



RODAN(TAIWAN)LTD.

1.ELEMENT APPEARANCE

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DATE : 2020.07.15

Model No.	Material	Lighting Color	Resin Color
RT-4014WERT-SZ-H	InGaN	White	Water Clear

2.ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

Characteristic	Symbol	Rating	Unit
Forward direct current	IFM	120	mA
Reverse voltage	VRM	5	V
Operating temperature	Topr	-30 to +85	°C
Storage temperature	Tstg	-40 to +100	°C
Power dissipation	Pd	0.5	W
Electrostatic Discharge	ESD	(HBM) 5K	V

3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous intensity	Iv	IF= 120mA	38		48	lm
Forward voltage	VF	IF= 120 mA	2.7	3.0	3.3	V
Reverse current	IR	VR=5V			2	μ A
Viewing angle	2θ 1/2	IF=120 mA		120		deg.
Chromaticity coordinate	X	IF= 120 mA		0.2975		
	Y			0.2900		

※Radiant Intensity Measurement allowance is ±15 %

※Forward voltage Measurement allowance is ±0.05V

※Peak emission wavelength Measurement allowance is ±0.5nm

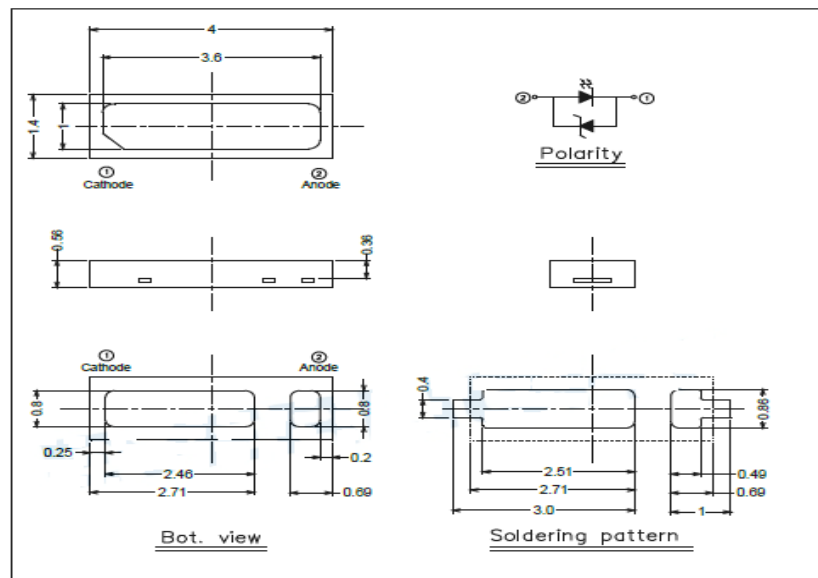
4.DIMENSIONS UNIT : m/m

SIGN : 1.CATHODE 2.ANODE

Tolerance is ±0.2mm unless otherwise specified.



Package Dimension





5. BIN

IV Rank	Luminous Intensity (lm), If =120 mA	
	min	max
NFC	34	36
NFD	36	38
NFE	38	40
NFF	40	42
NFG	42	44
NFH	44	46
NFI	46	48
NFJ	48	50

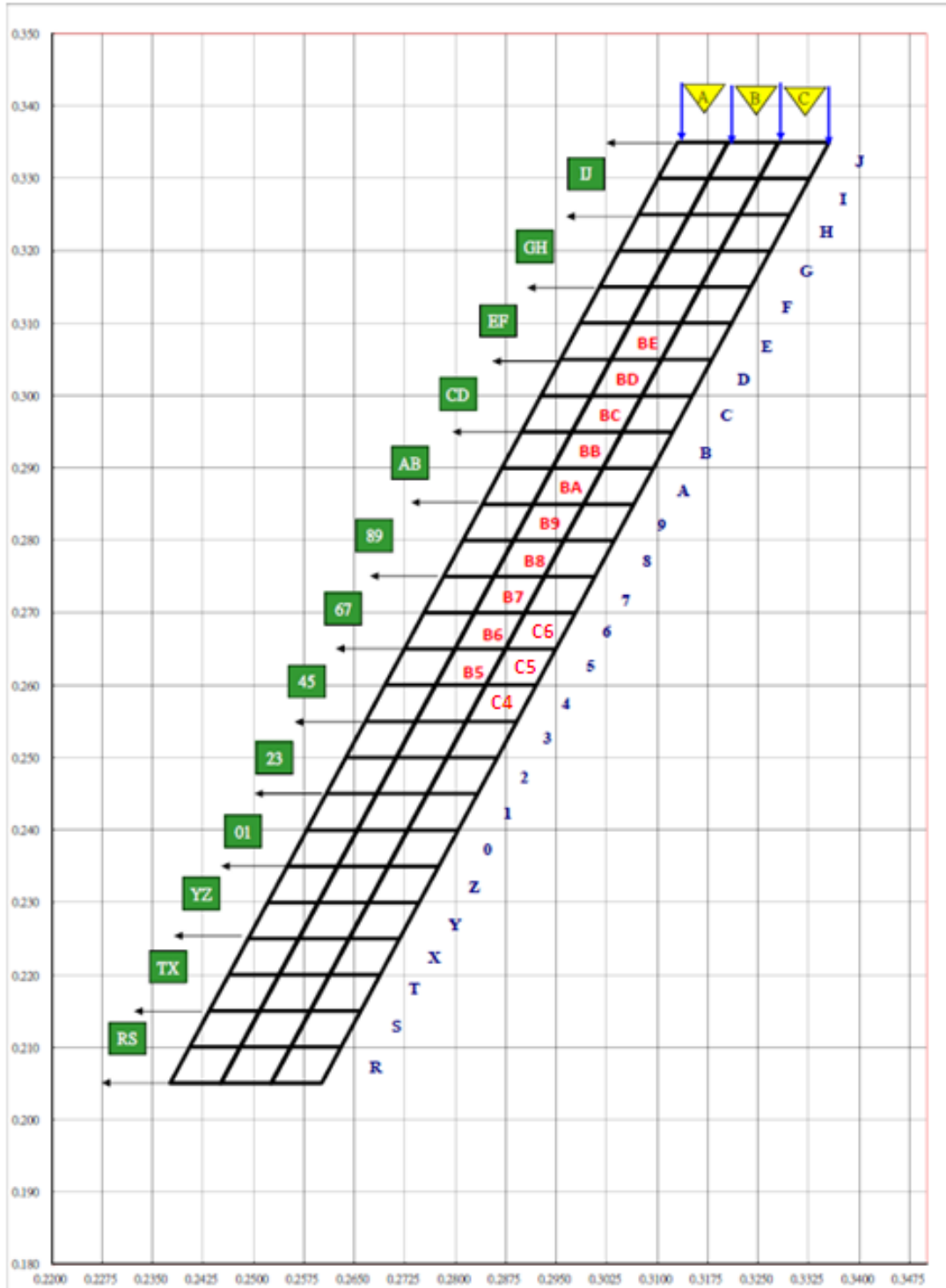
VF (IF=120mA)		
BIN	MIN	MAX
B	2.7	2.8
A	2.8	2.9
0	2.9	3.0
1	3.0	3.1
2	3.1	3.2
3	3.2	3.3
4	3.3	3.4

※亮度誤差值±15 %

※ VF 誤差值±0.05V

6. CIE:

C.I.E Coordinate Comparison





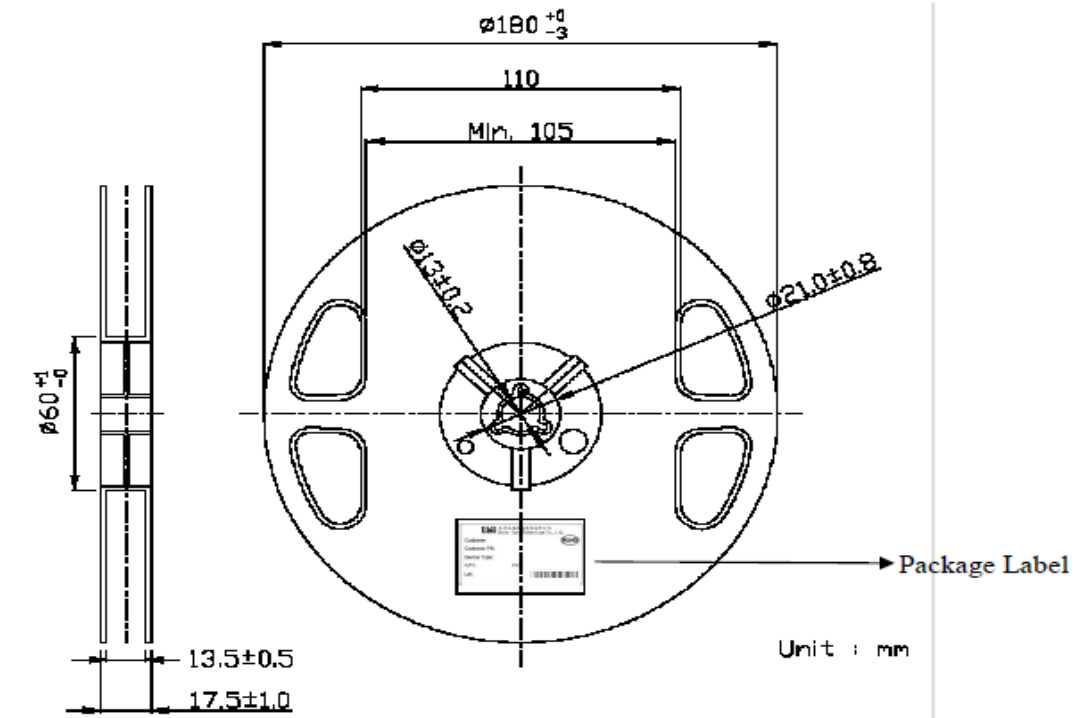
Bin Range of Color Coordinate

Condition @ IF=120mA								
Bin Code	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
BR	0.2451	0.2050	0.2480	0.2100	0.2555	0.2100	0.2526	0.2050
BS	0.2480	0.2100	0.2509	0.2150	0.2584	0.2150	0.2555	0.2100
BT	0.2509	0.2150	0.2538	0.2200	0.2613	0.2200	0.2584	0.2150
BX	0.2538	0.2200	0.2567	0.2250	0.2642	0.2250	0.2613	0.2200
BY	0.2567	0.2250	0.2596	0.2300	0.2671	0.2300	0.2642	0.2250
BZ	0.2596	0.2300	0.2625	0.2350	0.2700	0.2350	0.2671	0.2300
B0	0.2625	0.2350	0.2654	0.2400	0.2729	0.2400	0.2700	0.2350
B1	0.2654	0.2400	0.2683	0.2450	0.2758	0.2450	0.2729	0.2400
B2	0.2683	0.2450	0.2712	0.2500	0.2787	0.2500	0.2758	0.2450
B3	0.2712	0.2500	0.2741	0.2550	0.2816	0.2550	0.2787	0.2500
B4	0.2741	0.2550	0.2770	0.2600	0.2845	0.2600	0.2816	0.2550
B5	0.2770	0.2600	0.2799	0.2650	0.2874	0.2650	0.2845	0.2600
B6	0.2799	0.2650	0.2828	0.2700	0.2903	0.2700	0.2874	0.2650
B7	0.2828	0.2700	0.2857	0.2750	0.2932	0.2750	0.2903	0.2700
B8	0.2857	0.2750	0.2886	0.2800	0.2961	0.2800	0.2932	0.2750
B9	0.2886	0.2800	0.2915	0.2850	0.2990	0.2850	0.2961	0.2800
BA	0.2915	0.2850	0.2944	0.2900	0.3019	0.2900	0.2990	0.2850
BB	0.2944	0.2900	0.2973	0.2950	0.3048	0.2950	0.3019	0.2900
BC	0.2973	0.2950	0.3002	0.3000	0.3077	0.3000	0.3048	0.2950
BD	0.3002	0.3000	0.3031	0.3050	0.3106	0.3050	0.3077	0.3000
BE	0.3031	0.3050	0.3060	0.3100	0.3135	0.3100	0.3106	0.3050
BF	0.3060	0.3100	0.3089	0.3150	0.3164	0.3150	0.3135	0.3100
BG	0.3089	0.3150	0.3118	0.3200	0.3193	0.3200	0.3164	0.3150
BH	0.3118	0.3200	0.3147	0.3250	0.3222	0.3250		0.3200
BI	0.3147	0.3250	0.3176	0.3300	0.3251	0.3300	0.3222	0.3250
BJ	0.3176	0.3300	0.3205	0.3350	0.3280	0.3350	0.3251	0.3300
BR5	0.2451	0.2050	0.2509	0.2150	0.2584	0.2150	0.2526	0.2050
BTX	0.2509	0.2150	0.2567	0.2250	0.2642	0.2250	0.2584	0.2150
BYZ	0.2567	0.2250	0.2625	0.2350	0.2700	0.2350	0.2642	0.2250
B01	0.2625	0.2350	0.2683	0.2450	0.2758	0.2450	0.2700	0.2350
B23	0.2683	0.2450	0.2741	0.2550	0.2816	0.2550	0.2758	0.2450
B45	0.2741	0.2550	0.2799	0.2650	0.2874	0.2650	0.2816	0.2550
B67	0.2799	0.2650	0.2857	0.2750	0.2932	0.2750	0.2874	0.2650
B89	0.2857	0.2750	0.2915	0.2850	0.2990	0.2850	0.2932	0.2750
BAB	0.2915	0.2850	0.2973	0.2950	0.3048	0.2950	0.2990	0.2850
BCD	0.2973	0.2950	0.3031	0.3050	0.3106	0.3050	0.3048	0.2950
BEF	0.3031	0.3050	0.3089	0.3150	0.3164	0.3150	0.3106	0.3050
BGH	0.3089	0.3150	0.3147	0.3250	0.3222	0.3250	0.3164	0.3150
BIJ	0.3147	0.3250	0.3205	0.3350	0.3280	0.3350	0.3222	0.3250
B#	0.2451	0.2050	0.3205	0.3350	0.3280	0.3350	0.2526	0.2050
B#0	0.2451	0.2050	0.2857	0.2750	0.2932	0.2750	0.2526	0.2050
B#9	0.2799	0.2650	0.3205	0.3350	0.3280	0.3350	0.2874	0.2650

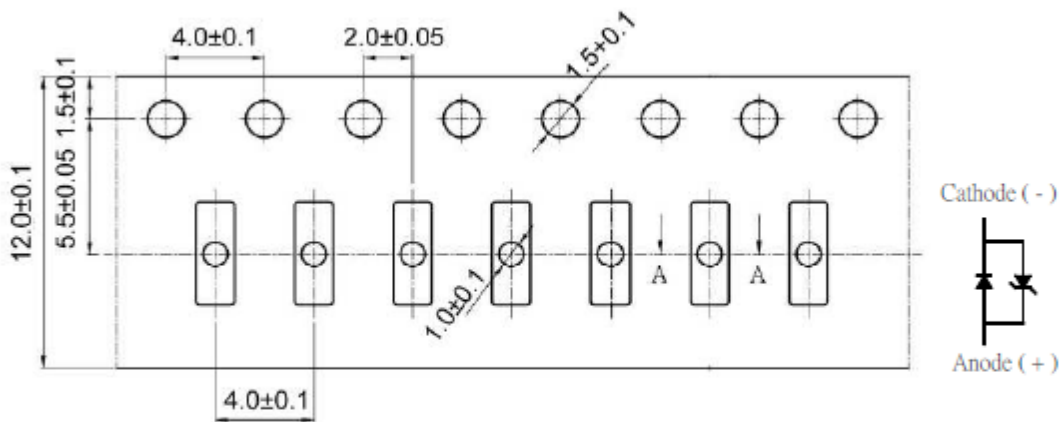


7. Reel Dimensions:

Reel Dimensions



Method of Taping / Polarity and Orientation : Taping unit 2000 pieces / reel



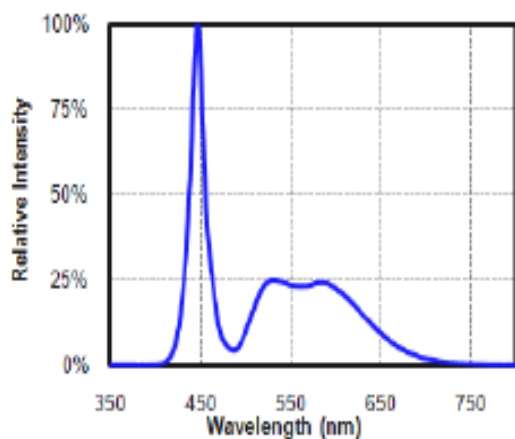
Notes :

1. All dimensions are in millimeters.
2. Tolerance is ± 0.20 mm unless otherwise noted.

Typical Electro-Optical-Thermal Characteristics Curves

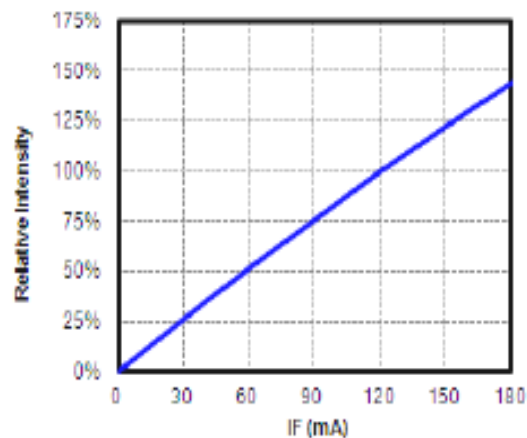
1. Spectrum Distribution

($T_A=25^\circ\text{C}$, $I_F=120\text{mA}$)



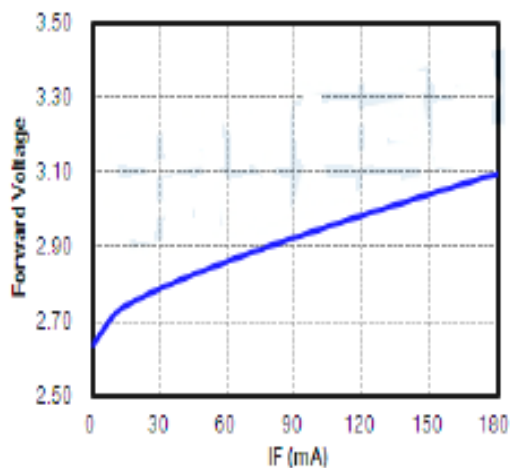
2. Relative Luminous Flux vs. Forward Current

($T_A=25^\circ\text{C}$)



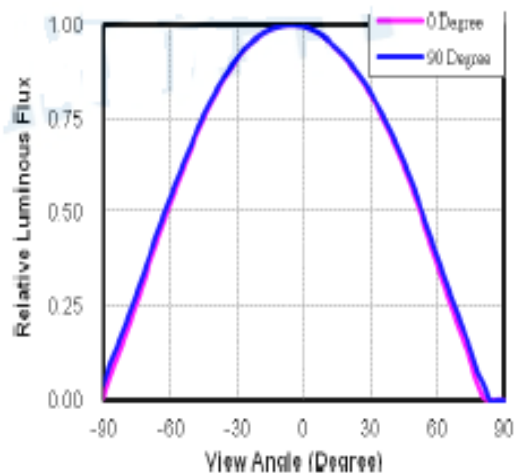
3. Relative Forward Voltage vs. Forward Current

($T_A=25^\circ\text{C}$)



4. Radiation Diagram

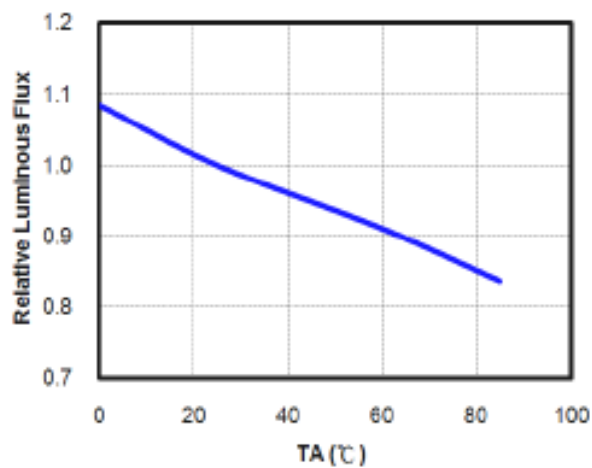
($T_A=25^\circ\text{C}$, $I_F=120\text{mA}$)



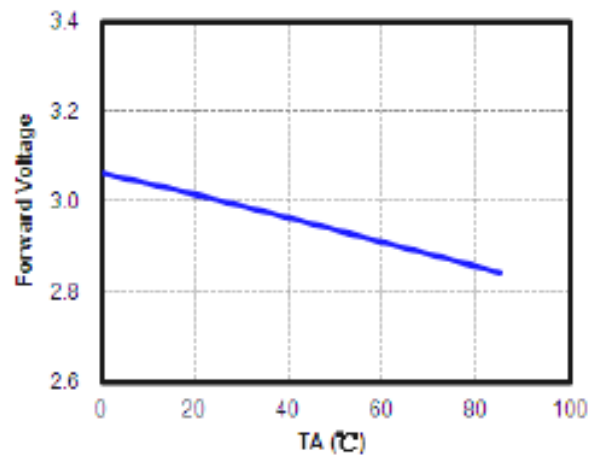


Typical Electro-Optical-Thermal Characteristics Curves

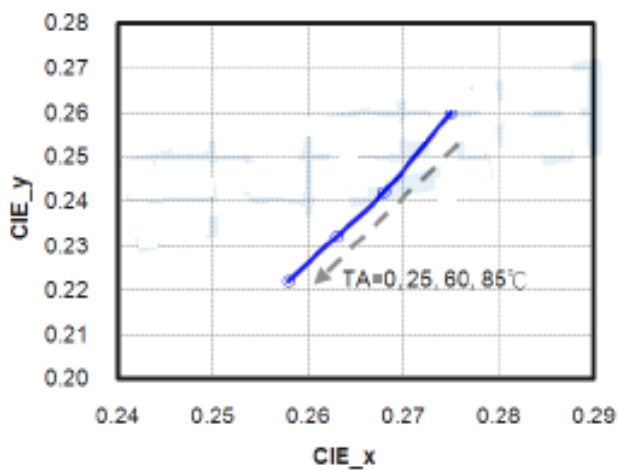
5. Relative Luminous Flux vs. Ambient Temperature
($I_f=120\text{mA}$)



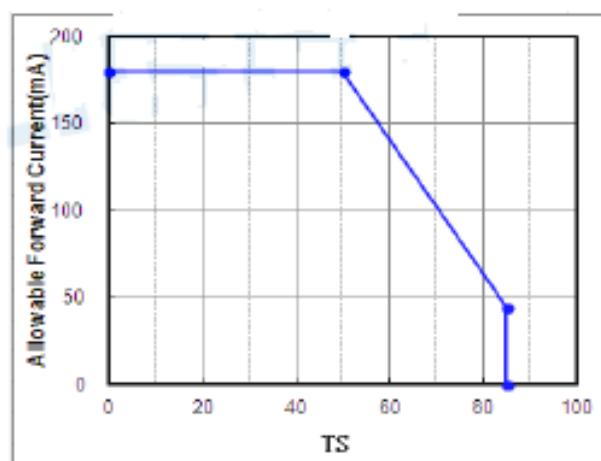
6. Forward Voltage vs. Ambient Temperature
($I_f=120\text{mA}$)



7. Chromaticity Coordinates vs. Ambient Temperature
($I_f=120\text{mA}$)



8. Forward Current De-rating Curve





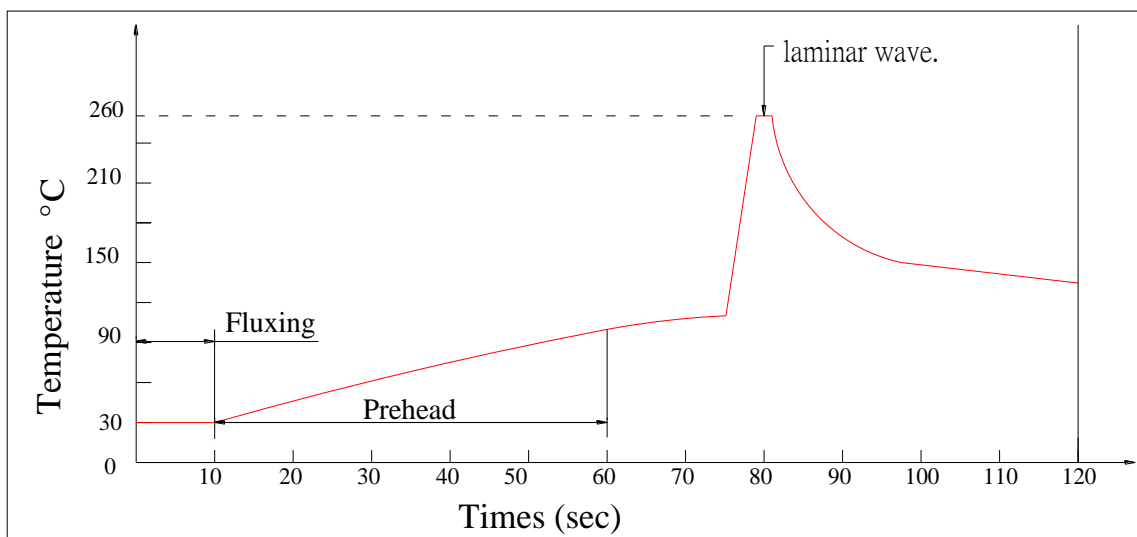
Soldering Profile

Compliant with the following condition :

(1) Leaded quantity of product below 100 ppm

(2) Lead-free process

Shape	Lead Frame 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 : 3 sec max. 4.Distance : 3 mm min (From solder joint to case)
Recommended soldering profile	1.Preheat temp. : 100 °C , 50 sec max. 2.Peak temp. : 260 °C max. 3.Peak time : 3 sec max. 4.Duration above: 200°C , 3 sec max.



SMD Type		
Profile Feature	Solder : Lead-Free	Solder : Low Lead-Free
Preheat temp	150-180 °C , 4°C/sec max. 120 sec max.	130-170 °C , 4°C/sec max. 120 sec max.
Peak temp	245 °C max. , 5 sec max.	213 °C max. , 25 sec max.
Duration above	217 °C , 60 sec max.	200 °C , 40 sec max.

