

AlGaAs/Si High Power IR Chip ---TK0542IRA

1. Scope

- AlGaAs High power IR LED chip.

2. Structure

- AlGaAs on Silicon
- N Electrode (cathode) side : Gold.
- P Electrode (anode) side : Gold alloy.

3. Size

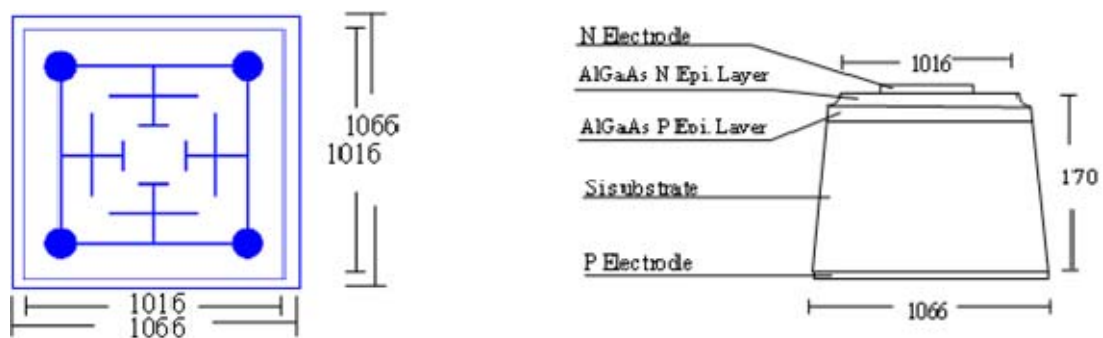
- Chip size : 1066um × 1066um
- Chip height : 170um ± 30um
- Pattern drawing : per fig. 1

4. Electro-Optical Characteristics

($T_a = +25\text{ }^\circ\text{C}$)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$			1.50	V
Forward Voltage	V_F	$I_F = 350\text{mA}$			1.80	V
Forward Voltage	V_F	$I_F = 1000\text{mA}$			2.00	V
Reverse Current	I_R	$V_R = 5\text{V}$			1	uA
Axis Radiant Power	P_O	$I_F = 20\text{ mA}$	10			mW/sr
Axis Radiant Power	P_O	$I_F = 350\text{ mA}$	※			mW/sr
Peak Wavelength	λ_p	$I_F = 350\text{ mA}$		940		nm
Spectrum Width of Half Value	$\Delta\lambda$	$I_F = 350\text{ mA}$		50		nm
Optical Rise Time	T_R	$I_F = 20\text{mA}$		25		ns
Optical Rise Time	T_F	$I_F = 20\text{mA}$		25		ns

- ※ • Rank O : min. ≥ 180
- Rank P : min. ≥ 200



Unit : μm

fig. 1

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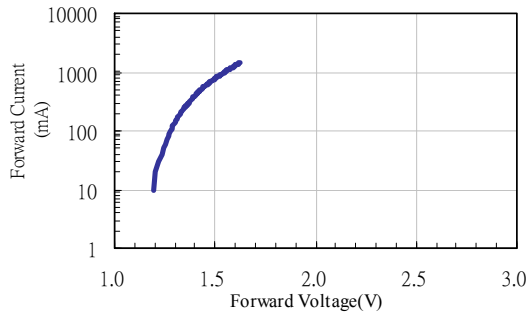
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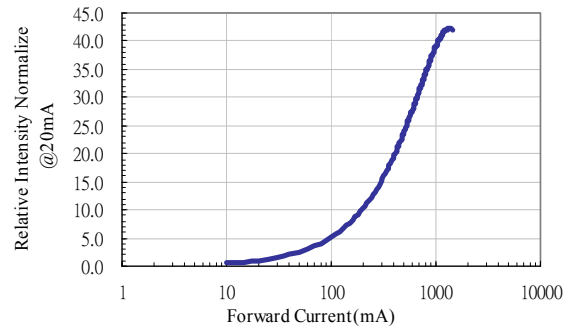
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Electro-Optical Characteristics Curve

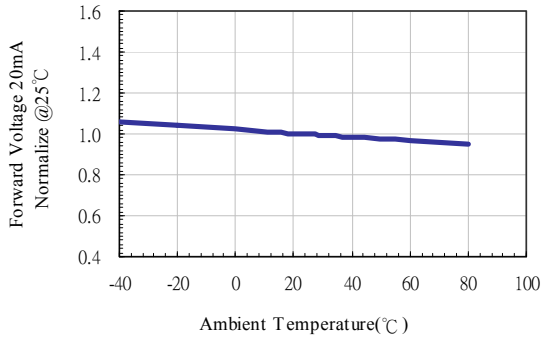
Forward current vs. Forward Voltage



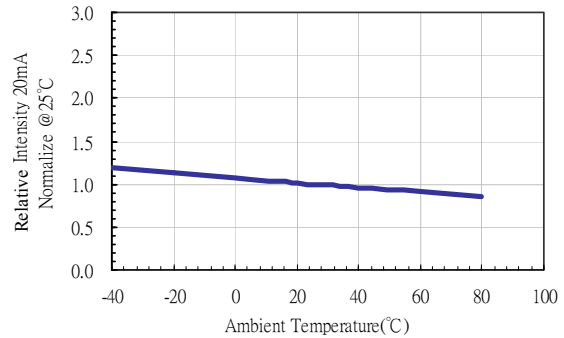
Relative Intensity vs. Forward Current



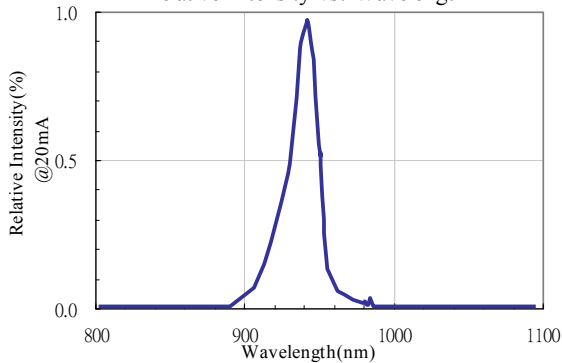
Forward Voltage vs. Temperature



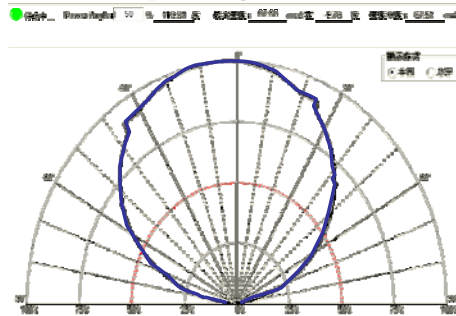
Relative Intensity vs. Temperature



Relative Intensity vs. Wavelength



Half power angle on TO-18



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