



53173Y 24E D 8835547 0000434 T T-41-31

LTL- 54173G SERIES 57173HR

12.7mm x 6.35mm LIGHT BAR

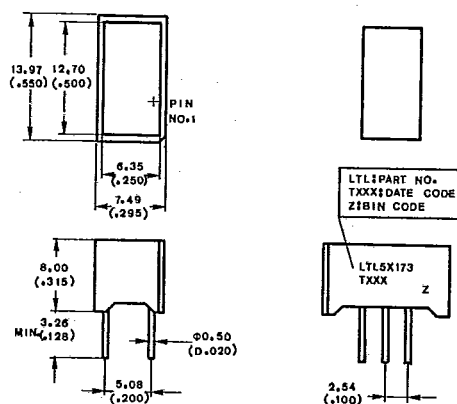
FEATURES

- 12.7mm x 6.35mm RECTANGULAR LIGHT BAR.
- CHOICE OF THREE BRIGHT COLORS-GREEN/YELLOW/HIGH EFFICIENCY RED.
- LARGE, BRIGHT, UNIFORM LIGHT EMITTING AREAS.
- LOW POWER REQUIREMENT.
- I.C. COMPATIBLE.
- EXCELLENT ON-OFF CONTRAST.
- CAN BE USED WITH PANEL AND LEGEND MOUNT.
- SUITABLE FOR MULTIPLEX OPERATION.
- EASY MOUNTING ON P.C. BOARD.

DESCRIPTION

The LTL-53173Y/54173G/57173HR series 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 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 from GaAsP on transparent GaP substrate. The green devices have green bar color, yellow devices have yellow bar color, and high-efficiency red devices have red bar color.

PACKAGE DIMENSIONS



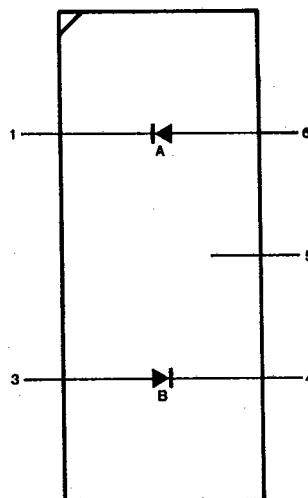
NOTE: All dimensions are in $\frac{\text{millimeters}}{\text{(inches)}}$, tolerance is $\frac{0.25\text{mm}}{(0.010'')}$ unless otherwise noted.

PART NO. LTL-			DESCRIPTION
GREEN	YELLOW	HI-EFF. RED	
54173G	53173Y	57173HR	Universal, Rectangular Bar.

PIN CONNECTION

PIN NO.	CONNECTION
1	Cathode A
2	No Pin
3	Anode B
4	Cathode B
5	No Connection
6	Anode A

INTERNAL CIRCUIT DIAGRAM



LED LIGHT BARS &
BAR GRAPH ARRAYS

ABSOLUTE MAXIMUM RATINGS AT $T_A = 25^\circ\text{C}$

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	25	20	25	mA
Derating Linear From 25°C Per Chip	0.3	0.24	0.3	mA/°C
Reverse Voltage Per Chip	5	5	5	V
Operating Temperature Range	-25°C to +85°C			
Storage Temperature Range	-25°C to +85°C			
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C				

ELECTRICAL/OPTICAL CHARACTERISTICS AT $T_A = 25^\circ\text{C}$ LTL-54173G

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Bar	I_v	3.8	9.8		mcd	$I_F = 10\text{ mA}$
Peak Emission Wavelength	λ_p		565		nm	$I_F = 20\text{ mA}$
Spectral Line Half-Width	$\Delta\lambda$		30		nm	$I_F = 20\text{ mA}$
Forward Voltage any Chip	V_F		2.1	2.8	V	$I_F = 20\text{ mA}$
Reverse Current any Chip	I_R			100	μA	$V_R = 5\text{V}$

Note: The BIN brightness classification see page 3-24, category A.

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

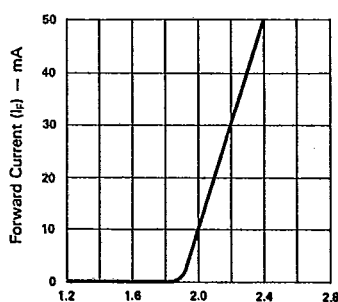


Fig. 1 FORWARD CURRENT VS. FORWARD VOLTAGE.

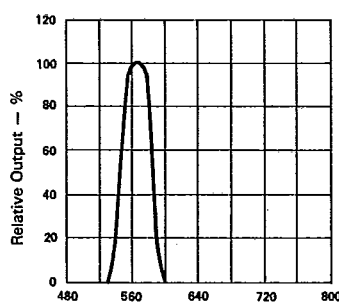


Fig. 2 SPECTRAL RESPONSE.

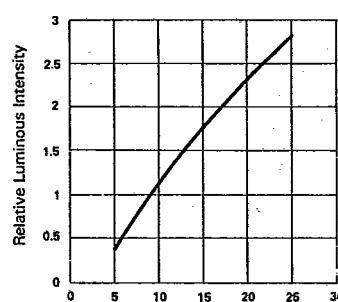


Fig. 3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT (PER SEGMENT).

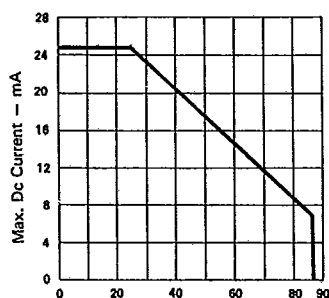


Fig. 4 MAX. ALLOWABLE DC CURRENT PER SEG. VS AMBIENT TEMPERATURE.

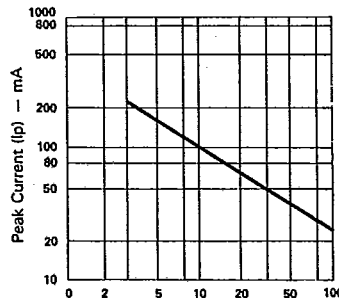


Fig. 5 MAX. PEAK CURRENT VS. DUTY CYCLE.% (REFRESH RATE - $F = 1\text{ KHz}$)

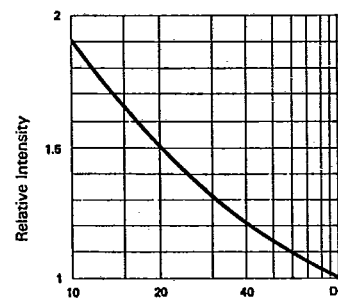


Fig. 6 LUMINOUS INTENSITY VS. DUTY CYCLE% (AVERAGE $I_F = 10\text{mA}$ PER SEG.)

ELECTRICAL/OPTICAL CHARACTERISTICS AT $T_A = 25^\circ\text{C}$ LTL-53173Y

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Bar	I_v	3.8	9.8		mcd	$I_F = 10\text{ mA}$
Peak Emission Wavelength	λ_p		585		nm	$I_F = 20\text{ mA}$
Spectral Line Half-Width	$\Delta\lambda$		35		nm	$I_F = 20\text{ mA}$
Forward Voltage any Chip	V_F		2.1	2.8	V	$I_F = 20\text{ mA}$
Reverse Current any Chip	I_R			100	μA	$V_R = 5\text{ V}$

LED LIGHT BARS &
BAR GRAPH ARRAYS

Note: The BIN brightness classification see page 3-24, category A

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

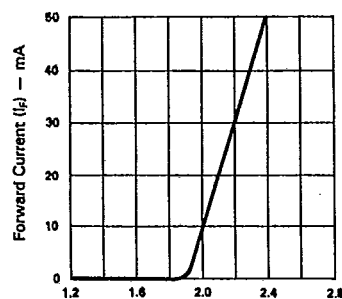


Fig. 1 FORWARD CURRENT Vs. FORWARD VOLTAGE.

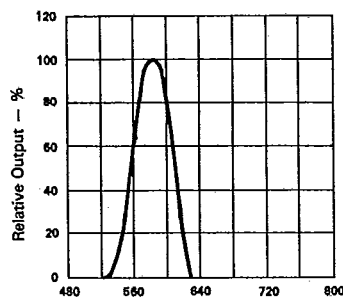


Fig. 2 SPECTRAL RESPONSE.

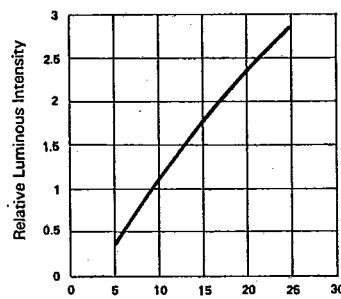


Fig. 3 RELATIVE LUMINOUS INTENSITY Vs. FORWARD CURRENT (PER SEGMENT).

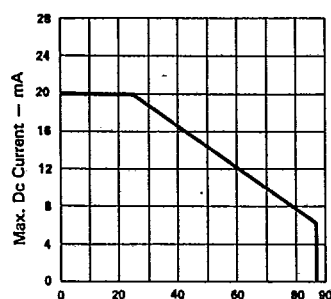


Fig. 4 MAX. ALLOWABLE DC CURRENT PER SEG. Vs AMBIENT TEMPERATURE.

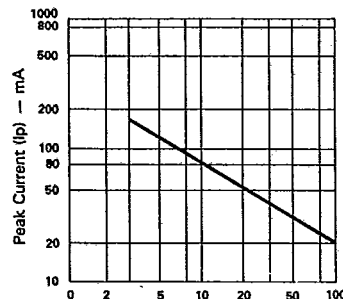


Fig. 5 MAX. PEAK CURRENT Vs. DUTY CYCLE.% (REFRESH RATE - $F = 1\text{ KHz}$)

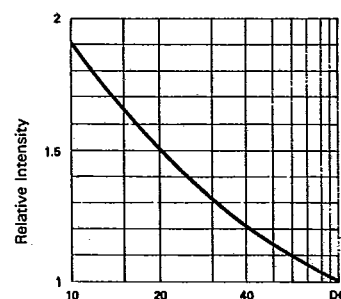


Fig. 6 LUMINOUS INTENSITY Vs. DUTY CYCLE.% (AVERAGE $I_F = 10\text{ mA}$ PER SEG.)

ELECTRICAL/OPTICAL CHARACTERISTICS AT $T_A = 25^\circ\text{C}$

LTL-53173HR

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Bar	I_V	3.8	9.8		mcd	$I_F = 10\text{ mA}$
Peak Emission Wavelength	λ_p		635		nm	$I_F = 20\text{ mA}$
Spectral Line Half-Width	$\Delta\lambda$		40		nm	$I_F = 20\text{ mA}$
Forward Voltage any Chip	V_F		2.1	2.8	V	$I_F = 20\text{ mA}$
Reverse Current any Chip	I_R			100	μA	$V_R = 5\text{ V}$

Note: The BIN brightness classification see page 3-24, category A

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

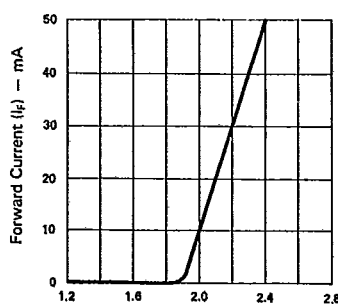


Fig. 1 FORWARD CURRENT Vs. FORWARD VOLTAGE.

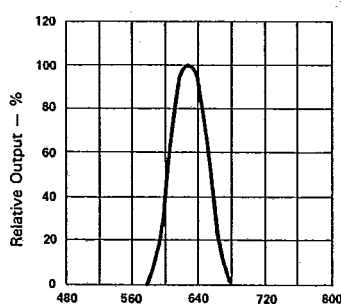


Fig. 2 SPECTRAL RESPONSE.

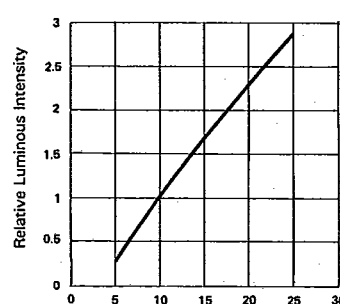


Fig. 3 RELATIVE LUMINOUS INTENSITY Vs. FORWARD CURRENT (PER SEGMENT).

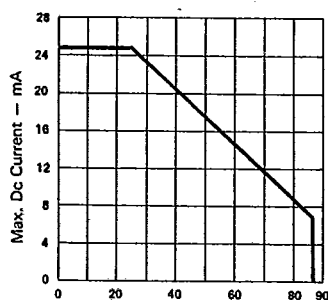


Fig. 4 MAX. ALLOWABLE DC CURRENT PER SEG. Vs AMBIENT TEMPERATURE.

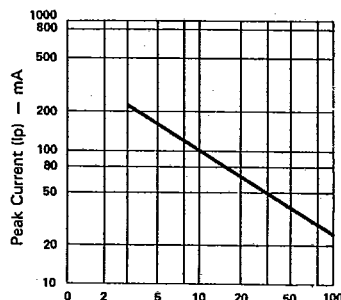


Fig. 5 MAX. PEAK CURRENT Vs. DUTY CYCLE. (REFRESH RATE - $F = 1\text{ KHz}$)

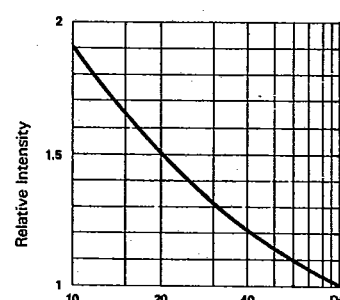


Fig. 6 LUMINOUS INTENSITY Vs. DUTY CYCLE. (AVERAGE $I_F = 10\text{ mA}$ PER SEG.)