VISIBLE LED

1.ELEMENT APPEARANCE

Model No.	Material	Lighting Color	Resin Color
RT-0606RGBW-GQJ	AlGaInP/GaAs	Red	Water Clear
	InGaN	Blue	
	InGaN	Green	

2.ABSOLUTE MAXIMUM RATINGS AT Ta=25℃

Characteristic	Symbol	Rating	Unit
Forward direct current	I_{FM}	30	mA
Reverse voltage	V_{RM}	5	V
Operating temperature	Topr	-40 to +80	℃
Storage temperature	Tstg	-40 to +85	℃
Power dissipation	Pd	111	mW
Peak pulsing current(1/8 duty f=1kHz)	Ifp	Red : 75 / Green & Blue: 111	mA
Lead soldering temperature 260℃ for 5sec.			

3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25℃

Characteristic	Symbol	Condition		Min.	Typ.	Max.	Unit
Luminous intensity	Iv	IF=20mA	R	80	125	200	mcd
			G	200	350	630	
			B	40	80	125	
Forward voltage	V_F	IF=20mA	R	1.7	2.0	2.5	V
			G	2.8	3.1	3.7	
			B	2.8	3.1	3.7	
Reverse current	I_R	V_R=5V				10	μA
Peak emission wavelength	λp	IF=20mA	R		630		nm
			G		515		
			B		465		
Dominant wavelength	λd	IF=20mA	R	615	620	630	nm
			G	515	520	525	
			B	465	470	475	
Spectral band width @ 50%	Δλ	IF=20mA	R		20		nm
			G		35		
			B		25		
Viewing angle(X,Y)	2θ 1/2	IF=10mA			140		deg.

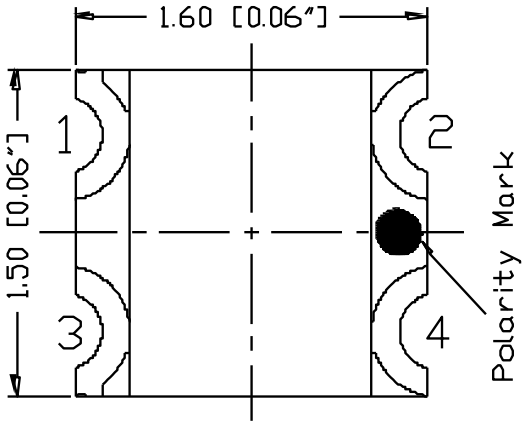
＊Measurement Uncertainty of Luminous Intensity：±15%

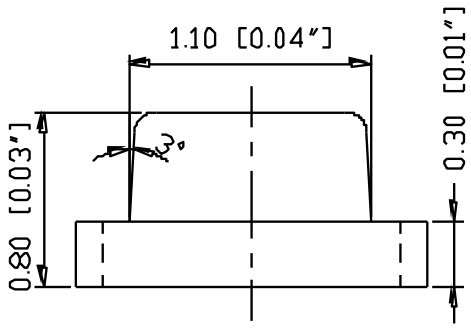
＊Measurement Uncertainty of Forward Voltage：±0.05V

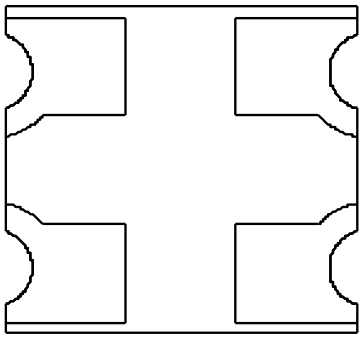
＊Peak emission wavelength Measurement allowance is ±0.5nm

Model：RT-0606RGBW-GQJ

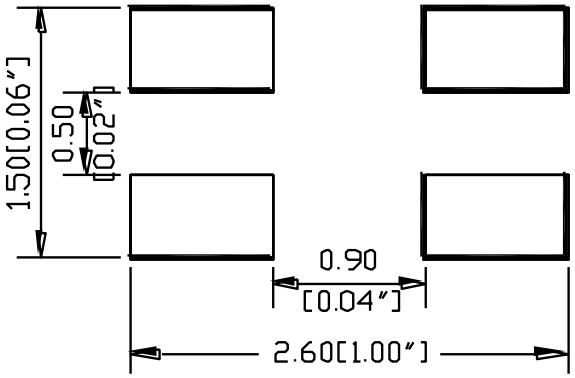
4.DIMENSIONS UNIT：m/m **TOLERANCE**：± 0.1 m/m

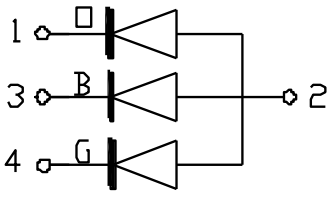






RECOMMEND PAD LAYOUT





5.BIN

VF (IF=20mA)			
BIN		**MIN**	**MAX**
Red	□	1.7	2.5
Green Blue	f	2.8	3.1
	g	3.1	3.4
	h	3.4	3.7

※VF 誤差值±0.05V

λ d (IF=20mA)			
BIN		**MIN**	**MAX**
Red	s	615	620
	t	620	625
	u	625	630
Green	S	515	517.5
	T	517.5	520
	U	520	522.5
	V	522.5	525
Blue	G	465	467.5
	H	467.5	470
	I	470	472.5
	J	472.5	475

※ 波長誤差值±0.5nm

Iv (IF=20mA)			
BIN		**MIN**	**MAX**
Red	I	80	100
	J	100	125
	K	125	160
	L	160	200
Green	M	200	250
	N	250	320
	O	320	400
	P	400	500
	Q	500	630
Blue	F	40	50
	G	50	63
	H	63	80
	I	80	100
	J	100	125

※IV 誤差值±15%

BIN.別標示如下：

RODAN (TAIWAN) LED.

TYPE	
LOT. NO.	
QUANTITY	
DATE	
NOTE	Red : IV___ VF___ λ d ___ Green : IV___ VF___ λ d ___ Blue : IV___ VF___ λ d ___

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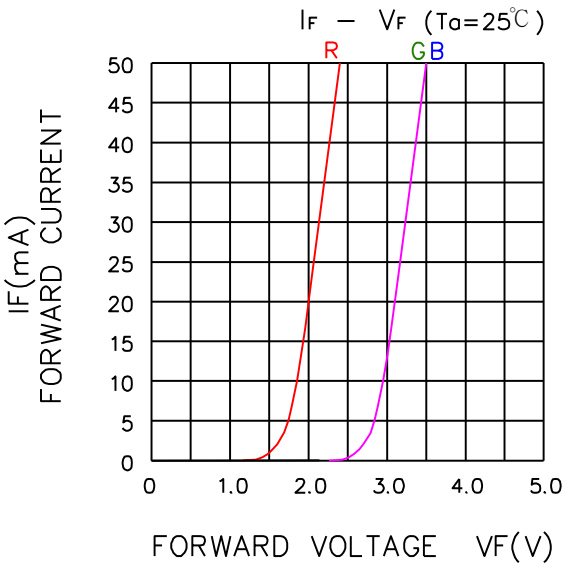
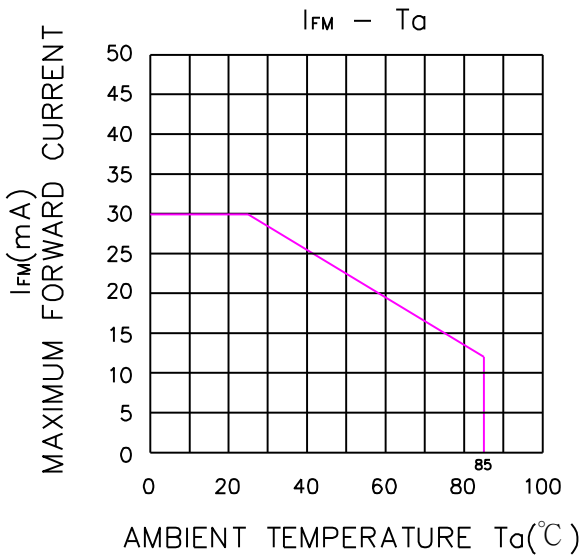
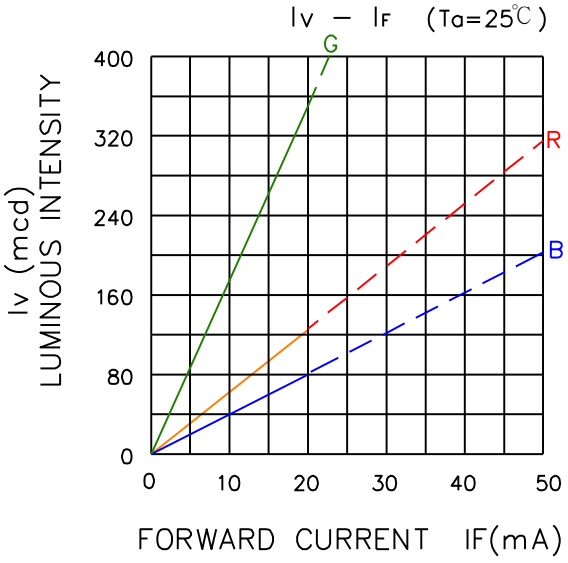
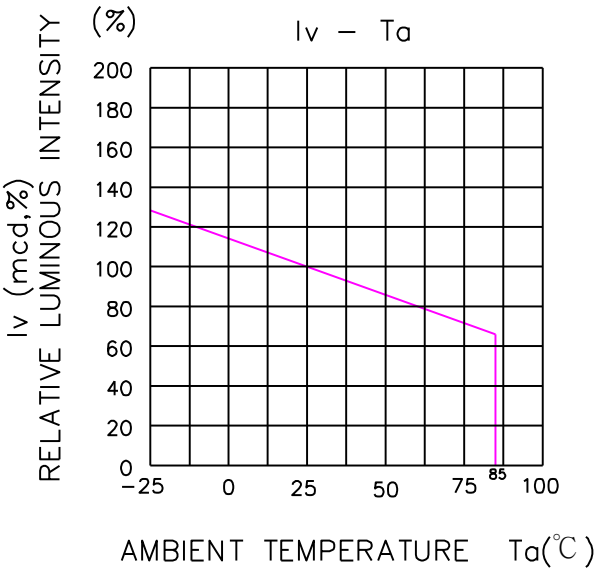
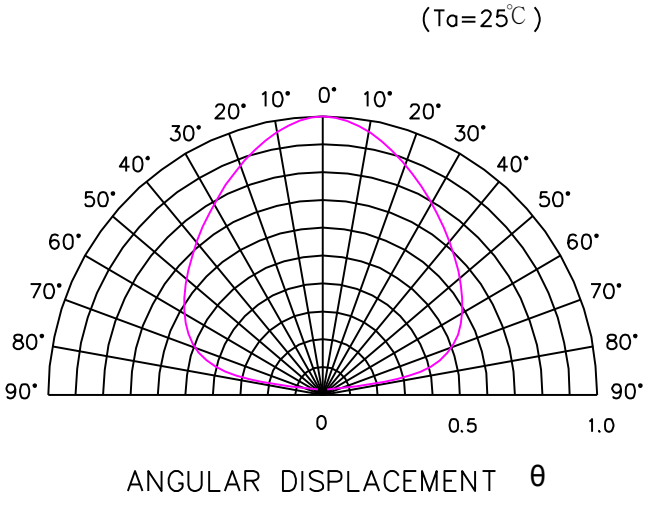
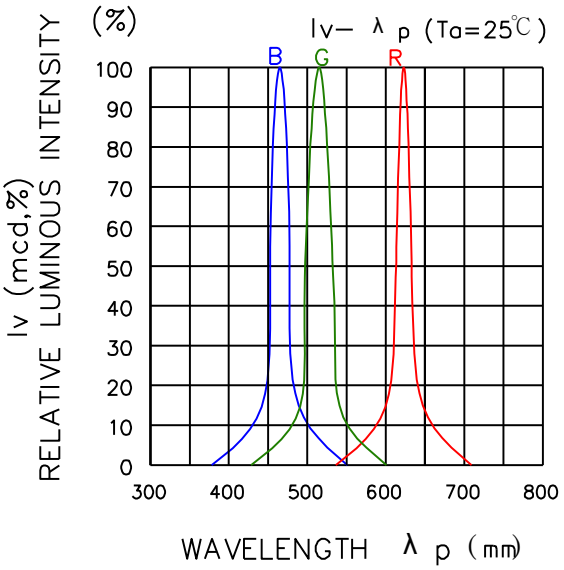












Soldering Profile

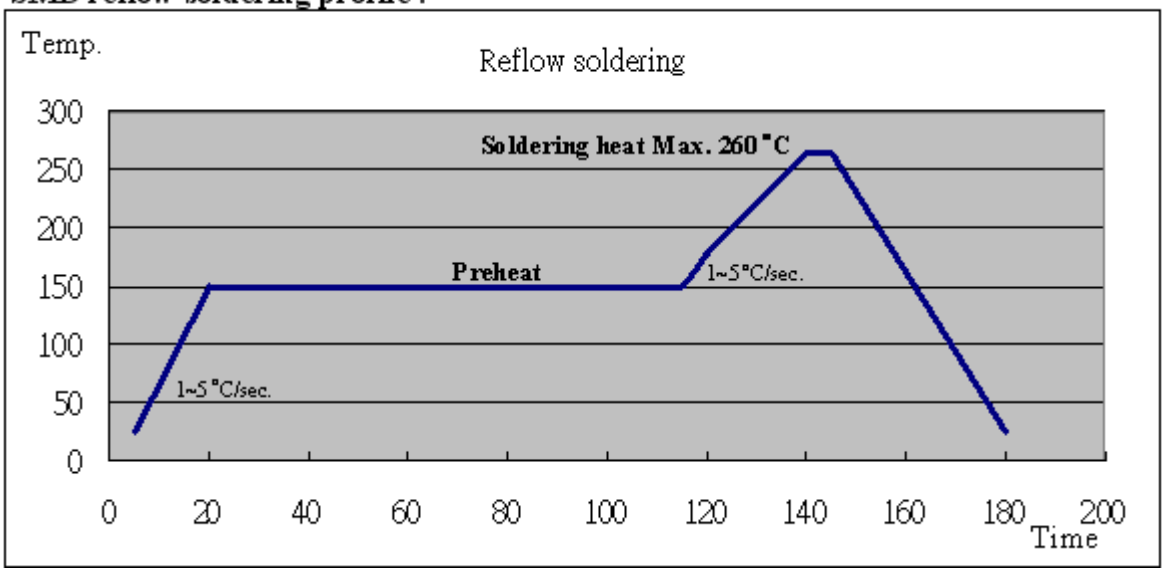
Compliant with the following condition :

(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 ℃ 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 ℃ MAX , 60 sec MAX. 2.Bath temp : 260 ℃ 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 ℃ MAX (30W MAX). 2.Soldering time : 3 sec MAX.
DIP soldering	1.Preheat temp. : 120-150 ℃ , 60-120 sec. 2.Bath temp. : 260 ℃ MAX. 3.Bath time : 5 sec
Reflow soldering	1.Preheat temp. : 150-180 ℃ , 120 sec MAX. 2.Peak temp. : 260 ℃ MAX. 3.Peak time : 10 sec MAX.

SMD reflow 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) ~85℃(5min)	20 Cycles	Open / Shot	0 / 1	60 pcs
3	High Temp. Storage	85℃	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℃~80℃	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=20mA	1000Hrs	Power decay	≦30%	60 pcs