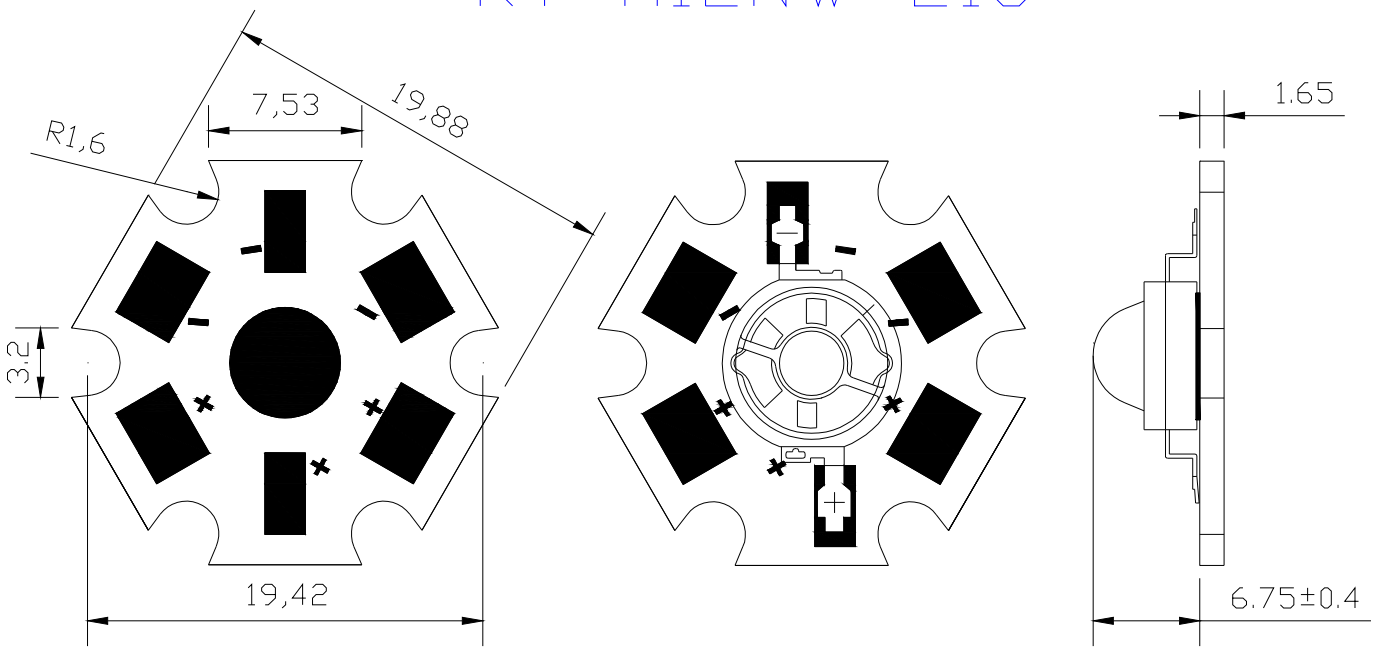
SIGN： 1.ANODE
2.CATHODE

Lambertian

RT-HIENW-L1



RT-HIENW-L1S



5.BIN CODE

Category Code					
(1)			(2)		
Radiant intensity			Forward voltage		
Ie (IF=700mA)			Vf (IF=700mA)		
BIN. CODE	Minimum	Maximum	BIN. CODE	Minimum	Maximum
A	1.00	1.40	1	1.00	1.10
B	1.40	1.96	2	1.10	1.20
C	1.96	2.75	3	1.20	1.30
D	2.75	3.85	4	1.30	1.40
E	3.85	5.39	5	1.40	1.50
F	5.39	7.55	6	1.50	1.60
G	7.55	10.57	7	1.60	1.70
H	10.57	14.80	8	1.70	1.80
I	14.80	20.72	9	1.80	1.90
J	20.72	29.00	10	1.90	2.00
K	29.00	40.60	11	2.00	2.10
L	40.60	56.84	12	2.10	2.20
M	56.84	79.58	13	2.20	2.30
N	79.58	111.40	14	2.30	2.40
O	111.40	155.96	15	2.40	2.50
P	155.96	218.40			
Q	218.40	305.76			
R	305.76	428.06			
S	428.06	599.34			
T	599.34	839.08			
U	839.08	1174.74			

＊Forward voltage

Measurement allowance is ±0.05V

＊Radiant Intensity

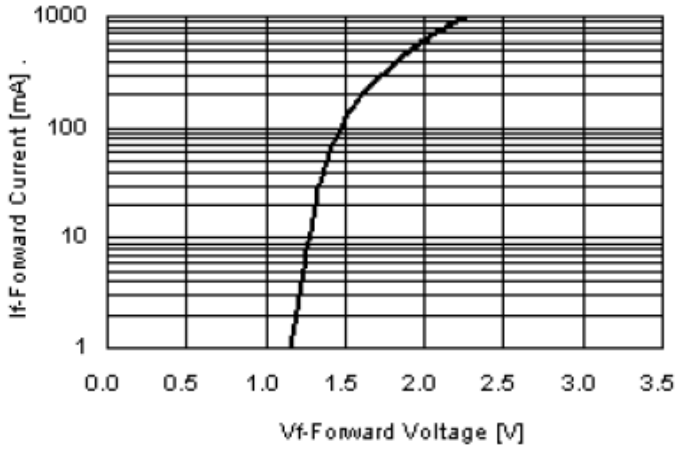
Measurement allowance is ±15%

BIN.別標示如下：

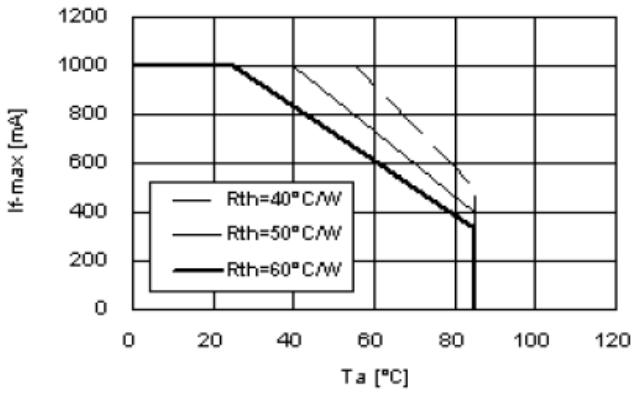
RODAN (TAIWAN) LED.

TYPE	
LOT. NO.	
QUANTITY	
DATE	
NOTE	IV____ VF____

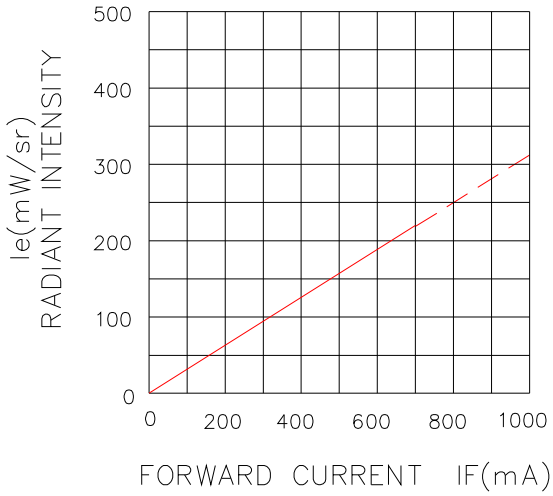
IF — VF (Ta=25℃)

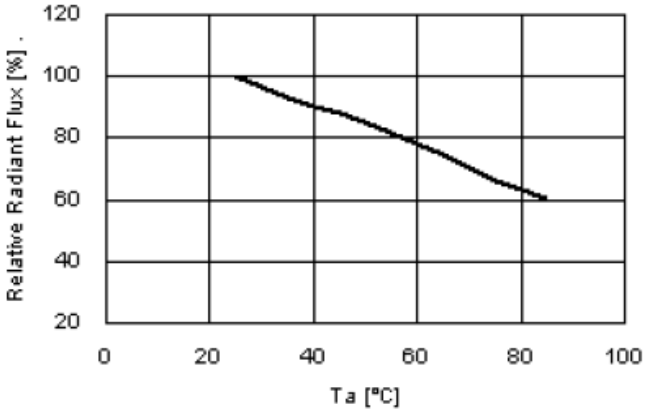


IFM — Ta

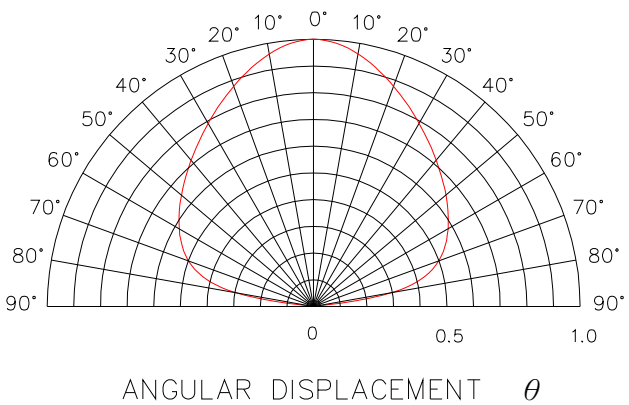


Ie — IF (Ta=25℃)

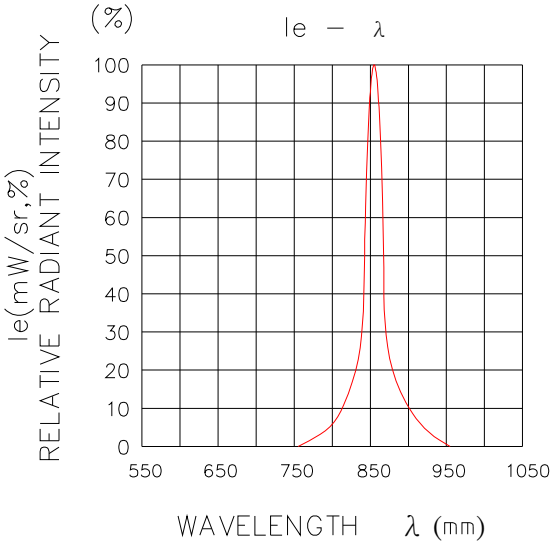




(Ta=25℃)



Ie — λ



Soldering Profile

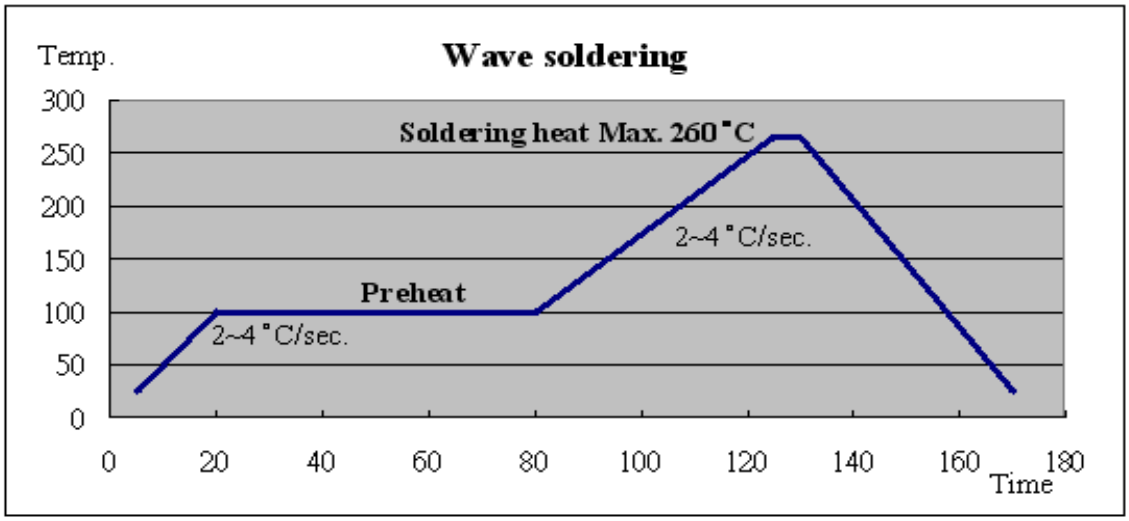
Compliant with the following condition :

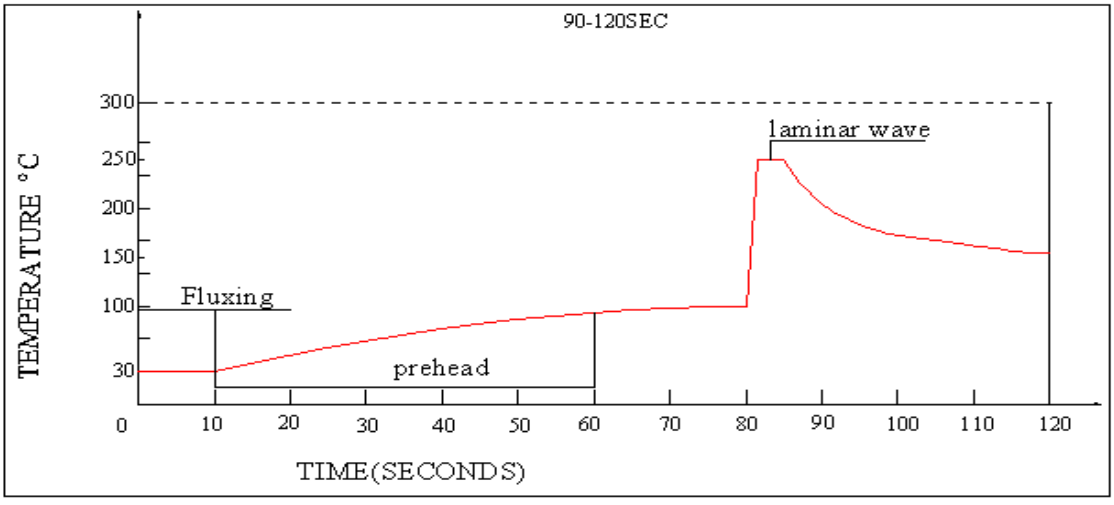
(1) Leaded quantity of product below 100 ppm

(2) Lead-free process

Shape	Lead Frame Type / Holder Type
Hand soldering	1.Temp.at tip of iron : 300 °C MAX(30W MAX). 2.Soldering time : 3 sec MAX. 3.Distance : 3 mm MIN (from solder joint to case)
DIP soldering	1.Preheat temp : 100 °C MAX , 60 sec MAX. 2.Bath temp : 260 °C MAX. 3.Bath time : 5 sec MAX. 4.Distance : 3 mm MIN (From solder joint to case).
Reflow soldering	NO
Shape	**SMD Type**
Hand soldering	1.Temp.at tip of iron : 300 °C MAX. 2.Soldering time : 3 sec MAX.
DIP soldering	1.Preheat temp. : 120-150 °C , 60-120 sec. 2.Bath temp. : 260 °C MAX. 3.Bath time : 5 sec
Reflow soldering	1.Preheat temp. : 150-180 °C , 120 sec MAX. 2.Peak temp. : 260 °C MAX. 3.Peak time : 10 sec MAX.

wave soldering profile :





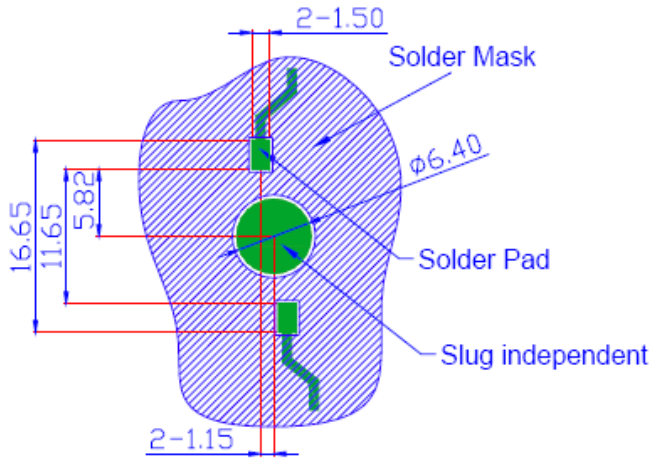
Reliability Test Items

CONDITIONS：

The reliability of products shall be satisfied with items listed below.

NO.	Item	Condition	Time / Cycle	Criteria	Ac / Re	Sample Quantity
1	Soldering Heat Test	260°C	5 sec	Open / Shot	0 / 1	60 pcs
2	Thermal Shock	0℃(5min) ~100℃(5min)	20 Cycles	Open / Shot	0 / 1	60 pcs
3	High Temp. Storage	100℃	1000 Hrs	Open / Shot	0 / 1	60 pcs
4	Low Temp. Storage	-40℃	1000 Hrs	Open / Shot	0 / 1	60 pcs
5	Temperature Cycle Test	-40℃~85℃	100 Cycles , 200Hrs	Open / Shot	0 / 1	60 pcs
6	High Temp. High Humidity Test	60℃, 90% RH	1000Hrs	Open / Shot	0 / 1	60 pcs
7	DC Operation Life Test	IF=700mA	1000Hrs	Power decay	≦30%	60 pcs

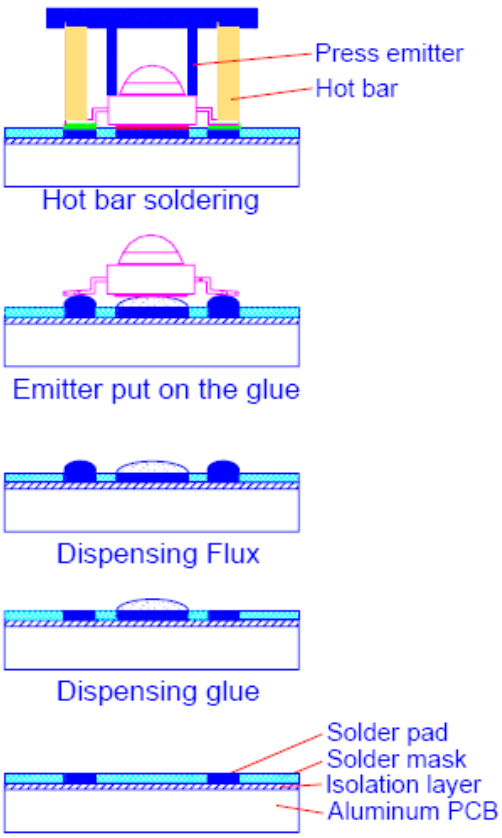
Recommended Solder Pad Desing



Note:

1. All dimensions are in mm.
2. The drawings are not to scale
3. Solder pad can't be connected to slug.

Recommend Solder Steps



Notes:

1. Aluminum PCB material with a thermal conductivity greater than 2.0 W/mK.
2. Solder pad can't be connected to slug.
3. The Thermal glue should be as thin as possible for better heat conductivity.
4. During any assembly process touching lens is avoided. This will cause pollution or scratch on the surface of lens.
5. Thermal glue with a thermal conductivity greater than 1.0 W/mK and the thickness must be less than 100μm.

Handling of Silicone LEDs
silicone leds 的操作導引

Notes for handling of silicone LEDs
silicone leds 的操作導引注意事項

●Avoid touching the silicone LEDs especially by sharp tools such as Tweezers.
避免接觸 silicone LEDs 特別是鋒利的器具例如:鑷子

●Please do not use a force of over 3kgf impact or pressure on the surface of silicone LEDs.
請不要使用超過 3 公斤的力量衝擊或擠壓 silicone lens.

●Please do not mold over the silicone LEDs with another resin. (epoxy, urethane, etc)
請不要在 silicone LEDs 上形成另一個樹脂(環氧基樹脂、胺基甲酸乙酯 等)

●Please store the LEDs away from dusty areas or seal the product against dust.
請把 LED 儲存在遠離灰塵多的區域或密封產品來對抗灰塵

●Avoid leaving fingerprints on the surface of silicone LEDs.
避免留下指紋在 LED 表面上