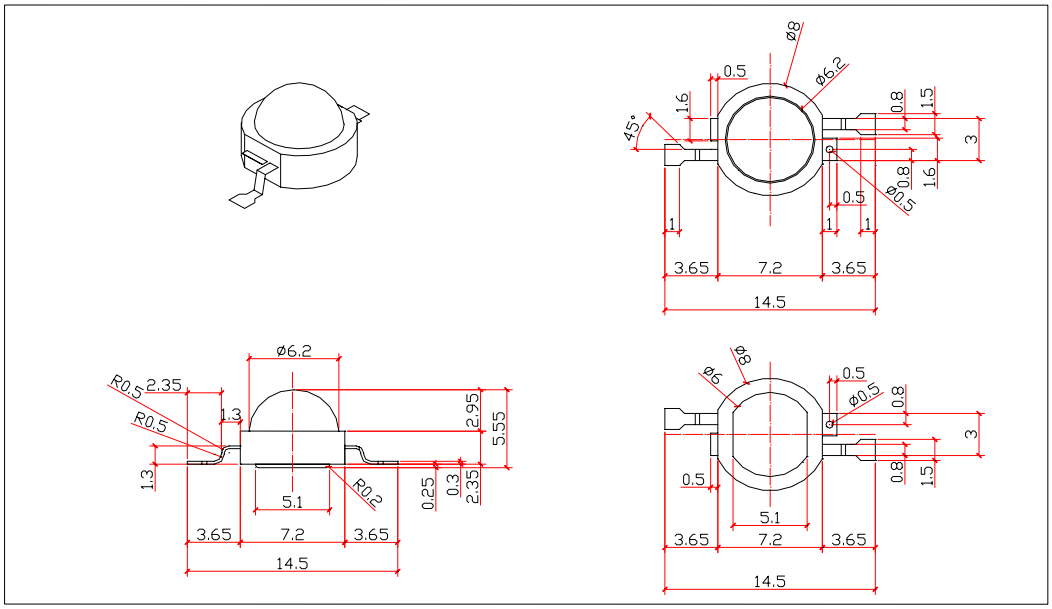
YETDA INDUSTRY LTD.

5W HIGH POWER LED (EMITTER V)
R081E-5W

Features	Applications
* Long operating life	* Reading lights (car, bus, aircraft)
* Highest flux	* LCD Backlights/light Guides
* Available in White:2500K-25000K	* Fiber optic alternative/ Decorative Entertainment
* Lambertian radiation pattern	* Mini-accent/Up lighters/Down lighters/ Orientation
* More energy efficient than incandescent and most halogen lamps	* Indoor/Outdoor commercial and Residential Architectural
* Low voltage DC operated	* Cove/Under shelf/Task
* Cool beam, safe to the touch	* Bollards/Security/Garden
* Instant light (less than 100ns)	* Portable (flashlight, bicycle)
* Fully dimmable	* Edge-lit signs (Exit, point of sale)
* No UV	* Automotive Exit (Stop-Tail-Turn,CHMSL, Mirror Side Repeat)
* Superior ESD protection	* Traffic signaling / Beacons / RailCrossing and Wayside
* Eutectic die bonding	
* RoHS compliant	

PACKAGE



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Typical Optical/ Electrical Characteristics @TJ=25℃

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=700mA	4.0		6.0	V
Reverse Current	IR	VR=5v			50	uA
50% Power Angle	2θ1/2	IF=700mA		120		deg
Luminous Intensity	φV	IF=700mA		90	120	lm
Recommend Forward Current	IF	--		700		mA
Wavelength	λd	IF=700mA		625		k
Thermal Resistance, Junction to Case	RJP	IF=700mA		10		℃/w

Notes:

1. Tolerance of measurement of forward voltage±0.1V.
2. Tolerance of measurement of peak Wavelength±2.0nm.
3. Tolerance of measurement of luminous intensity±15%.

Absolute Maximum Rating

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	I_F	700	mA
Peak Forward Current*	I_{FP}	1200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	5000	mW
Electrostatic discharge	E_{SD}	±4500	V
Operation Temperature	T_{OPR}	-40~+80	℃
Storage Temperature	T_{STG}	-40~+100	℃
Lead Soldering Temperature*	T_{SOL}	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

* All high power emitter LED products mounted on aluminum metal-core printed circuit board, can be lighted directly, but we do not recommend lighting the high power products for more than 5 seconds without a appropriate heat dissipation equipment.
* Re-flow, wave peak and soak- stannum soldering etc.is not suitable for this products.
* Suggest to solder it by professional high power LED soldering machine.
* Can use invariable-temperature searing-iron with soldering condition:≤260 degree less than 3 seconds.

Typical Optical/Electrical Characteristics Curves

(TJ=25℃ Unless Otherwise Noted)

Fig 1. Relative Luminous FLux vs. Forward Current

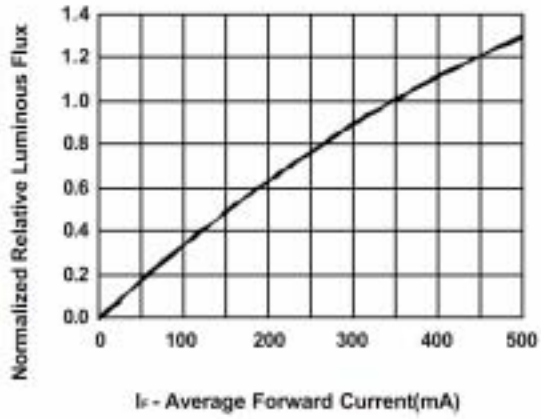


Fig 2. Forward Current vs. Forward Voltage

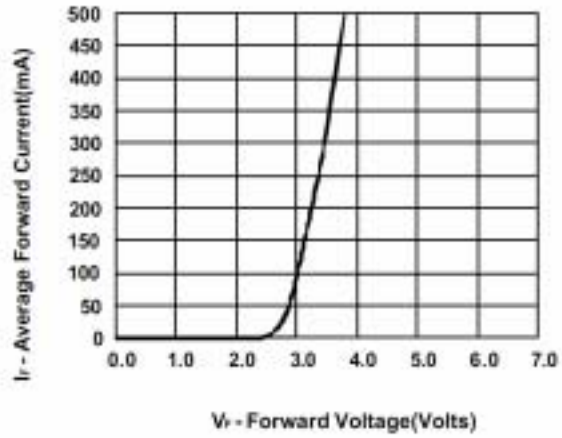


Fig 3. Maximum Forward Current vs. Ambient Temperature. Derating based on T_{JMAX}=120℃

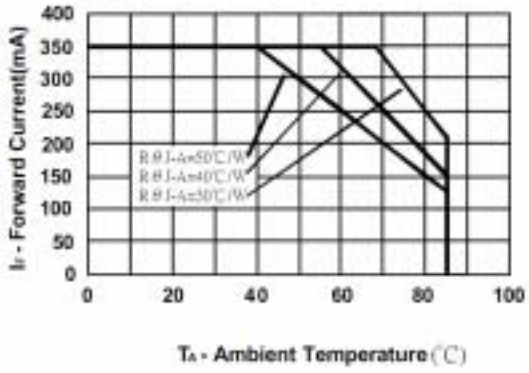


Fig 4. Relative Light Output vs. Junction Temperature

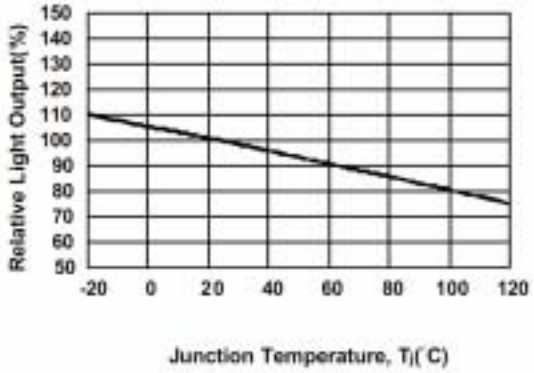


Fig 5. Relative Spectral Power Distribution vs. Wavelength

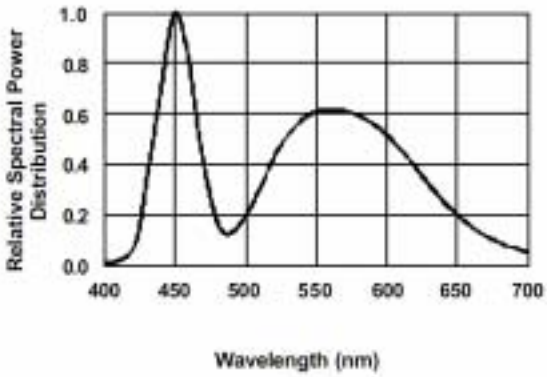
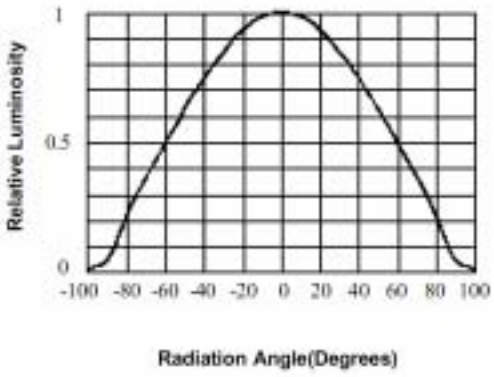
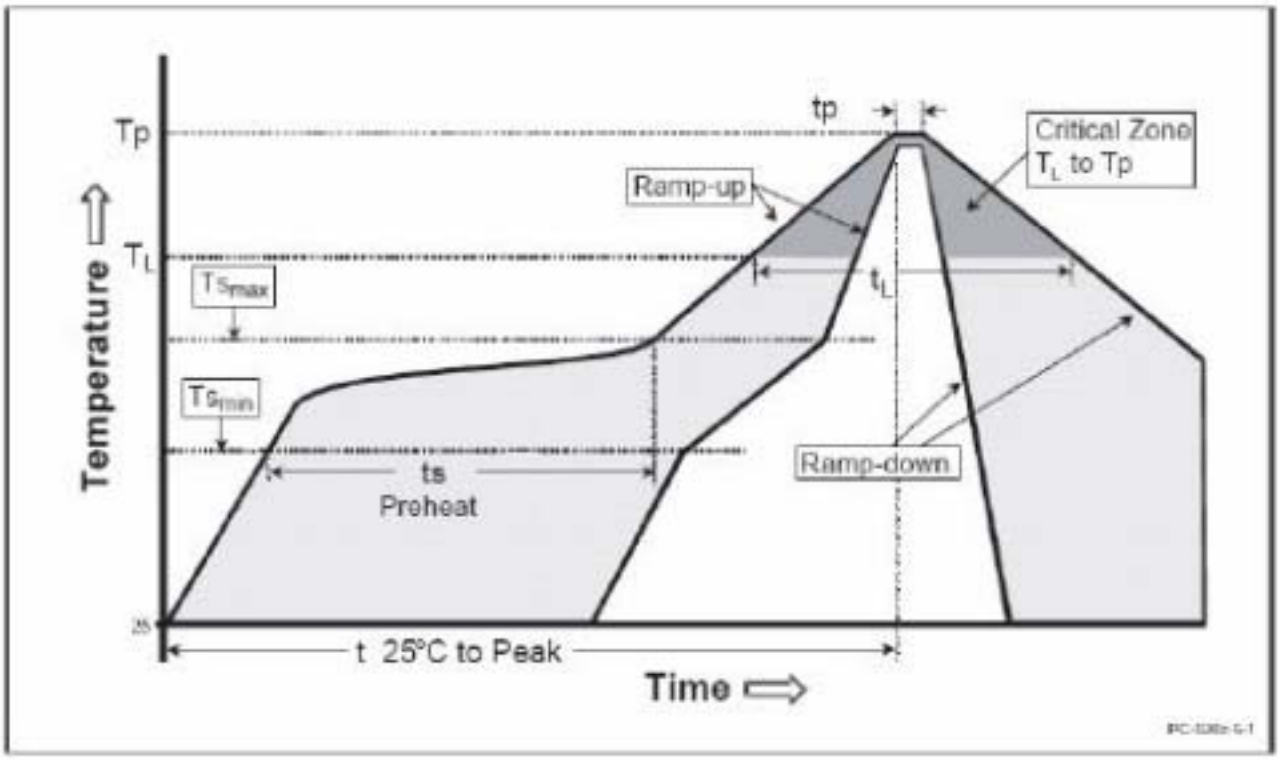


Fig 6. Relative Luminosity vs. Radiation Angle



Reflow Soldering Characteristics



Profile Feature	Pb-Free Assembly
Preheat – Temperature Min (Tsmin) – Temperature Max (Tsmax) – Time (tsmin to tsmax)	 60-180 seconds 150 °C 200 °C
– Temperature (TL) – Time (tL) Time maintained above:	 60-150 seconds 217 °C
Peak/Classification Temperature (Tp)	260 °C
Time within 5 °C of actual Peak Temperature (tp)	20-40 seconds
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

Notes

1. All temperatures refer to Solder Pad