



GaP Yellow-Green Chip TC 610YGUF

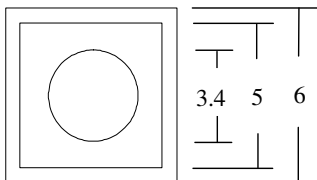
1. Product Description:

TC610YGUF is a yellow-green LED chip. The chips have optimized LPE technology process to perform high brightness in this field. Advanced roughen surface technology makes the chip brighter than normal version. The production process is very matured and stabilized in mass Production. The uniformity of the chips is highly centralized in a limited range, which makes the product quality and production efficiency outstanding. The chip is friendly to adapt in various applications.

2. Features:

- ◆ Ultra Yellow-Green
- ◆ GaP/GaP
- ◆ Roughen Surface
- ◆ High Stability
- ◆ High Quality
- ◆ Various Applications

3. Chip Dimensions and Structure:



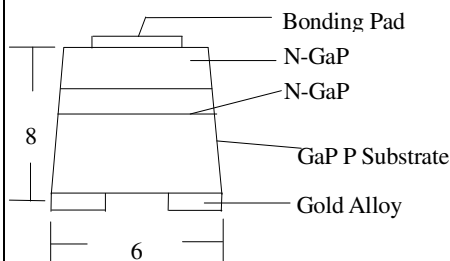
1. Chip size: $(6 \pm 0.5 \text{ mil}) \times (6 \pm 0.5 \text{ mil})$
 $(150 \pm 12.5 \mu\text{m}) \times (150 \pm 12.5 \mu\text{m})$

2. Emitting area: $(5 \pm 0.5 \text{ mil}) \times (5 \pm 0.5 \text{ mil})$
 $(125 \pm 12.5 \mu\text{m}) \times (125 \pm 12.5 \mu\text{m})$

3. thickness: $8 \pm 1 \text{ mil}$

4. Bonding pad: $3.4 \pm 0.4 \text{ mil}$
 $(85 \pm 10 \mu\text{m})$ in diameter

5. Electrode :
P side: Aluminum or gold
N side: Gold alloy



Unit: mil



4. Electro-optical Characteristics at 25°C:

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITION
Forward Voltage	V_F	-	2.2	2.5	V	$I_F=20\text{mA}$
Reverse Voltage	V_R	5	-	-	V	$I_R=10\mu\text{A}$
Leakage current	I_r	-	-	10	μA	$V_r=9\text{V}$
Wavelength	λ_D	566	570	574	nm	$I_F=20\text{mA}$
Luminous Intensity	I_v	-	※	-	mcd	$I_F=20\text{mA}$

※

- Rank 1 : 9~9.99mcd
- Rank 2 : 10~10.99mcd
- Rank 3 : 11~11.99mcd
- Rank 4 : 12~12.99mcd
- Rank 5 : 13~13.99mcd
- Rank 6 : 14~14.99mcd
- Rank 7 : 15~15.99mcd
- Rank 8 : 16~16.99mcd

5. Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating
Forward DC current	I_f	$T_a=25^\circ\text{C}$	$\leq 50\text{mA}$
Junction Temp	T_j	---	$\leq 115^\circ\text{C}$
Reverse Voltage	V_r	$T_a=25^\circ\text{C}$	$\leq 10\text{V}$
Storage Temp	T_{stg}	chip	$-40\sim 85^\circ\text{C}$
		chip on tape/storage	$0\sim 30^\circ\text{C}$
		chip on tape/transportation	$-20\sim 50^\circ\text{C}$
Temp during packaging	---	---	$260^\circ\text{C} (\leq 15\text{sec})$

Note:

- 1) Using the maximum rated current or voltage, is used as a single chip, and is a limit on the PCB board and no glue, independent constant-current source driver. Higher than the rated conditions, P-N junction temperature higher than 115°C can lead to damage of the LED chip.
- 2) Under the condition of 260°C high temperature used only for 15 seconds, high temperature or time is too long, can cause damage to the chip.
- 3) The best storage conditions of Blue tape is placed in the shade dry environment, Indoor temperature is not higher than 30°C , shelf life is 1 year.



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6.Characteristic Curves:

Remark: These are the typical TC610YGUF measured values, along with different brightness and wavelength, the actual value is slightly different.

Typical Electro-Optical Characteristics Curve:

Fig1. Intensity vs. Forward Current

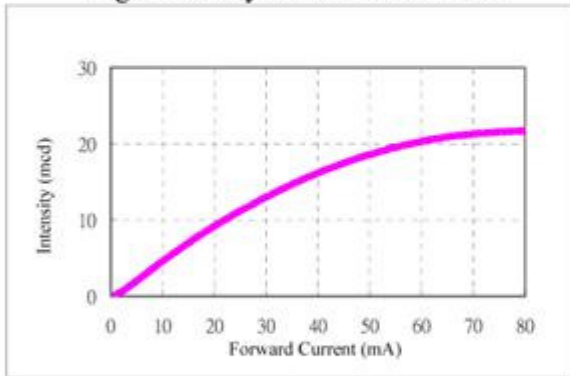


Fig2. Forward Current vs. Forward Voltage

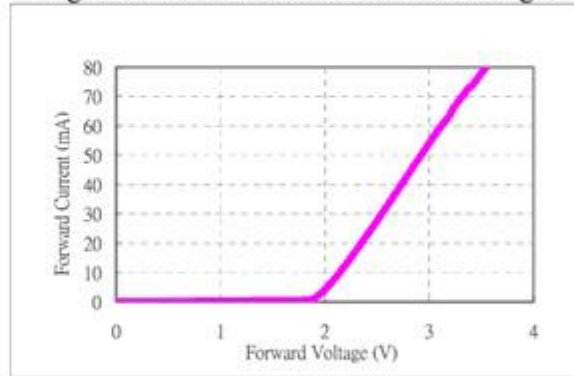


Fig3. Wavelength vs. Forward Current

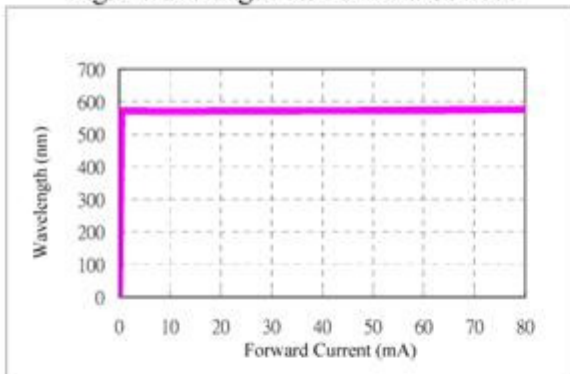


Fig4. Relative Wavelength vs. Temperature

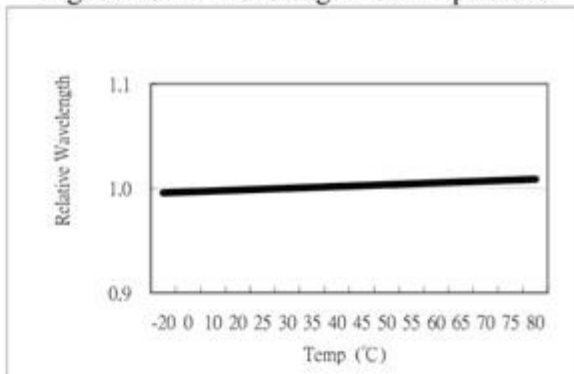


Fig5. Relative Intensity vs. Temperature

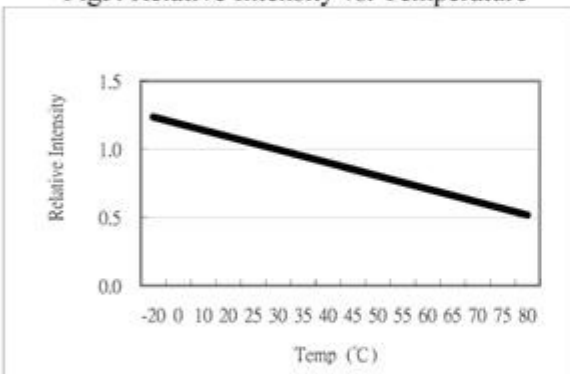
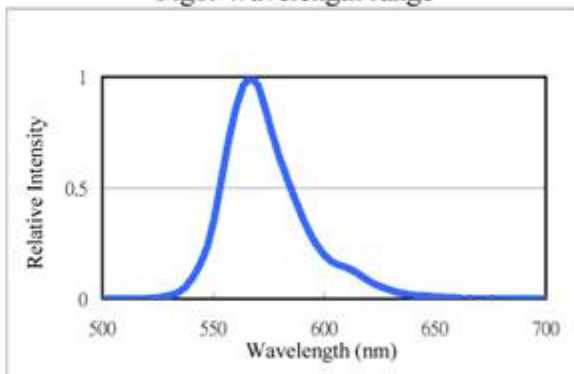


Fig6. Wavelength range



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