

AlGaInP/Si Hyper Deep Red Chip ---TK0512DRH

1. Scope

- AlGaInP High-Brightness LED chip.
- Type : TK0512DRH.

2. Structure

- AlGaInP on Silicon
- N Electrode (cathode) side : Gold
- P Electrode (anode) side : Gold Alloy

3. Size

- Chip size : 12mil × 12mil (300um × 300um)
- Chip height : 200 ± 15um
- Pattern drawing : per fig. 1

4. Electro-Optical Characteristics

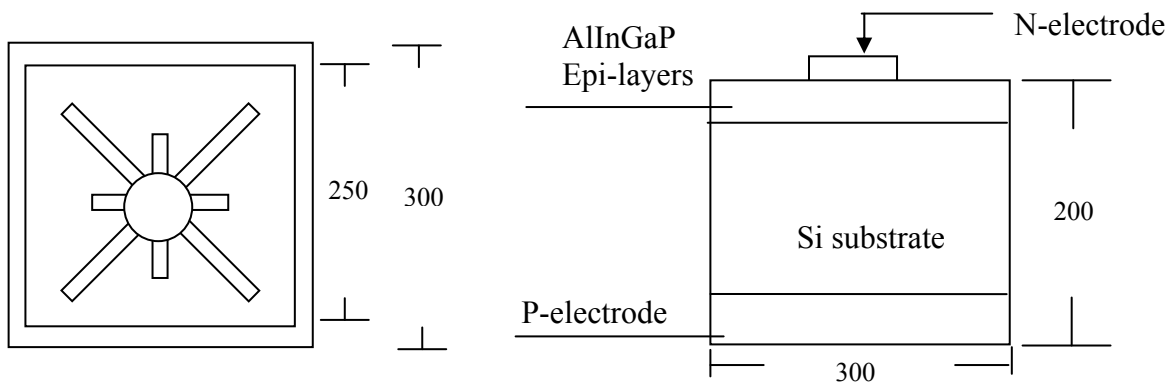
(Ta = +25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_{F1}	$I_F = 20 \text{ mA}$		2.1	2.4	V
Reverse Voltage	I_R	$V_R = 10 \text{ V}$			10	μA
Luminous Intensity	I_V	$I_F = 20 \text{ mA}$	※			mcd
Wavelength	λ_d	$I_F = 20 \text{ mA}$		640		nm
	λ_p	$I_F = 20 \text{ mA}$	650	655	660	nm
Spectrum Width of Half Value	$\Delta \lambda$	$I_F = 20 \text{ mA}$		20		nm

Maximum reverse-biased voltage < 60V; therefore, V_Z test is forbidden.

- ※
- Rank L : min. ≥ 100
 - Rank M : min. ≥ 120
 - Rank N : min. ≥ 150

- Rank O : min. ≥ 180
- Rank P : min. ≥ 200
- Rank Q : min. ≥ 220



Unit : μm

fig. 1

*Recommendation for bonding condition : Base on ASM Eagle-60

bonding force=40g ; bonding power=50mw ;

bonding temperature 280°C ; bonding time 20ms.

*Storage condition : temperature 0 ~ 35°C, humidity $\leq 60\%$ RH.

2012.May



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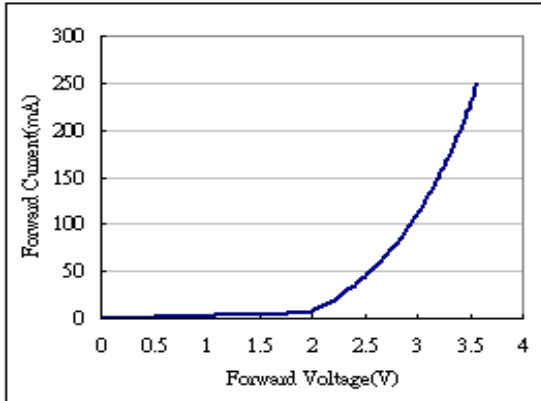
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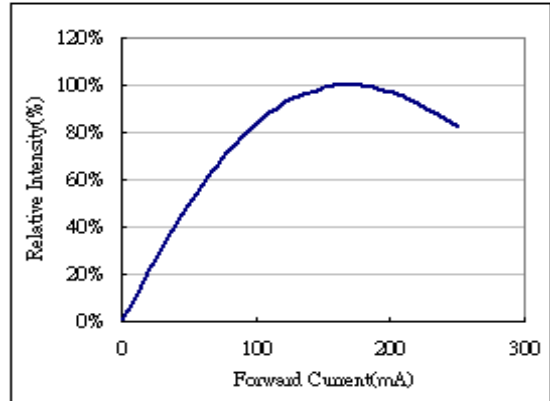
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Electro-Optical Characteristics Curve

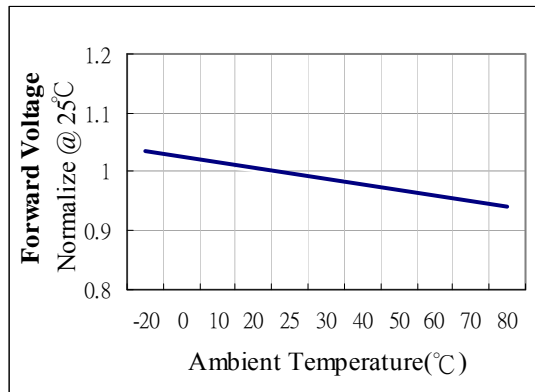
Forward current vs. Forward voltage



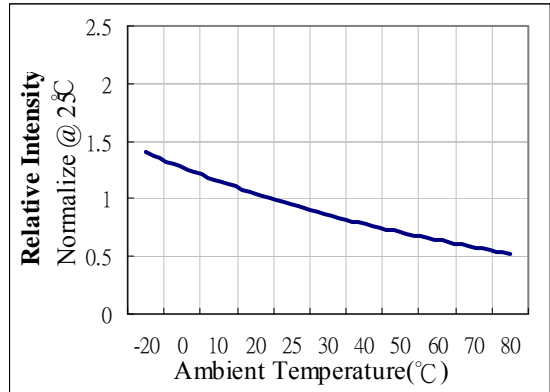
Relative intensity vs. Forward current



Forward voltage vs. Temperature



Relative intensity vs. Temperature



Relative intensity vs. Wavelength

