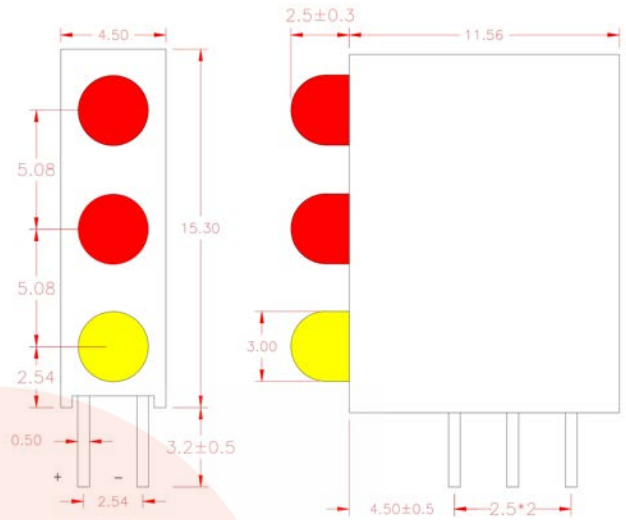
● Features:

1. Chip material: Gap/Gap (Red)
   and GaAsP/GaP (Yellow)
2. Emitted color :Red and Yellow
3. Lens Appearance : Red Diffused
   and Yellow Diffused
4. Designed for ease in circuit board assembly.
5. Black case enhance contrast ratio.
6. Solid state light source.
7. Reliable and rugged.
8. 3mm diameter package
9. This product don't contained restriction substance, compliance ROHS standard.

●Package dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (0.01") unless otherwise specified.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

● Applications:

1. TV set
2. Monitor
3. Telephone
4. Computer
5. Circuit board

● Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Red	Yellow	Unit
Power Dissipation	Pd	80	80	mW
Forward Current	I_F	30	30	mA
Peak Forward Current*[1]	I_{FP}	150	150	mA
Reverse Voltage	V_R	5		V
Operating Temperature	Topr	-40℃~+85℃		
Storage Temperature	Tstg	-40℃~+100℃		
Soldering Temperature	Tsol	260℃(for 5 seconds)		

*[1]Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width.

● Electrical and optical characteristics(Ta=25℃)

Parameter	Symbol	Condition	Color	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F=20mA	Red Yellow	1.8 1.8	- -	2.4 2.4	V
Luminous Intensity	Iv	I_F=20mA	Red Yellow	1 20	- -	10 80	mcd
Reverse Current	I_R	V_R=5V	Red Yellow	-	-	10	μA
Peak Wave Length	λ p	I_F=20mA	Red Yellow	-	700 590	-	nm
Dominant Wave Length	λ d	I_F=20mA	Red Yellow	630 585	- -	650 595	nm
Spectral Line Half-width	Δ λ	I_F=20mA	Red Yellow	-	35 30	-	nm
Viewing Angle	$2\theta_{1/2}$	I_F=20mA	Red Yellow	- -	50 40	- -	deg

● Typical Electro-Optical Characteristics curves

H

Fig.1 Relative intensity vs. Wavelength

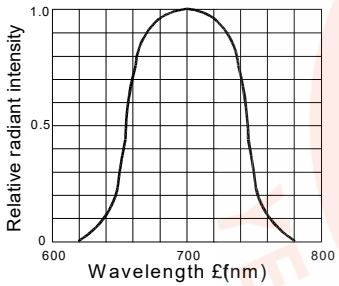


Fig.2 Forward current derating curve vs. Ambient temperature

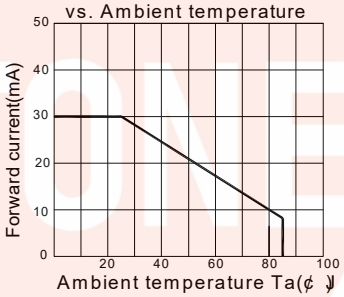


Fig.3 Forward current vs. Forward voltage

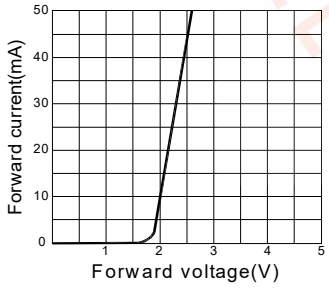


Fig.4 Relative luminous intensity vs. Ambient temperature

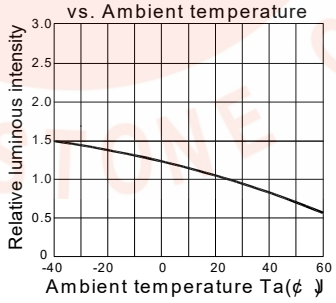


Fig.5 Relative luminous intensity vs. Forward current

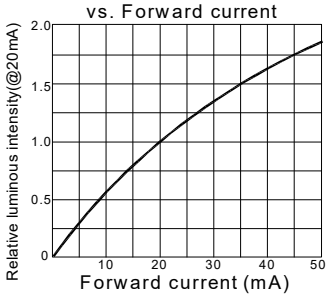


Fig.6 Radiation diagram

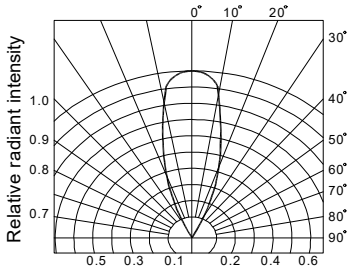


Fig.1 Relative intensity vs. Wavelength

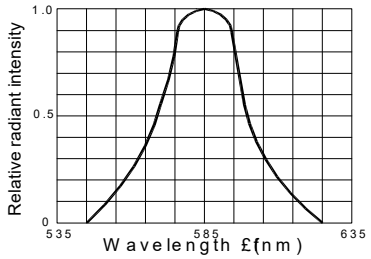


Fig.2 Forward current derating curve vs. Ambient temperature

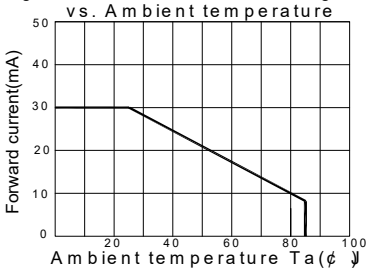


Fig.3 Forward current vs. Forward voltage

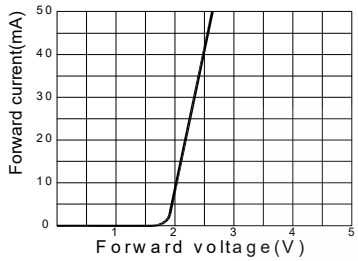


Fig.4 Relative luminous intensity vs. Ambient temperature

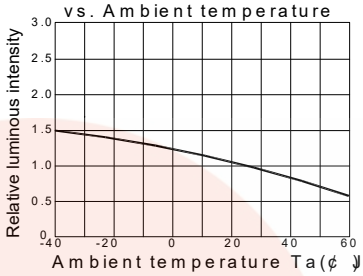


Fig.5 Relative luminous intensity vs. Forward current

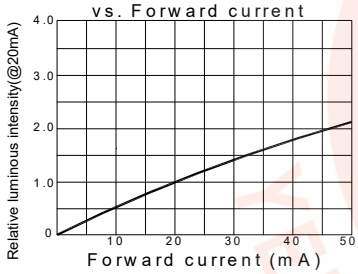
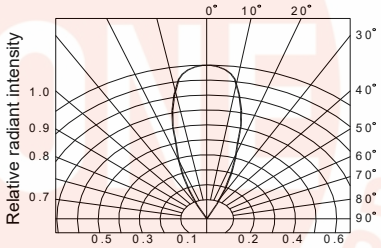
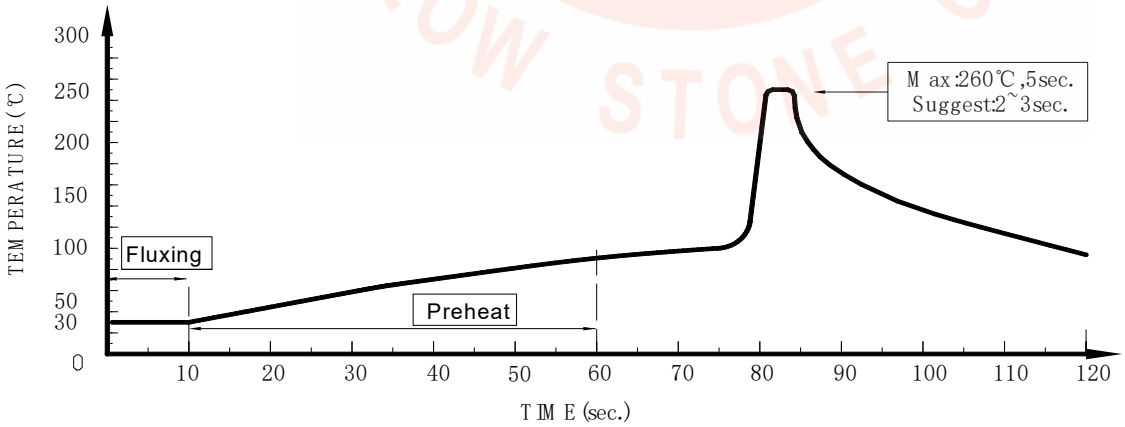


Fig.6 Radiation diagram

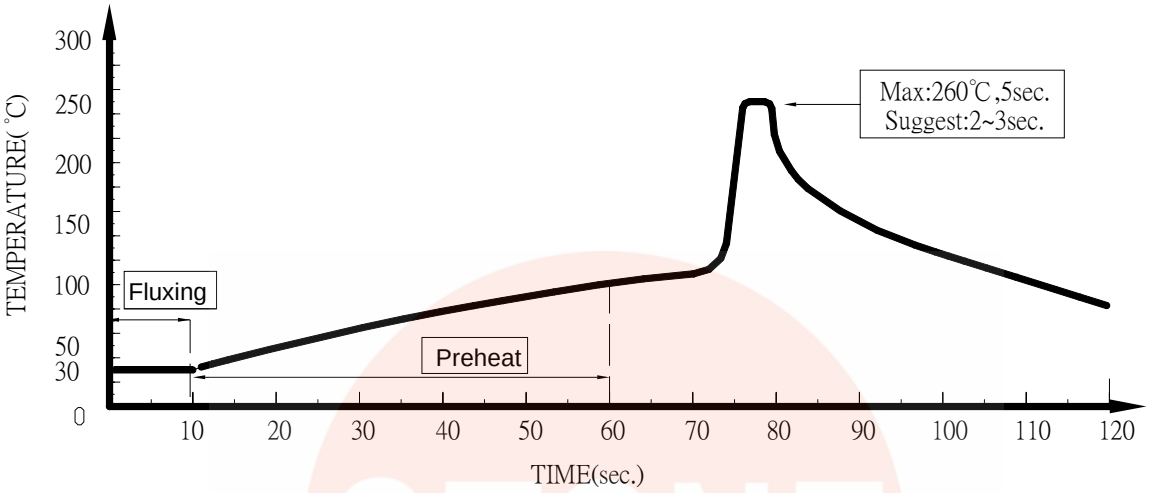


● Dip Soldering



1. Please avoid any external stress applied to the lead-frames and epoxy while the LEDs are at high temperature,especially during soldering
2. DIP soldering and hand soldering should not be done more than one time.
3. After soldering, avoid the epoxy lens from mechanical shock or vibration until the LEDs are back to room temerature.
4. Avoid rapid cooling during temperature ramp-down process
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs

● Dip Soldering



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4. Avoid rapid cooling during temperature ramp-down process
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs

● IRON Soldering

A : Max : 350℃ Within 3 sec. One time only.

B : For 3mm LED without flange, if the LED epoxy lays flat on the PCB, the welding condition is 350℃ within 2 seconds, one time only.