

VISIBLE LIGHT PRODUCTS SPECIFICATION

HTLB4a-AOR AGD ABD

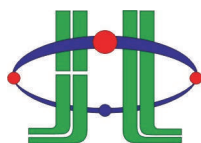


Drawn by	Checked by	Approved by



DATE:2011/1/19

REV:D



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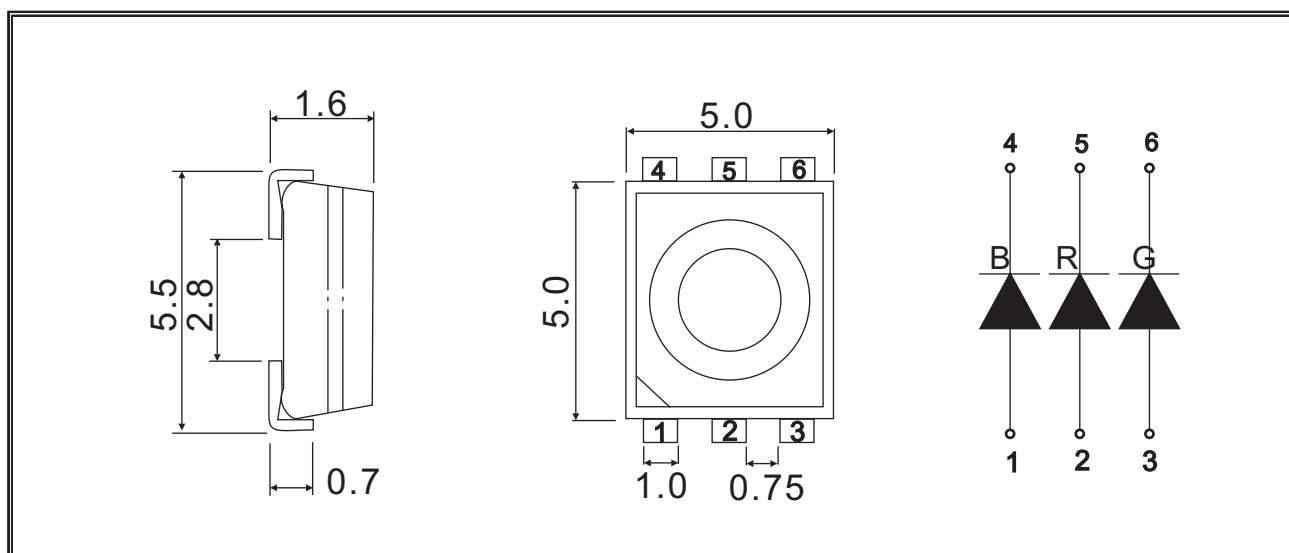
No.27 Line 466 Sec.2,Cannng-nan Rd. Wu-chi Town Taichung Shien, Taiwan, R.O.C.

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DEVICES

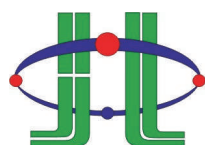
Part Number	Lens		Source	
	Color	Diffusion	Dice Source	Color
HTLB4a-AORAGDABD	Water clear	Non-Diffused	AllnGaP/GaAs & GalnN/GaN & GalnN/GaN	Super Fresh Red & Super Green & Super Blue

PACKAGE DIMENSIONS



NOTE:

- 1.All dimensions are in millimeter.
- 2.specifications are subject to change without notice.
- 3.Tolerance is 0.3mm unless otherwise noted.

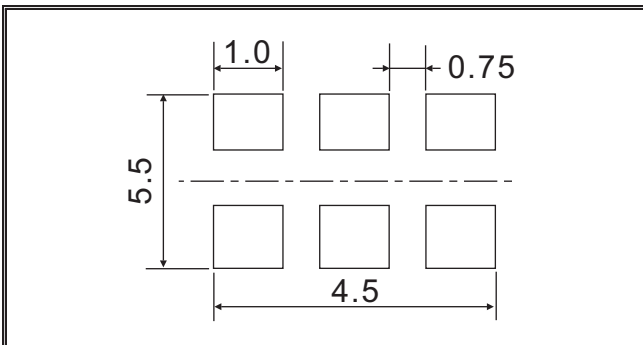


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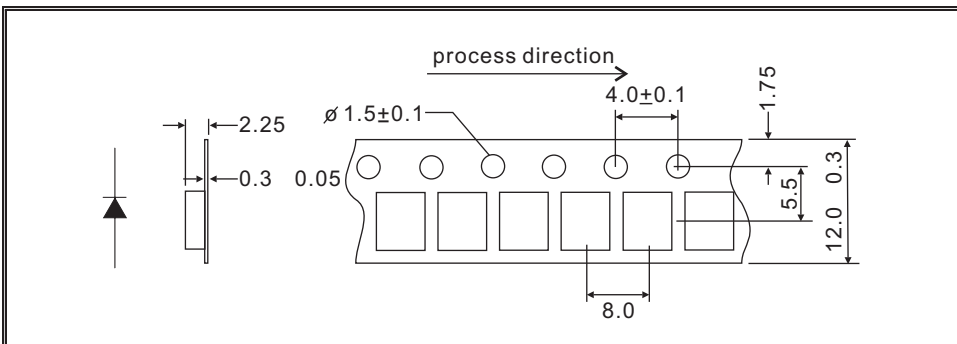
RECOMMENDED SOLDERING PATTERN



NOTE:

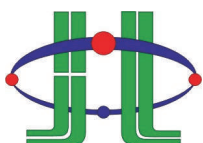
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TAPE SPECIFICATIONS



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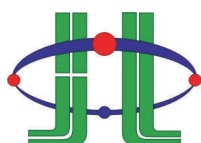
ABSOLUTE MAXIMUM RATINGS

TA=25°C

PARAMETER	SYMBOL	MAX. RATING			UNIT
		RED	GREEN	BLUE	
Power Dissipation	Pd	100	120	120	mW
Continuous Forward Current	IF	25	30	20	mA
Peak Forward Current *1	IFM	50	100	100	mA
Reverse Voltage	VR	5	4	4	V
Electrostatic Discharge(HBM)	ESD	---	150	150	V
LED Junction Temperature	Tj	100			°C
Operating Temperature	Topr	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +100			°C
Reflow Soldering (preheat 150-180°C 60-120sec, soldering temp 260°C 5sec)					

*1.Duty Ratio=0.1%,Pulse Width=10us.

*2.Iron soldering in 350°C within 5 seconds will not cause damage to the dice. But be aware of the high temperature will not only make the epoxy soften but also cause the lead moving and the gold wire broken and even open. So before returning to the normal temperature PLEASE AVOID any serious pressure on the top of epoxy and lead.



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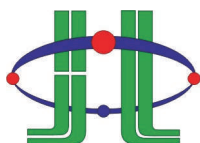
ELECTRIC-OPTICAL CHARACTERISTICS

TA=25°C

PARAMETER	SYMBOL	TEST CONDITION		MIN	TYP	MAX	UNIT
View Angle of Half Power	2θ1/2	IF=20mA	Red		120		deg
			Green				
			Blue				
Forward Voltage	VF		Red		2.0	2.5	V
			Green		3.2	3.6	
			Blue		3.3	3.8	
Luminous Intensity *2	IV		Red	140	280		mcd
			Green	300	600		
			Blue	120	210		
Peak Emission Wavelength	λp	Red		635		nm	
		Green		523			
		Blue		462			
Dominate Wave Length *3	λd(HUE)	Red		625		nm	
		Green		525			
		Blue		465			

*2.Tolerance: 15% HUEY-JANN measuring equipment : EXELTRON 2001. 2.S370 made by U.D.T.

*3.The dominate wavelength , λ d, is derived from the CIE Chromaticity Diagram and represents the color of the device.



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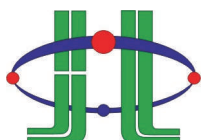
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RELIABILITY TEST

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	Connect with a power if=20mA Ta=Under room temperature Test Time=1,000hrs	0/22
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	Ta=+85°C 5°C RH=90% ~ 95% Test Time=1000hrs	0/22
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+100°C 5°C Test Time=1,000hrs	0/22
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-40°C 5°C Test Time=1,000hrs	0/22
	Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-40°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=200cycle
Thermal Shock		MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010	-40°C 5°C ~ +85°C 5°C 20min 20min Test Time=200cycle	0/22

*Failure Criteria:

1. VF arise \geq 10%
2. IV decline \geq 30%
3. A failure is an LED that is open or shorted

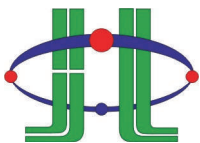
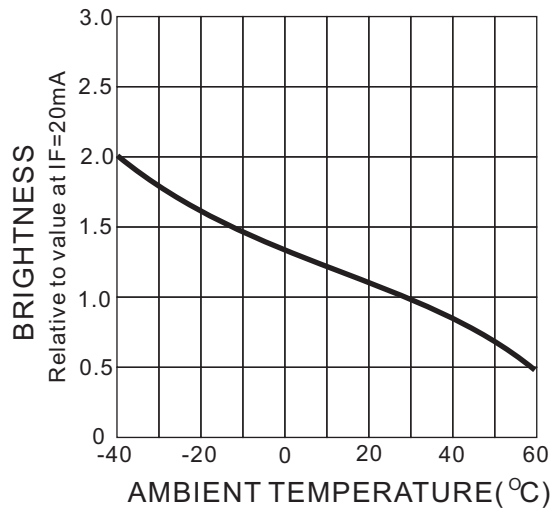
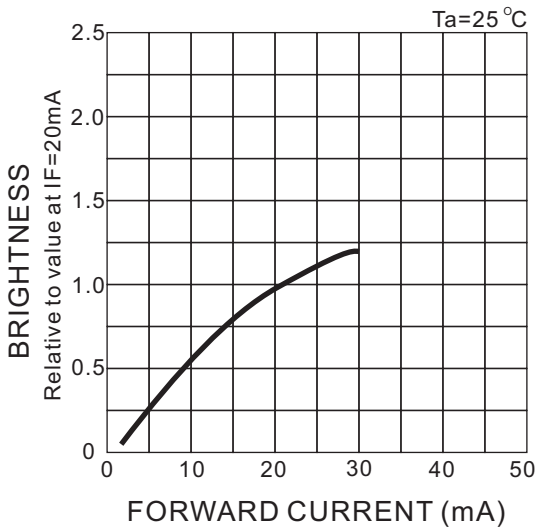
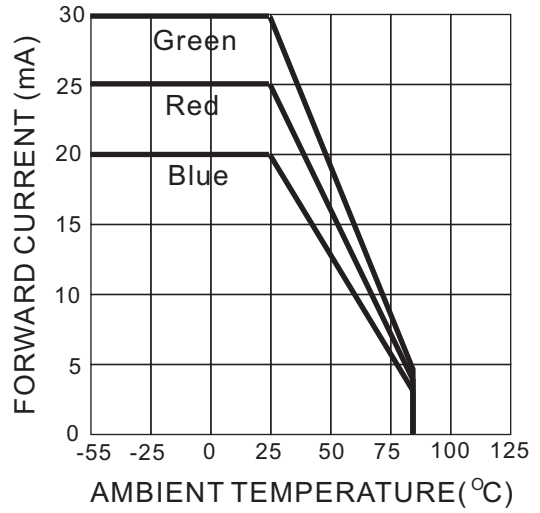
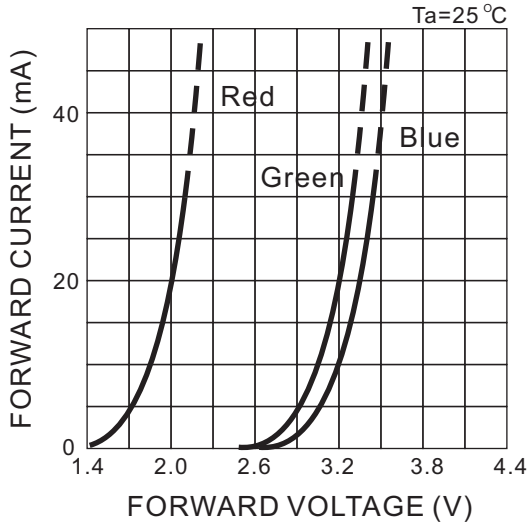


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TYPICAL ELECTRICAL OPTICAL CHARACTERISTICS CURVES

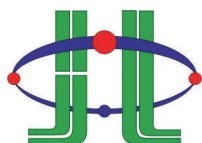
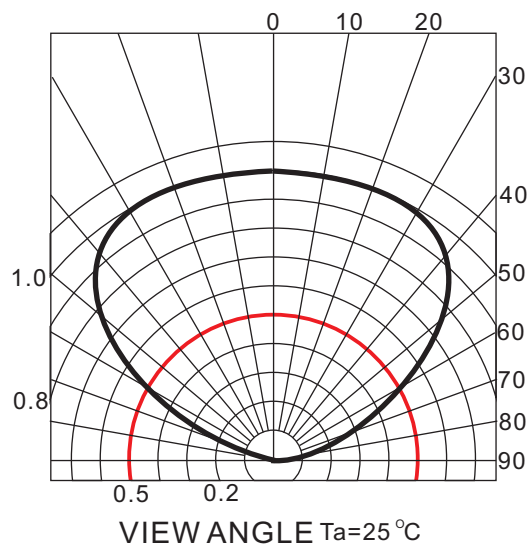
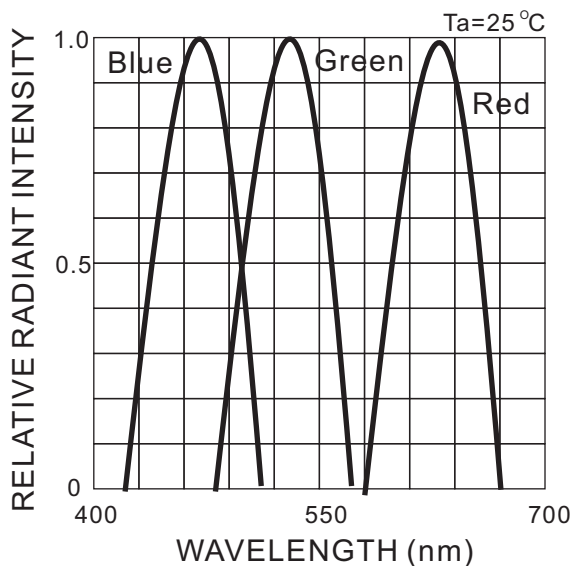


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