



**TOL-50bSOICEa-L3E**

**FEATURES**

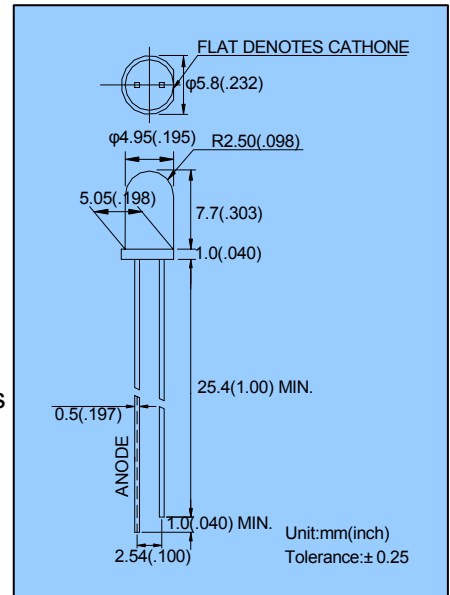
- \* Pb free
- \* High efficiency
- \* Low power consumption
- \* Viewing angle: (30°)
- \* Package: colorless, clear 5 mm (T1 3/4) package
- \* Compatible with infrared and Reflow soldering process
- \* Feature of the device: narrow viewing angle for higher brightness
- \* RoHS compliant

**APPLICATIONS**

Optical indicators

Interior automotive lighting (e.g. dashboard, backlighting, etc)

Backlighting (LCD, switches, keys, displays, illuminated advertising, general lighting)



**DEVICE GUIDE**

PART NO.	MATERIAL	EMITTED COLOR	LENS COLOR
TOL-50bSOICEa-L3E	AlGaInP	HYPER RED	Water Clear

**ABSOLUTE MAXIMUM RATINGS @Ta=25°C**

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
DC forward current		IF	30	mA
Peak forward current	1/10 duty cycle@1kHz	IFP	150	mA
Power dissipation	Tamp ≤ 60°C	PV	105	mW
Electrostatic discharge threshold		ESD	600	V
Operating temperature range		T <sub>OPR</sub>	-40~85	°C
Storage temperature range		T <sub>STG</sub>	-40~100	°C
Soldering temperature	3 ≤ t ≤ 5s, 2mm from body	T <sub>SD</sub>	260	°C

**ELECTRICAL / OPTICAL CHARACTER @ Ta=25°C**

PARAMETER	TEST CONDITION	SYMBOL	MIN	TYP	MAX	UNIT
Dominant wavelength	IF=20mA	λ d	620	625	630	nm
Spectrum half width	IF=20mA	Δ λ		20		nm
Forward voltage	IF=20mA	VF		2.1	2.4	V
Reverse current	VR=-5V	IR			10	μ A
Luminous intensity	IF=20mA	IV	--	3500	--	mcd
Full viewing angle	IF=20mA	2θ1/2		30		Deg.

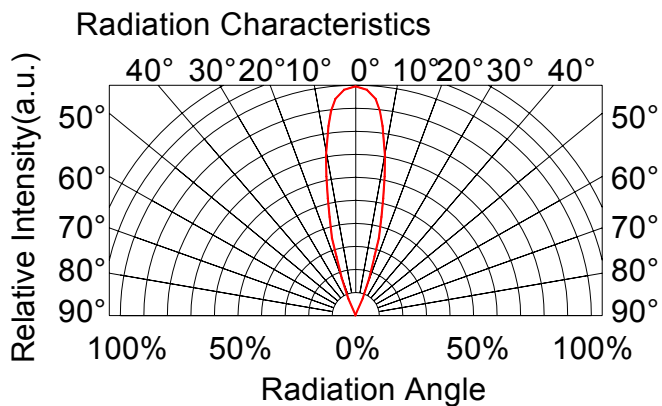
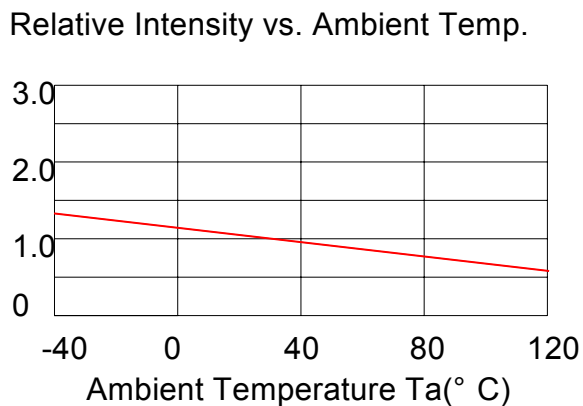
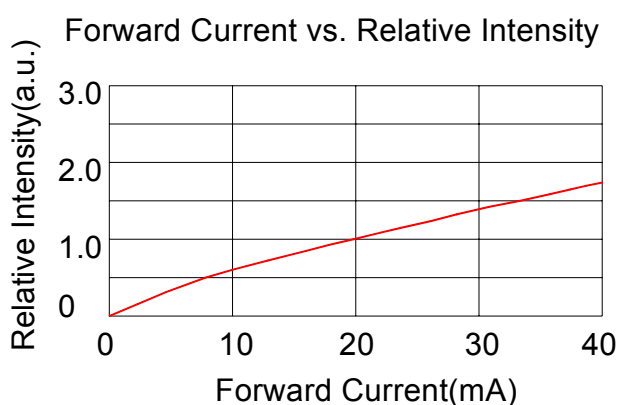
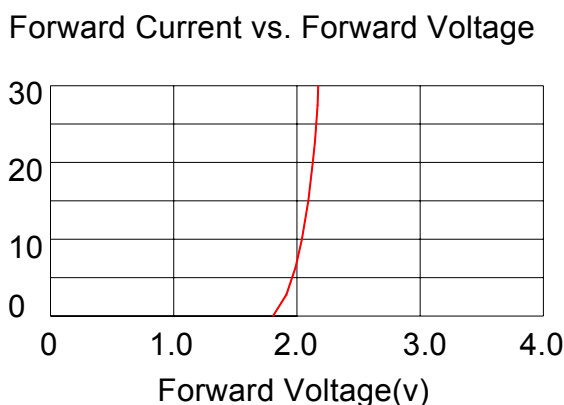
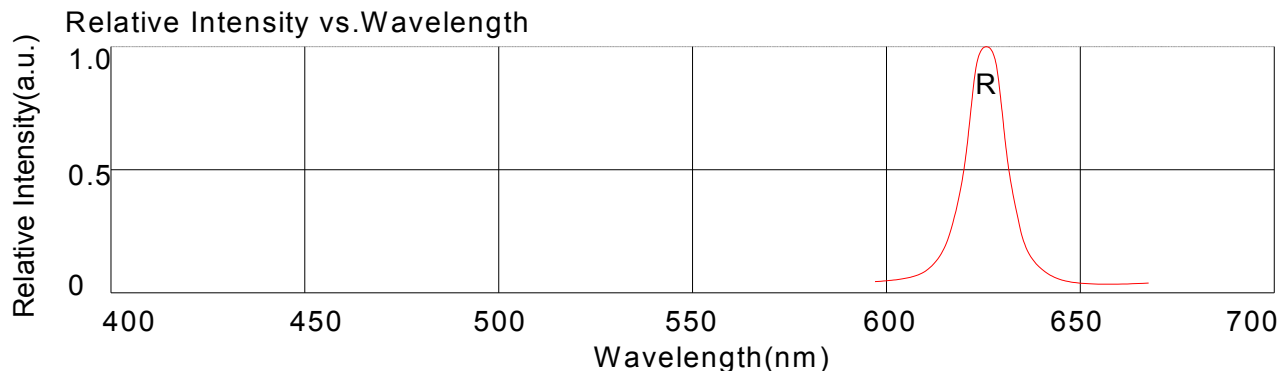
\*2θ1/2 is the off-axis angle where luminous intensity half of the peak intensity.

\*Luminous Intensity Measurement Allowance is ± 15%.

We reserve the right to changes to improve technical design and may do so without further notice.



**TYPICAL ELECTRICAL / OPTICAL CHARACTER CURVES**



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**RELIABILITY TESTS**

ITEM	CONDITION	NOTE	CRITERIA
Thermal Shock	Ta=-35°C(10min)~85°C(10min) (Transfer time: 10 sec, 1 Cycle=1hr)	10 cycles	0/76
Resistance to soldering Heat	Ts=260±5°C ,t=10 sec	1 time	0/76
Vibration	10~55Hz, Swing 1.5mm	6hrs	0/76
DC Operating Life	I <sub>F</sub> =30mA(Ta=25°C)	72hrs	0/76
Pulse Operating Life	I <sub>F</sub> P=133mA,Ratio:1:5, t=6ms	72hrs	0/76
High Temperature Storage	Ta=100°C	24hrs	0/76
Low Temperature Storage	Ta=-30°C	24hrs	0/76
Life Test	Ta=RT ,I <sub>F</sub> =20mA	1000hrs	0/76
Temperature Cycle	-35°C(30min)~25°C(10mins)	5 cycles	0/76
	-85°C(30min)~25°C(10mins)		
Temperature Humidity Storage	Ta=65°C ,RH=90%	48hrs	0/76
Temperature Humidity Storage	Ta=65°C ,RH=90% ,I <sub>F</sub> =8mA	48hrs	0/76

<Judging Criteria For Reliability Tests>

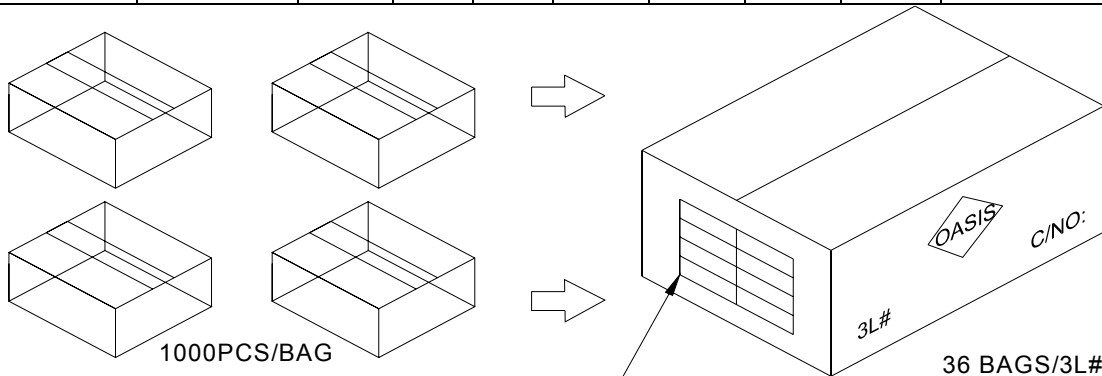
PARAMETER	STAND LEVEL	FAILUR DEFINE
VF	SL×1.2	UPPER
IV	SL×0.7	LOWER
IR	SL×2.0	UPPER

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**PACKAGE DESCRIPTION**

CARTON		SUITABLE LED				DIMENSION (mm)			QUANTITY (PCS)	DRAFT
		φ3	φ5	φ7	REC	L	W	H		
BAG	PLASTIC		✓			4	4	10	1,000	B1
INNER	3L#		✓			403	375	215	36,000	F1



TAIWAN OASIS TECHNOLOGY CO.,LTD  
 Lamp Finished Product Specification Form

PART NO.:	BIN CODE:
TOL-*** ** *	
QUANTITY:	DATE:
36,000 PCS	xxxx-xx-xx
LOT NO.:	GRADE:
xxxxxx	A
	FM-COP-09-02/10A

TOLERANCE: ±1.0  
 MATERIAL: W3B  
 THICKNESS: 2MM

**SOLDERING PROFILE**

**Wave soldering conditions**

Test condition		Criteria
Pre-Heat	Insert the parts to 1.6mm paper phenol print-board Temperature of copper foil side:85°C (120°C max) Time:20sec(60sec max)	No abnormalities shall be recognized in appearance and construction and CTR performance
Soldering	Dip terminal of part in flux solution for 5sec. The temperature of solder shall be at 260±5°C and shall be applied within 10 sec.	More than 90%of soldered area is to be smoothly covered with new solder

**Hand soldering conditions**

Not more than 3 sec. at max. 350°C, under soldering iron

**Note**

Lead frames are silver plated copper alloy. This substance has a low thermal coefficient (easily conducts heat), the led lamp must not be repositioned after soldering. Do not apply any stress to lead particularly when heat.

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