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TAPE AND BOX TYPE LED LAMPS

Lead-Free Parts

LHY42941-PF/TBF-X

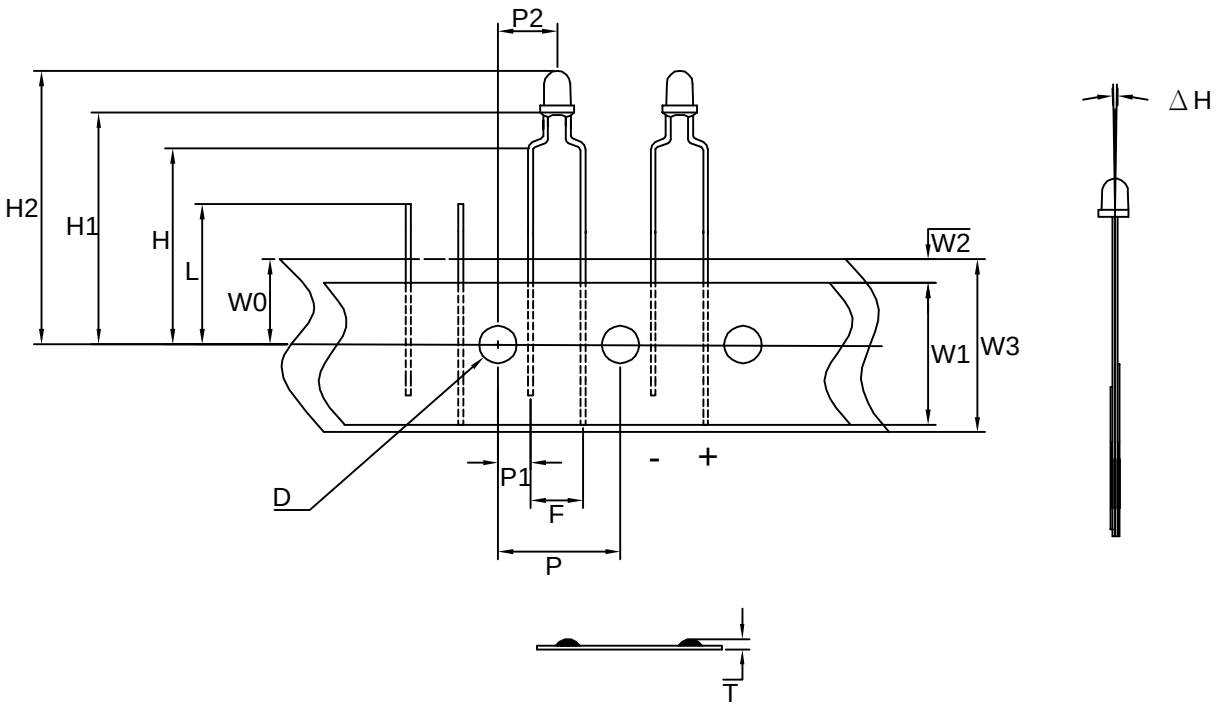
DATA SHEET

DOC. NO : QW0905-LHY42941-PF/TBF-X

REV. : A

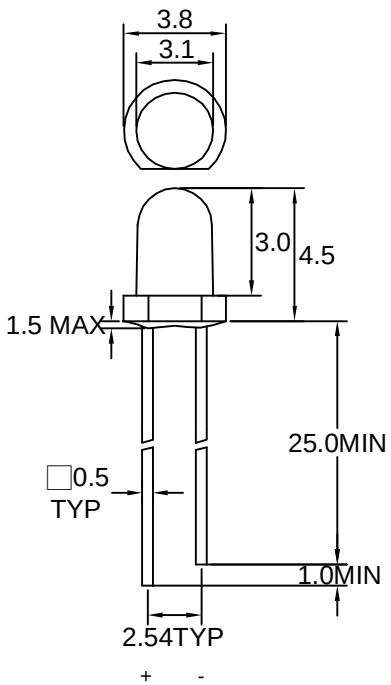
DATE : 03 - Aug. - 2006

Package Dimensions



Note : 1.All dimension are in millimeter tolerance is ±0.25mm unless otherwise noted.
2.Specifications are subject to change without notice.

LHY42941-PF



Absolute Maximum Ratings at Ta=25 ℃

Parameter	Symbol	Ratings	UNIT
		HY	
Forward Current	I_F	30	mA
Peak Forward Current Duty 1/10@10KHz	I_{FP}	60	mA
Power Dissipation	PD	75	mW
Reverse Current @5V	Ir	10	μA
Electrostatic Discharge(*)	ESD	2000	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +100	℃

* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing these LED. All devices, equipment and machinery must be properly grounded.

Typical Electrical & Optical Characteristics (Ta=25 ℃)

PART NO	MATERIAL	COLOR		Dominant wave length λ Dnm	Spectral halfwidth △λ nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens			Min.	Max.	Min.	Typ.	
LHY42941-PF/TBF-X	AlGaInP	Yellow	Yellow Transparent	595	15	1.7	2.6	300	550	56

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.
2. The luminous intensity data did not including ±15% testing tolerance.

PART NO. LHY42941-PF/TBF-X

• Dimension Symbol Information

SYMBOL ITEMS	OPTION CODE	SYMBOL	SPECIFICATIONS			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape Feed Hole Diameter	-------	D	3.8	0.15	4.2	0.17
Component Lead Pitch	-------	F	4.8	0.19	5.8	0.23
Front-To-Rear Deflection	-------	△H	-------	-------	2.0	0.08
Height Of Seating Plane	-------	H	15.5	0.61	16.5	0.65
Feed Hole To Bottom Of Component	TBF-1	H1	17.5	0.69	19.5	0.77
	TBF-2		19.0	0.75	21.0	0.83
	TBF-3		22.5	0.89	24.5	0.96
	TBF-4		25.5	1.0	26.5	1.04
	TBF-5		21.5	0.85	22.5	0.89
	TBF-6		20.2	0.8	21.2	0.83
	TBF-7		17.125	0.67	21.125	0.83
	TBF-8		20.0	0.79	22.5	0.89
	TBF-9		26	1.02	28	1.10
	TBF-10		18.8	0.74	19.8	0.78
	TBF-11		24.0	0.94	26.0	1.02
	TBF-12		21.0	0.83	23.0	0.91
	TBF-13		19.0	0.75	20.0	0.79
	TBF-14		21.7	0.85	23.7	0.93
	TBF-15		22.5	0.89	23.5	0.93
	TBF-16		17.5	0.69	18.0	0.71
	TBF-17		18.5	0.73	19.5	0.77
	TBF-18		20.5	0.81	21.5	0.85
Feed Hole To Overall Component Height	-------	H2	-------	-------	36	1.42
Lead Length After Component Height	-------	L	W0		11	0.43
Feed Hole Pitch	-------	P	12.4	0.49	13	0.51
Lead Location	-------	P1	3.15	0.12	4.55	0.18
Center Of Component Location	-------	P2	5.1	0.2	7.7	0.3
Overall Taped Package Thickness	-------	T	-------	-------	1.42	0.06
Feed Hole Location	-------	W0	8.5	0.33	9.75	0.38
Adhesive Tape Width	-------	W1	14.5	0.57	15.5	0.61
Adhesive Tape Position	-------	W2	0	0	4.0	0.16
Tape Width	-------	W3	17.5	0.69	19	0.75

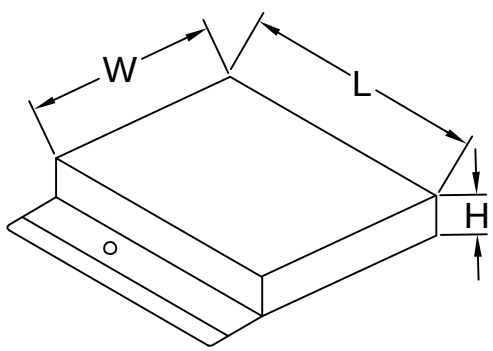
REMARK:TBF = Tape And Box Forming Leads

• Dimensions Symbol Information

Description	Symbol	Specification			
		minimum		maxmum	
		mm	inch	mm	inch
Overall Length	L	330	13.0	340	13.4
Overall Width	W	265	10.4	275	10.8
Overall Thickness	H	50	1.97	60	2.4

Part No.	Quantity/Box
LHY42941-PF/TBF-X	2500PCS

• Package Dimensions



Typical Electro-Optical Characteristics Curve

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Fig.1 Forward current vs. Forward Voltage

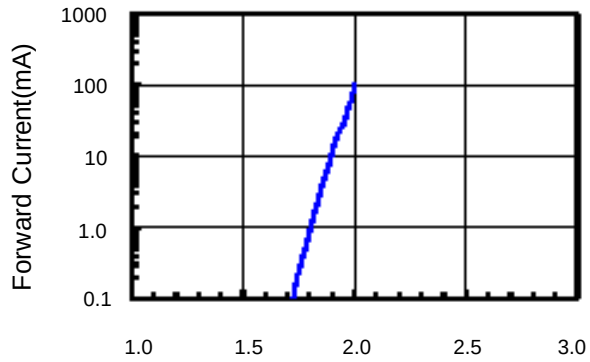


Fig.2 Relative Intensity vs. Forward Current

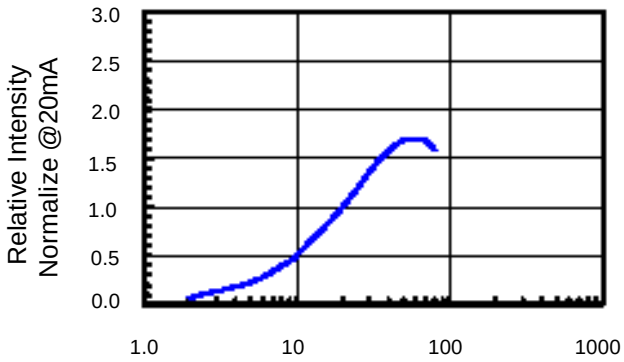


Fig.3 Forward Voltage vs. Temperature

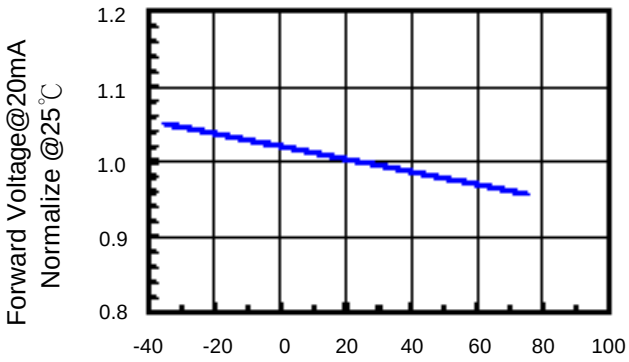


Fig.4 Relative Intensity vs. Temperature

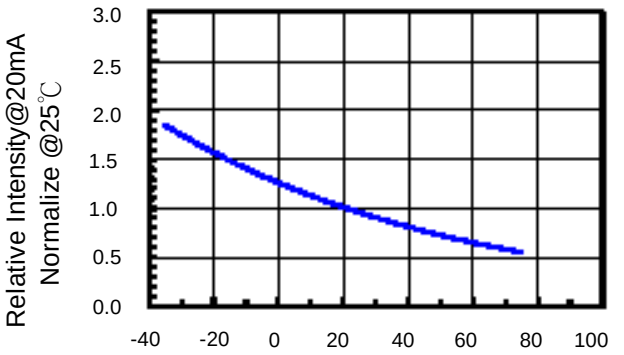


Fig.5 Relative Intensity vs. Wavelength

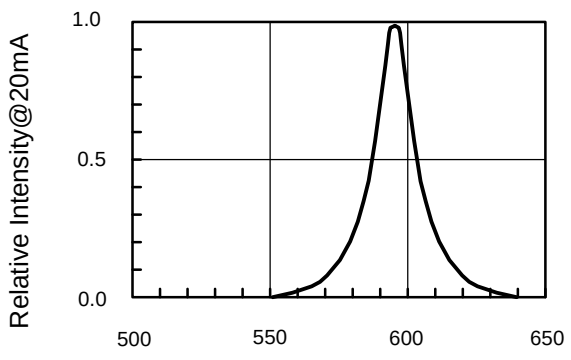
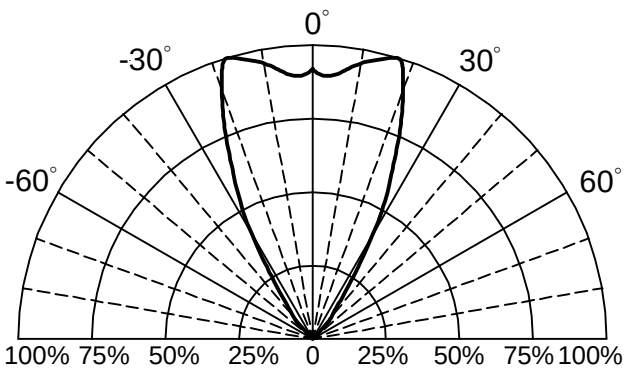


Fig.6 Directivity Radiation



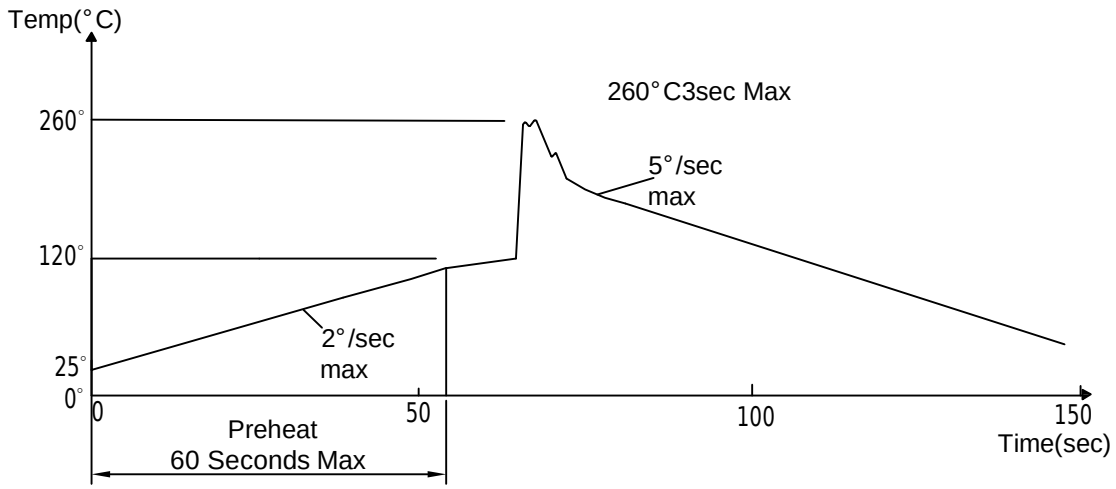
Soldering Condition(Pb-Free)

1.Iron:

Soldering Iron:30W Max
Temperature 350°C Max
Soldering Time:3 Seconds Max(One Time)
Distance:2mm Min(From solder joint to body)

2.Wave Soldering Profile

Dip Soldering
Preheat: 120°C Max
Preheat time: 60seconds Max
Ramp-up
2°C/sec(max)
Ramp-Down:-5°C/sec(max)
Solder Bath:260°C Max
Dipping Time:3 seconds Max
Distance:2mm Min(From solder joint to body)



Reliability Test:

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of detemining the resistance of a part in electrical and themal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65℃±5℃ 2.RH=90%~95% 3.t=240hrs±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105℃±5℃&-40℃±5℃ (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260℃±5℃ 2.Dwell time= 10±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230℃±5℃ 2.Dwell time=5±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2