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TAPE AND REEL TYPE LED LAMPS



Lead-Free Parts

**LG2041/TRF-5**

**DATA SHEET**

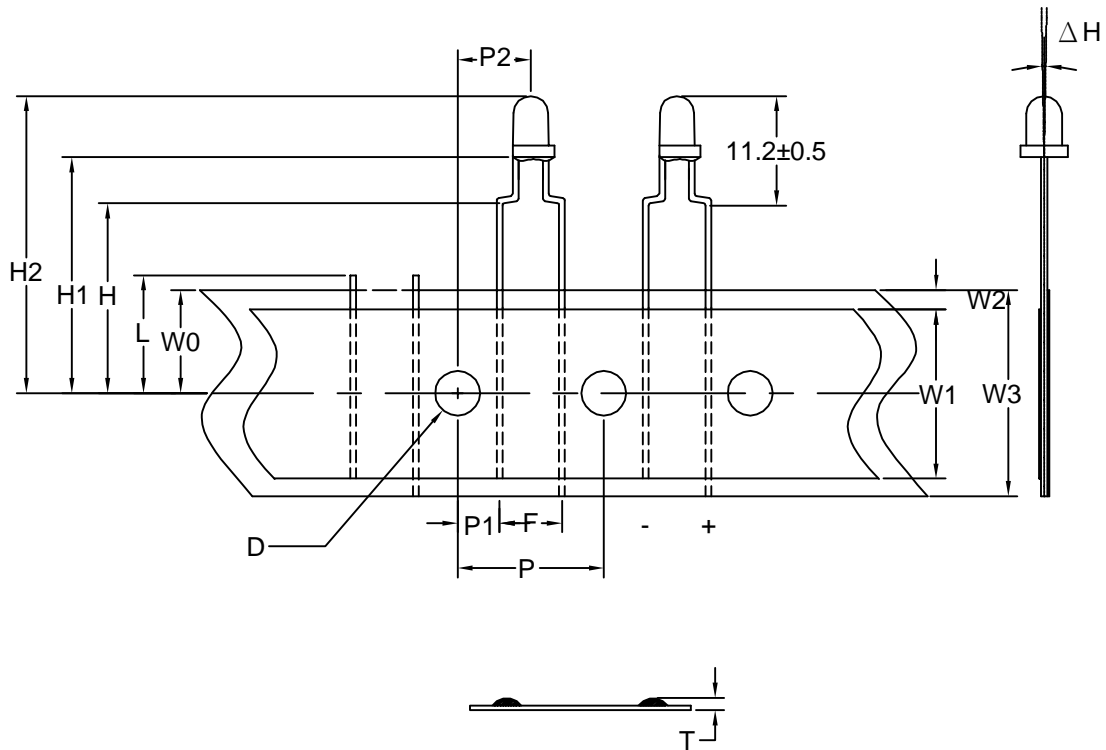
DOC. NO : QW0905-LG2041/TRF-5-08

REV. : A

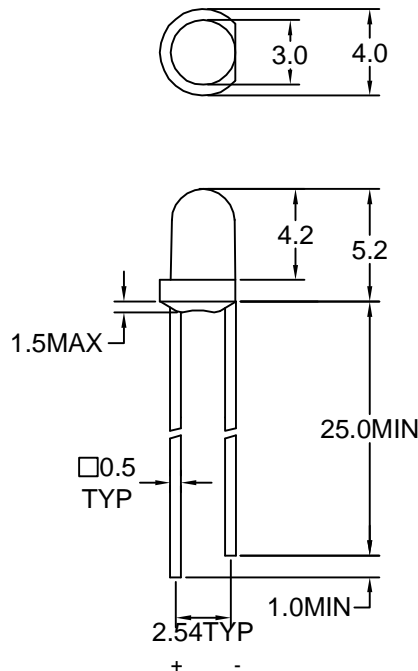
DATE : 7 - Aug. - 2008



### Package Dimensions



### LG2041



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without notice.

**Absolute Maximum Ratings at Ta=25 °C**

Parameter	Symbol	Ratings	UNIT
		Green	
Forward Current	IF	15	mA
Peak Forward Current Duty 1/10@10KHz	IFP	80	mA
Power Dissipation	PD	50	mW
Reverse Current @5V	Ir	10	μA
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +100	°C

**Typical Electrical & Optical Characteristics (Ta=25 °C)**

PART NO	MATERIAL	COLOR		Peak wave length λ Pnm	Spectral halfwidth Δ λ nm	Forward voltage @10mA(V)		Luminous intensity @10mA(mcd)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens			Min.	Typ.	Min.	Typ.	
LG2041/TRF-5	GaP	Green	Green Transparent	565	30	1.7	2.1	30	65	30

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



• Dimensions Symbol Information

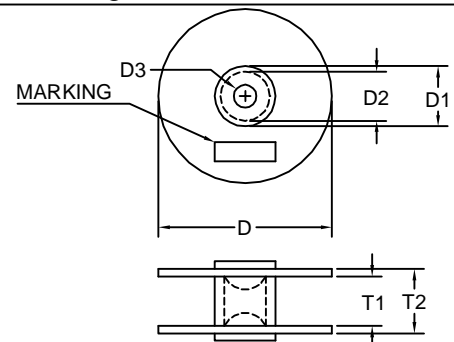
SYMBOL ITEMS	OPTION CODE	SYMBOL	SPECIFICATIONS			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape Feed Hole Diameter	-----	D	3.8	0.15	4.2	0.17
Component Lead Pitch	-----	F	4.8	0.19	5.8	0.23
Front-To-Rear Deflection	-----	△H	-----	-----	2.0	0.08
Height Of Seating Plane	-----	H	15.5	0.61	16.5	0.65
Feed Hole To Bottom Of Component		H1				
	TRF-5		21.5	0.85	22.5	0.89
Feed Hole To Overall Component Height	-----	H2	-----	-----	36	1.42
Lead Length After Component Height	-----	L	W0		11.0	0.43
Feed Hole Pitch	-----	P	12.4	0.49	13.0	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	0.75

REMARK:TRF=Tape And Reel Forming Leads

• Dimensions Symbol Information

Description	Symbol	Specification			
		minimum		maximum	
		mm	inch	mm	inch
Reel Diameter	D	78.2	3.08	380	14.96
Core Diameter	D1	34.9	1.37	102	4.02
Hub Recess Inside Diameter	D2	28.6	1.13	88.0	3.46
Arbor Hole Diameter	D3	13.8	0.54	38.1	1.5
Overall Reel Thickness	T	---	---	57.2	2.25
Inside Reel Flange Thickness	T1	30.0	1.18	50.0	1.97
LG2041/TRF-5		2000PCS			

• Package Dimensions





### Typical Electro-Optical Characteristics Curve

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Fig.1 Forward current vs. Forward Voltage

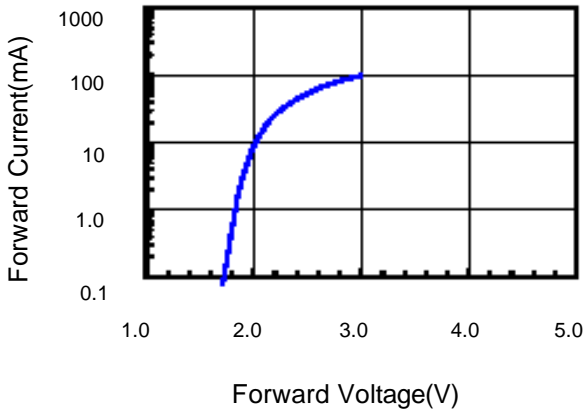


Fig.2 Relative Intensity vs. Forward Current

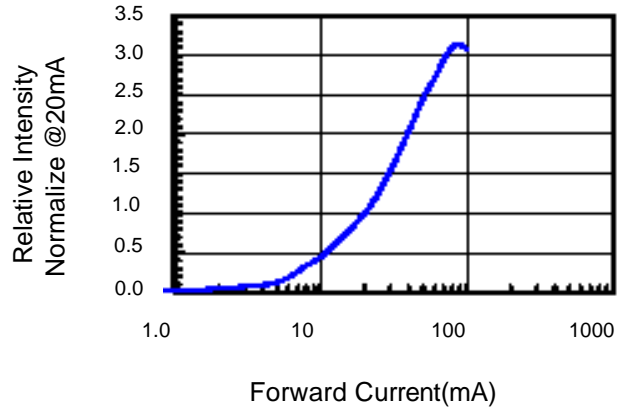


Fig.3 Forward Voltage vs. Temperature

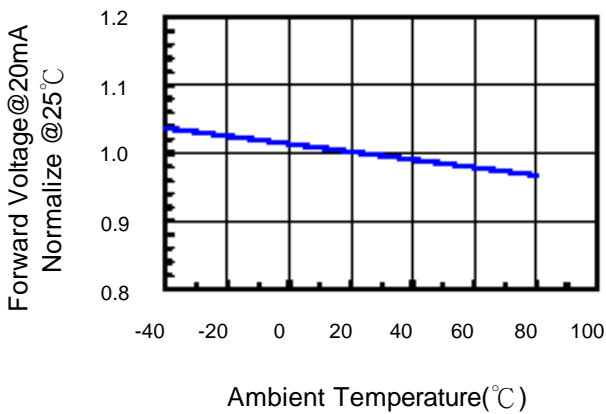


Fig.4 Relative Intensity vs. Temperature

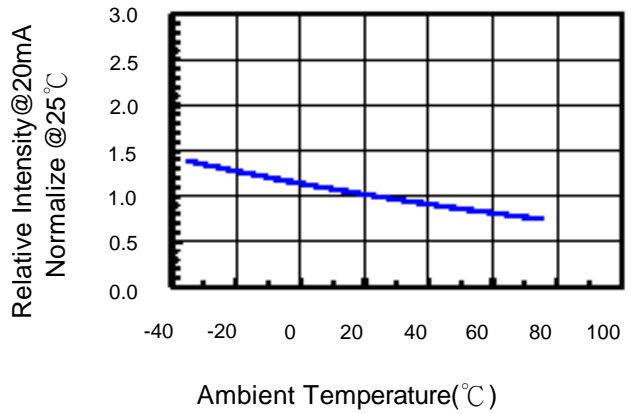


Fig.5 Relative Intensity vs. Wavelength

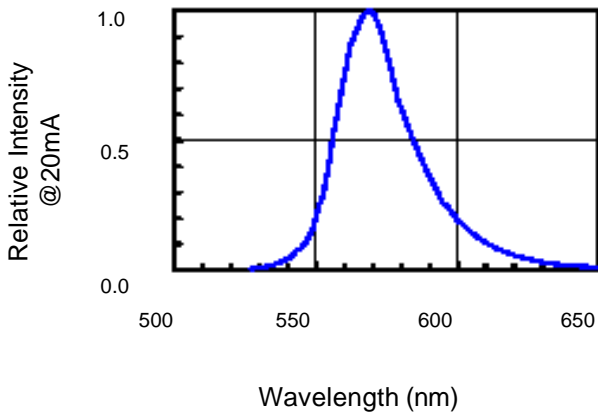
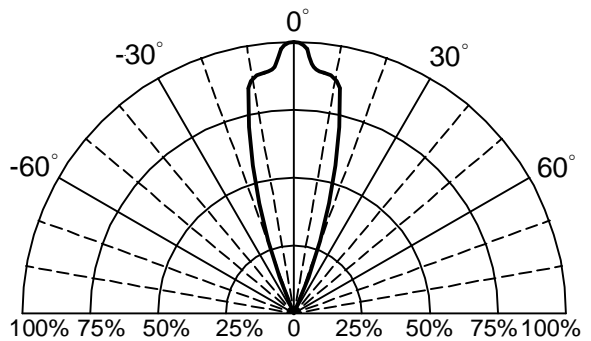


Fig.6 Directive Radiation





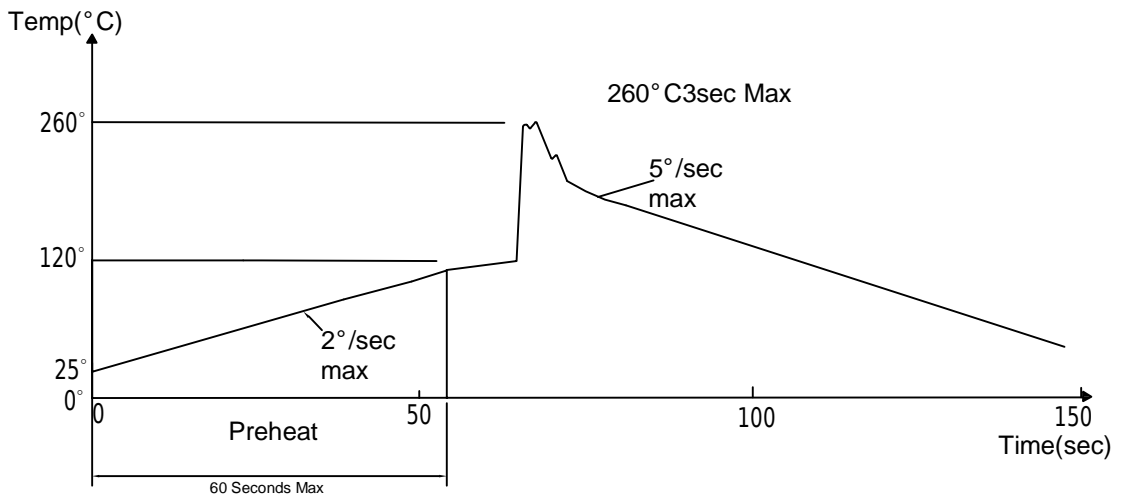
### Soldering Condition(Pb-Free)

#### 1.Iron:

- Soldering Iron:30W Max
- Temperature 350° C Max
- Soldering Time:3 Seconds Max(One time only)
- 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)



Note: 1.Wave solder should not be made more than one time.  
2.You can just only select one of the soldering conditions as above.



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 determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C ±5°C 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 °C ±5°C 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 °C ±5°C 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 °C ±5°C & -40 °C ±5°C (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 °C ±5°C 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 °C ±5°C 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