LITEON

Light Bars
LTL-2000 Series

Features

- Rectangular light bar.
- Choices of three bright colors-green/yellow/high efficiency red.
- Large, bright, uniform light emitting areas.
- Low power requirement.
- Excellent ON-OFF contrast.
- Can be used with panel and legend mount.
- Easy mounting on P.C. board.
- Categorized for light output.
- Yellow and green categorized for dominant wavelength.

Description

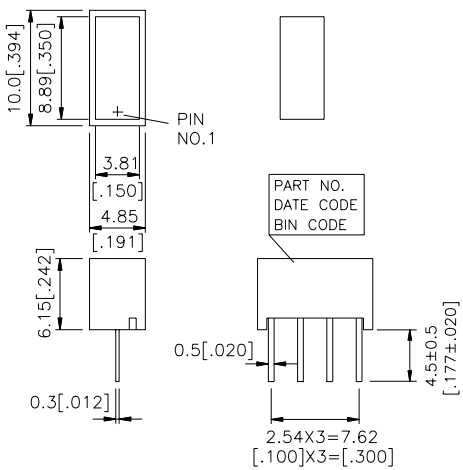
The LTL-2300/2400/2500/2600/2700/2800 series light bars are rectangular light sources designed for a variety of applications where a large bright source of light is required. These light bars are configured in single-in-line and dual-in-line packages. The green series devices utilize LED chips which are made from GaP on a transparent GaP substrate. The yellow and high efficiency red series devices utilize LED chips which are made trom GaAsP on a transparent GaP substrate. All devices have white bar.

Devices

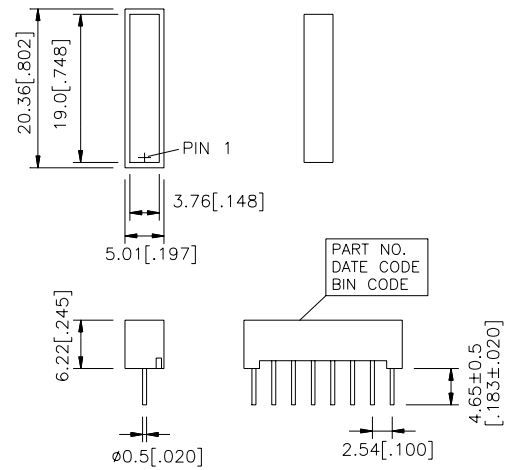
Part No.			Size of Light Emitting Areas	Package Dimension		Internal Circuit Diagram
Green	Yellow	Hi. Eff. Red				
2500G	2400Y	2300HR	8.89mm × 3.81mm(.350 in ×.150 in.)	A		A
2550G	2450Y	2350HR	19mm × 3.76mm(.748 in ×.148 in.)	B		B
2800G	2700Y	2600HR	8.89mm × 3.81mm(.350 in ×.150 in.)	C		C
2855G	2755Y	2655HR	8.89mm × 8.89mm(.350 in ×.350 in.)	D		D
2820G	2720Y	2620HR	8.89mm × 3.81mm(.350 in ×.150 in.)	E		E
2885G	2785Y	2685HR	8.89mm × 19.05mm(.350 in ×.750 in.)	F		F

Package Dimensions

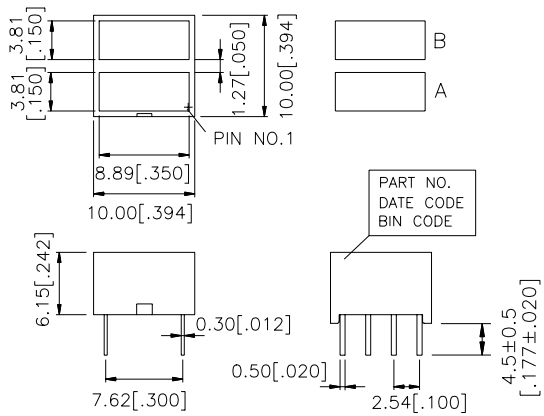
A. LTL-2300/2400/2500



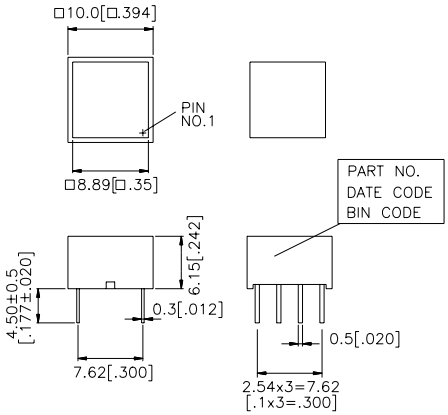
B. LTL-2350/2450/2550



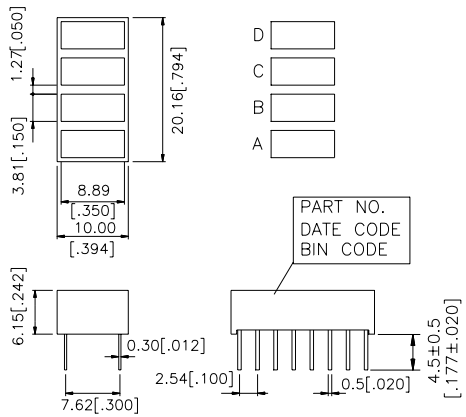
C. LTL-2600/2700/2800



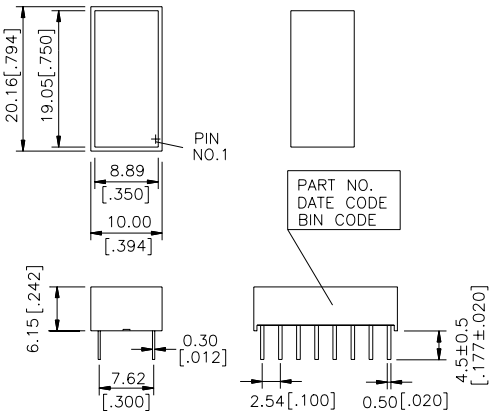
D. LTL-2655/2755/2855



E. LTL-2620/2720/2820



F. LTL-2685/2785/2885



Notes : All dimensions are in millimeters (inches). Tolerance: ± 0.25mm (0.010") unless otherwise noted.

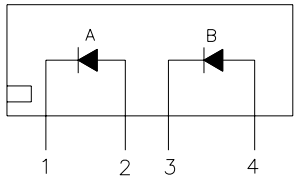
Pin Connection

Pin No.	Connection			
	A LTL-2300/2400/2500	B LTL-2350/2450/2550	C LTL-2600/2700/2800	D LTL-2655/2755/2855
1	Cathode A	Cathode A	Cathode A	Cathode A
2	Anode A	Anode A	Anode A	Anode A
3	Cathode B	Cathode B	Anode B	Anode B
4	Anode B	Anode B	Cathode B	Cathode B
5		Cathode C	Cathode C	Cathode C
6		Anode C	Anode C	Anode C
7		Cathode D	Anode D	Anode D
8		Anode D	Cathode D	Cathode D

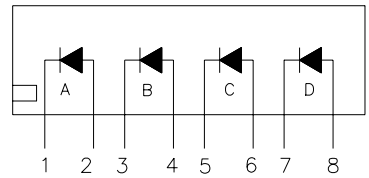
Pin No.	Connection	
	E. LTL-2620/2720/2820	F. LTL-2685/2785/2885
1	Cathode A	Cathode A
2	Anode A	Anode A
3	Anode B	Anode B
4	Cathode B	Cathode B
5	Cathode C	Cathode C
6	Anode C	Anode C
7	Anode D	Anode D
8	Cathode D	Cathode D
9	Cathode E	Cathode E
10	Anode E	Anode E
11	Anode F	Anode F
12	Cathode F	Cathode F
13	Cathode G	Cathode G
14	Anode G	Anode G
15	Anode H	Anode H
16	Cathode H	Cathode H

Internal Circuit Diagrams

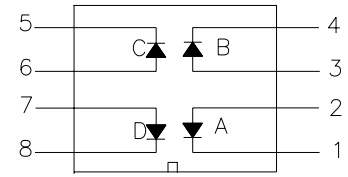
A. LTL-2300/2400/2500



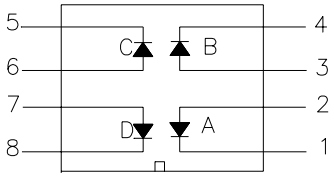
B. LTL-2350/2450/2550



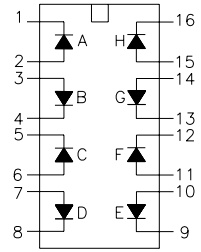
C. LTL-2600/2700/2800



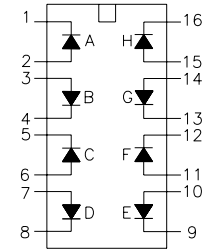
D. LTL-2655/2755/2855



E. LTL-2620/2720/2820



F. LTL-2685/2785/2885



Absolute Maximum Ratings at Ta=25℃

Parameter	Green	Yellow	Hi.- Eff. Red	Unit
Power Dissipation Per Chip	75	60	75	mW
Peak Forward Current Per Chip (1/10 Duty Cycle, 0.1ms Pulse Width)	100	80	100	mA
Continuous Forward Current Per Chip Derating Linear from 25℃ Per Chip	25 0.33	20 0.27	25 0.33	mA mA/℃
Reverse Voltage Per Chip	5	5	5	V
Operating Temperature Range	-35℃ to +85℃			
Storage Temperature Range	-35℃ to +85℃			
Solder Temperature 1/16 Inch Below Seating Plane for 3 Seconds at 260℃				

Electrical/Optical Characteristics at Ta=25℃

Hi.-Eff Red LTL-2300HR/2600HR

Parameter	LTL-	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity Per Bar	2300	I_V	1.4	4.2		mcd	I_F=10mA
	2350		3.5	8			
	2600		1.4	4.2			
	2620		1.4	4.2			
	2655		3.5	8			
	2685		7	16			
Peak Emission Wavelength		λ P		635		nm	I_F=20mA
Spectral Line Half-Width		$\Delta\lambda$		40		nm	I_F=20mA
Dominant Wavelength		λ d		623		nm	I_F=20mA
Forward Voltage, and Bar		V_F		2.0	2.6	V	I_F=20mA
Reverse Current, and Bar		I_R			100	μA	V_R=5V

Yellow LTL-2400Y/2700Y

Parameter	LTL-	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity Per Bar	2400	I_V	1.4	4.2		mcd	I_F=10mA
	2450		3.5	8			
	2700		1.4	4.2			
	2720		1.4	4.2			
	2755		3.5	8			
	2785		7	16			
Peak Emission Wavelength		λ P		585		nm	I_F=20mA
Spectral Line Half-Width		$\Delta\lambda$		35		nm	I_F=20mA
Dominant Wavelength		λ d		588		nm	I_F=20mA
Forward Voltage, and Chip		V_F		2.1	2.6	V	I_F=20mA
Reverse Current, and Chip		I_R			100	μA	V_R=5V

Green LTL-2500G/2800G

Parameter	LTL-	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity Per Bar	2500	I_V	1.4	4.2		mcd	I_F=10mA
	2550		3.5	8			
	2800		1.4	4.2			
	2820		1.4	4.2			
	2855		3.5	8			
	2885		7	16			
Peak Emission Wavelength		λ P		565		nm	I_F=20mA
Spectral Line Half-Width		$\Delta\lambda$		30		nm	I_F=20mA
Dominant Wavelength		λ d		569		nm	I_F=20mA
Forward Voltage, and Chip		V_F		2.1	2.6	V	I_F=20mA
Reverse Current, and Chip		I_R			100	μA	V_R=5V

Notes: 1.Clean only in water, isopropanol,ethanol,freon TF (or equivalent).
2.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage)eye-response curve.

Typical Electrical/Optical Characteristic Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

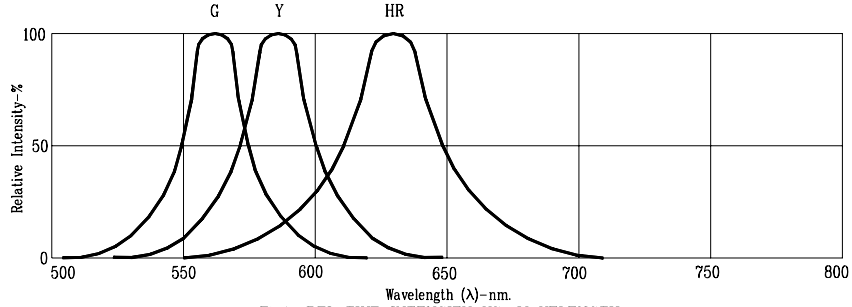


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

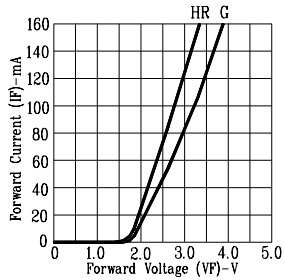


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

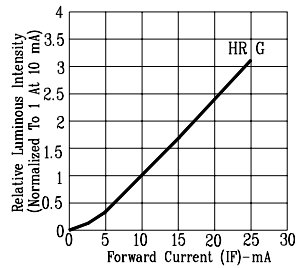


Fig3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

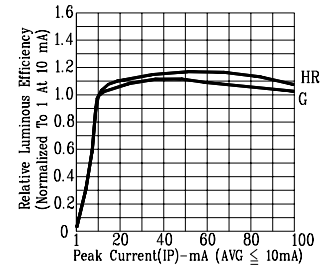


Fig4. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

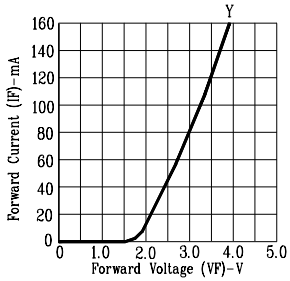


Fig5. FORWARD CURRENT VS. FORWARD VOLTAGE

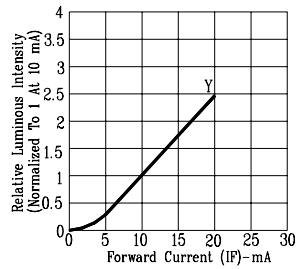


Fig6. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

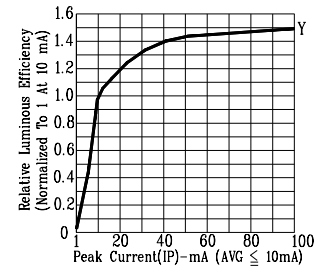


Fig7. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

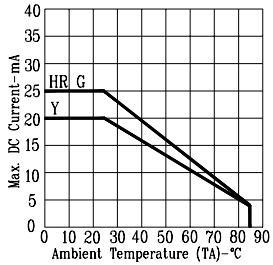


Fig8. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

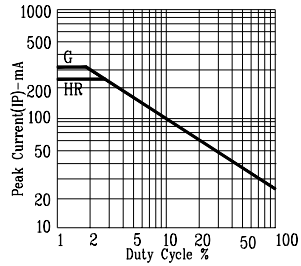


Fig9. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

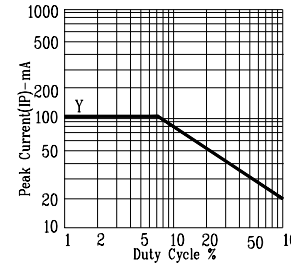


Fig10. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: HR=HI.EFF.RED G=GREEN Y=YELLOW (REFRESH RATE 1KHz)