



XIAMEN G&P ELECTRONICS CO., LTD.

SPECIFICATION FOR GoPro CHIP LED

Part No.: GPTS06033W-L3E(GPTS06033KW-L3E)

REV:1.2

RECEIVED
☒ MASS PRODUCTION
☐ PRELIMINARY
☐ CUSTOMER DESIGN
DEVICE NUMBER :
PAGE:
CUSTOMER'S APPROVAL

Designed By	Checked By	Approved By
颜瑞虾	蔡智强	张承宗
2016-12-30	2016-12-30	2016-12-30



www.gpelec.com

Tel: 86-592-5743660 Fax: 86-592-5621415

COMPONENT SPEC VERSION RECORD

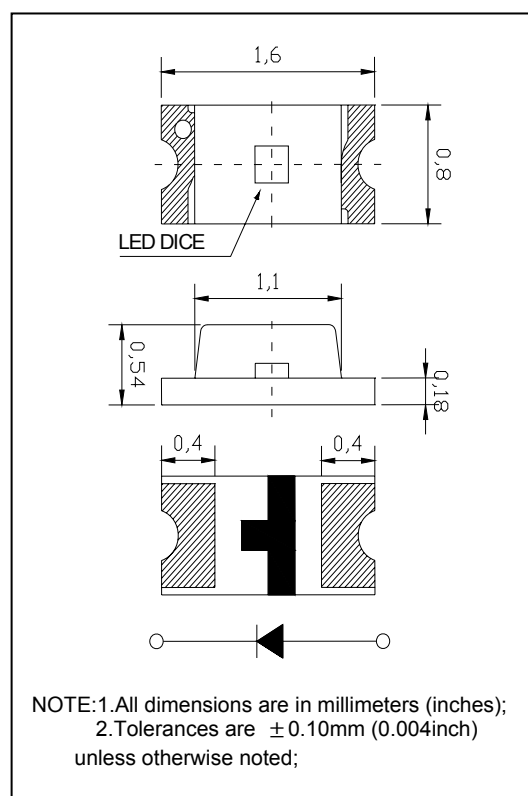
[illegible]

● Features:

1. Chip material: InGaN
2. Emitted color: white
3. Resin Color: yellow diff
4. Low power consumption.
5. High efficiency.
6. Compatible with infrared and vapor phase reflow solder process.
7. Low current requirement.
8. Tape/4000pcs.
9. This product don't contained restriction substance, compliance RoHS standard.

● Applications:

1. TV set
2. Monitor
3. Mobile telephone
4. Computer
5. Circuit board
6. BackLight

● Package dimensions:**● Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	100	mW
Forward Current	I _F	25	mA
Peak Forward Current* ₁	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40~+85	°C
Storage Temperature	T _{stg}	-40~+90	°C
Soldering Temperature	T _{sol}	260 (for 10±1s)	°C

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

● Electrical and Optical Characteristics(Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=5\text{mA}$	2.80	2.90	3.00	V
Luminous Intensity	I_v	$I_F=5\text{mA}$	110.0	-	150.0	mcd
Reverse Current	I_R	$V_R=5\text{V}$	0.0	0.0	10.0	μA
CIE Value (X,Y)	--	$I_F=5\text{mA}$	-	(0.27,0.27)	-	--
Viewing Angle	2 θ 1/2	$I_F=5\text{mA}$	-	130	-	deg

Note:

- 1.Tolerance of Luminous Intensity: $\pm 11\%$
- 2.Tolerance of Forward Voltage: $\pm 0.05\text{V}$
- 3.Tolerance of Dominant Wavelength: $\pm 1\text{nm}$

● Typical Electro-Optical Characteristics Curves

Fig.1 Relative intensity vs. Wavelength

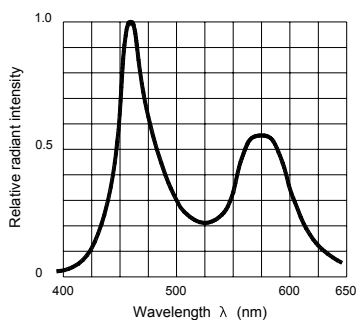


Fig.2 Forward current derating curve vs. Ambient temperature

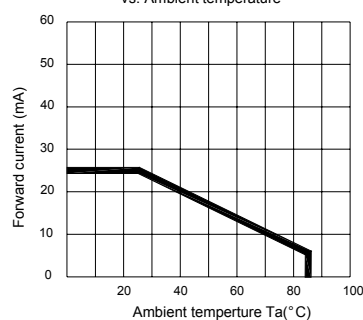


Fig.3 Forward current vs. Forward voltage

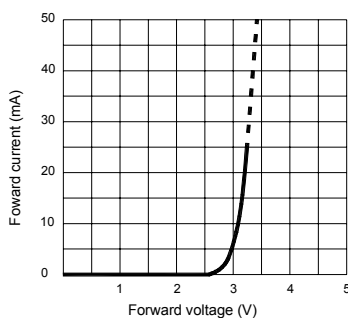


Fig.4 Relative luminous intensity vs. Ambient temperature

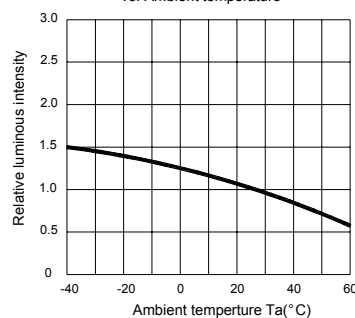


Fig.5 Relative luminous intensity vs. Forward current

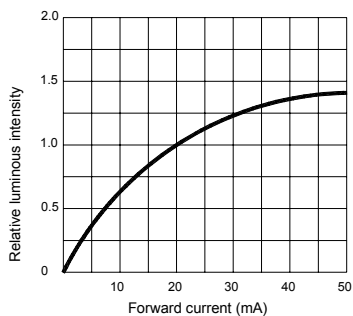
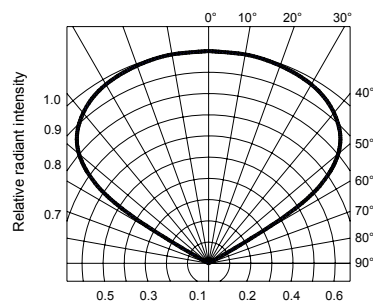
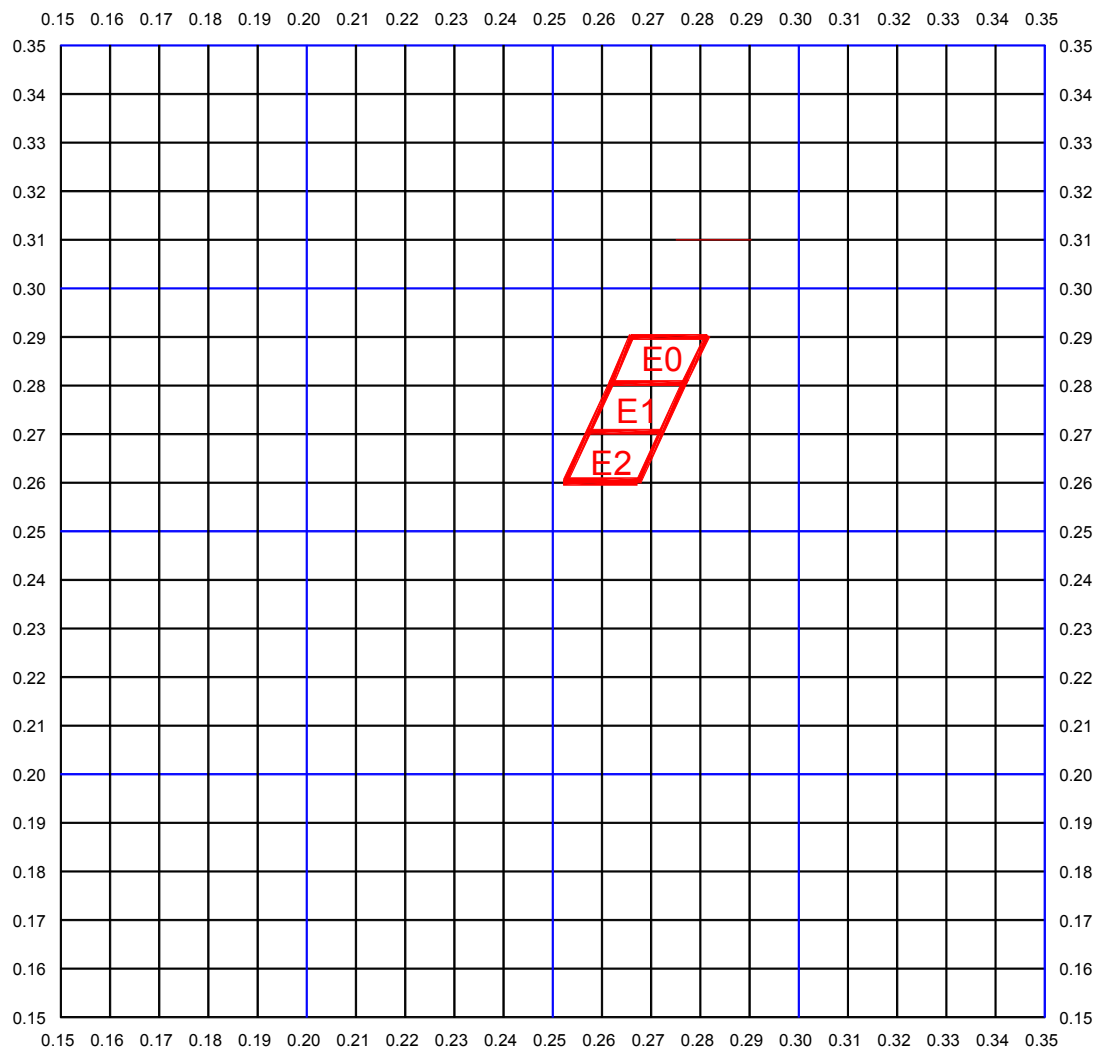


Fig.6 Radiation diagram



● CIE Chromaticity Diagram:



● **Bin Limits**

1. Intensity Bin Limits (At $I_F = 5\text{mA}$)

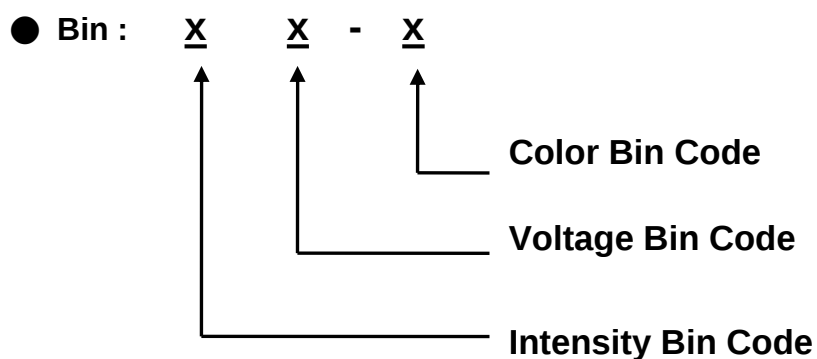
Bin Code	Min. (mcd)	Max. (mcd)
M	110.0	150.0

2. Voltage Bin Limits (At $I_F = 5\text{mA}$)

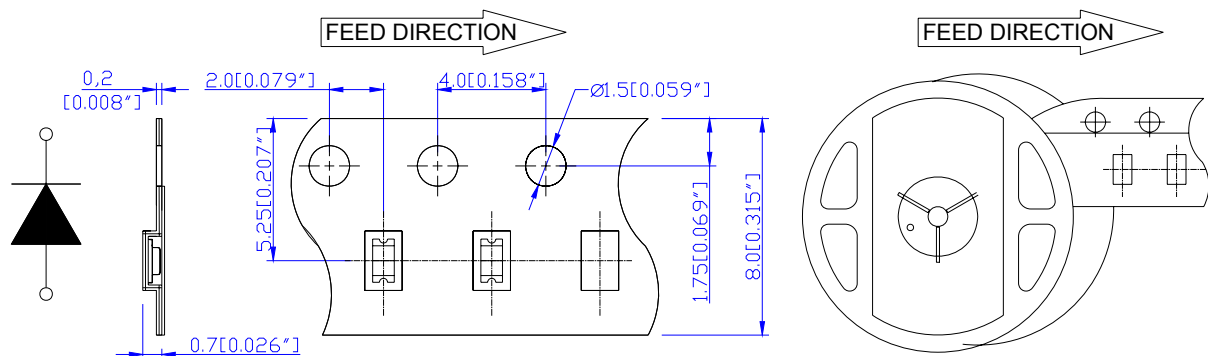
Bin Code	Min. (V)	Max. (V)
2	2.80	2.90
2	2.90	3.00

3. CIE Bin Limits (At $I_F = 5\text{mA}$) :

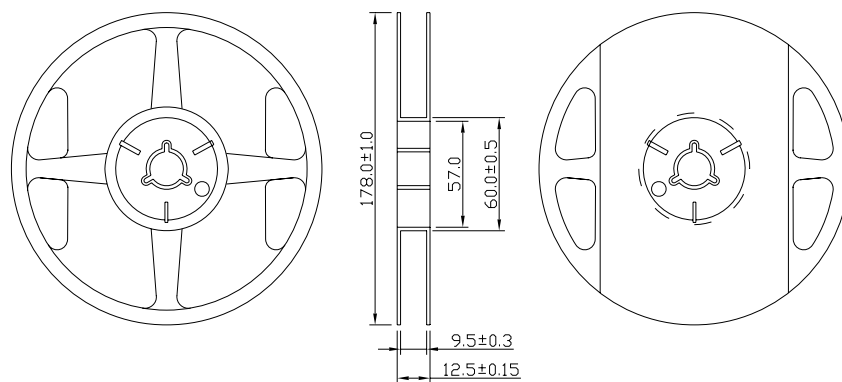
Rank	X1	Y1	X2	Y2	X3	Y3	X4	Y4
E0	0.266	0.290	0.281	0.290	0.277	0.280	0.262	0.280
E1	0.262	0.280	0.277	0.280	0.272	0.270	0.257	0.270
E2	0.257	0.270	0.272	0.270	0.268	0.260	0.253	0.260



● Carrier Tape Dimensions



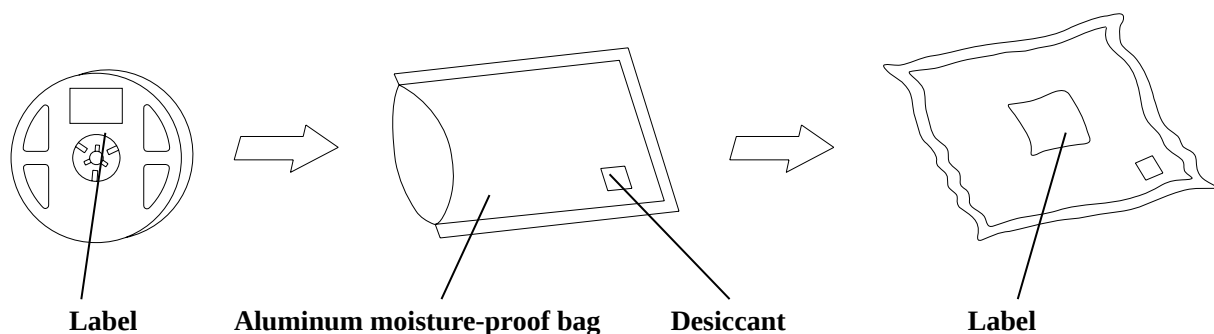
NOTE:4000PCS/Reel



Notes:

1. All dimensions are in millimeters(inches), Tolerance is ± 0.1 mm Unless otherwise noted .
2. 4000pcs/Tape

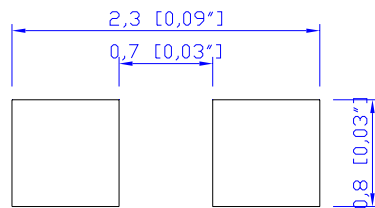
● Moisture Resistant Packaging



Notes:

1. All Dimensions are in millimeters, Tolerance is ± 2.0 mm Unless otherwise noted .
2. Specifications are subject to change without notice.
3. ESD Resistant Package.
4. Used vacuum packing mode ,Moisture Resistant Package.
5. Desiccant are put into the each bag.

● Suggest Soldering Pad Dimensions:

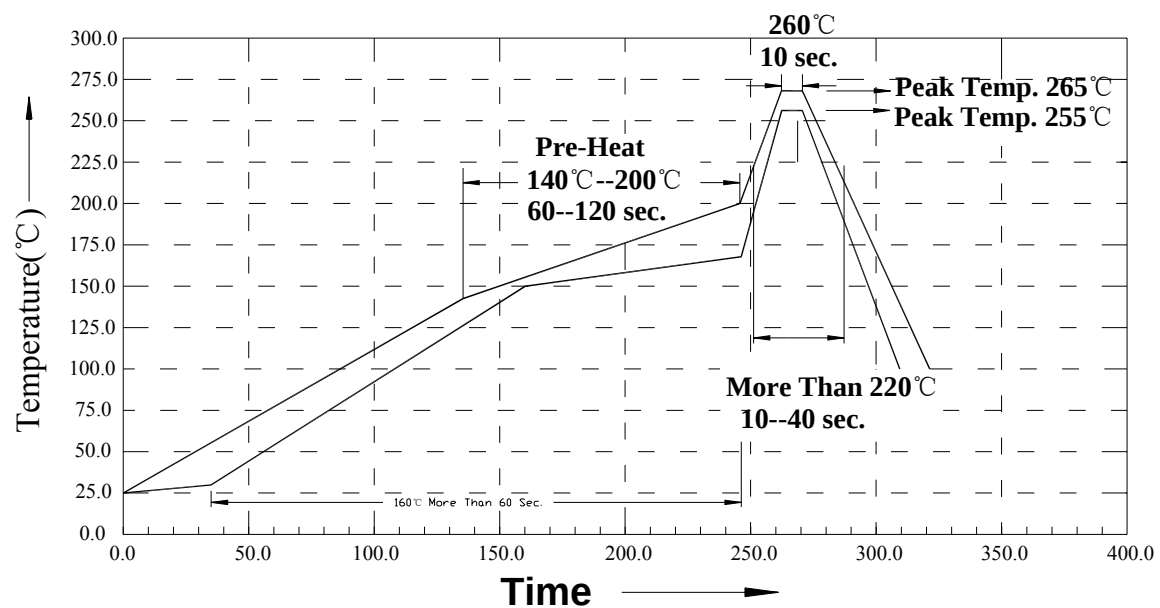


Notes:

1. All Dimensions are in millimeters(inches).

● Suggestion IR Reflow Profile For Pb Free Process

Degree.C. Recommended Profile between Assemble And Heat-Resistance Line



The Profile is available that must to use SnAg_(x=3.3-3.8)Cu_(y=0.2-0.7)Solder paste

● **ESD NOTES:**

1. This product is electrostatic insensitive device, so static electricity and surge will damage the SMD LED. It is required to wear a wrist-band when handling the SMD LED. All device, equipment, machinery, desk and ground must be properly grounded.
2. ESD parameters:
 - Operator grounding $R_O < 3M\Omega$;
 - Equipment grounding $R_E < 4\Omega$;
 - Test environment ESD voltage $V_T < 50V$.
3. Not to be hand SMD LED by unauthorized personnel out ESD bag.
4. Advise put ESD tablecloth on the worktable, and grounding. Use the ion fan If the environment ESD voltage out of limit. Especially The equipment of wave crest solder and circumfluence solder.
5. Do not directory voltage on the SMD LED in Testing. Note the current not out of 20mA.
6. When using SMD LED, it must use a protective resistor in series. The reverse voltage is not out of 5V.

● **CAUTION:**

1. Before the bag is opened, please keep the following storage condition:
Temperature: $5^{\circ}\text{C} - 30^{\circ}\text{C}$, Humidity: RH 60% Max, Time: 12 Months.
2. After this bag is opened, The device that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be :
 - a) Mounted within 168 hours, Temperature: 30°C Max, Humidity: RH 60% Max;
 - b) Stored at less than 20% RH.
 - c) If opened the Bag, the value of Humidity card is exceed 30%, Baking is required before mounting.
3. If above conditions are not met, baking is required before mounting.
Baking condition : 12 hours at $60 \pm 3^{\circ}\text{C}$ and $< 5\%$ RH.