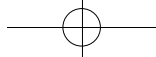


Pin Connection

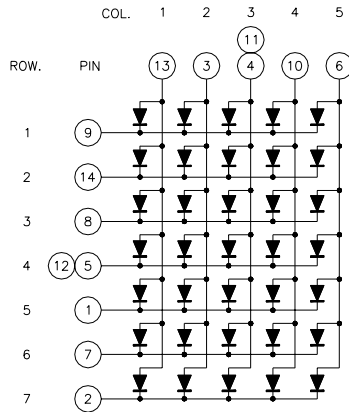
Pin No.	Connection	
	A. LTP-4057A	B. LTP-4157A
1	Cathode Row 5	Anode Row 5
2	Cathode Row 7	Anode Row 7
3	Anode Column 2	Cathode Column 2
4	Anode Column 3	Cathode Column 3
5	Cathode Row 4	Anode Row 4
6	Anode Column 5	Cathode Column 5
7	Cathode Row 6	Anode Row 6
8	Cathode Row 3	Anode Row 3
9	Cathode Row 1	Anode Row 1
10	Anode Column 4	Cathode Column 4
11	Anode Column 3	Cathode Column 3
12	Cathode Row 4	Anode Row 4
13	Anode Column 1	Cathode Column 1
14	Cathode Row 2	Anode Row 2

Pin No.	Connection	
	C. LTP-4257AA	D. LTP-4357AA
1	Anode Column 1 Green	Cathode Column 1 Green
2	Anode Column 1 Red Orange	Cathode Column 1 Red Orange
3	Cathode Row 7 Green	Anode Row 7 Green
4	Cathode Row 7 Red Orange	Anode Row 7 Red Orange
5	Anode Column 2 Green	Cathode Column 2 Green
6	Anode Column 2 Red Orange	Cathode Column 2 Red Orange
7	Anode Column 3 Green	Cathode Column 3 Green
8	Anode Column 3 Red Orange	Cathode Column 3 Red Orange
9	Cathode Row 5 Green	Anode Row 5 Green
10	Cathode Row 5 Red Orange	Anode Row 5 Red Orange
11	Cathode Row 4 Green	Anode Row 4 Green
12	Cathode Row 4 Red Orange	Anode Row 4 Red Orange
13	Cathode Row 6 Green	Anode Row 6 Green
14	Cathode Row 6 Red Orange	Anode Row 6 Red Orange
15	Anode Column 5 Green	Cathode Column 5 Green
16	Anode Column 5 Red Orange	Cathode Column 5 Red Orange
17	Cathode Row 1 Green	Anode Row 1 Green
18	Cathode Row 1 Red Orange	Anode Row 1 Red Orange
19	Anode Column 4 Green	Cathode Column 4 Green
20	Anode Column 4 Red Orange	Cathode Column 4 Red Orange
21	Anode Column 3 Green	Cathode Column 3 Green
22	Anode Column 3 Red Orange	Cathode Column 3 Red Orange
23	Cathode Row 3 Green	Anode Row 3 Green
24	Cathode Row 3 Red Orange	Anode Row 3 Red Orange
25	Cathode Row 4 Green	Anode Row 4 Green
26	Cathode Row 4 Red Orange	Anode Row 4 Red Orange
27	Cathode Row 2 Green	Anode Row 2 Green
28	Cathode Row 2 Red Orange	Anode Row 2 Red Orange

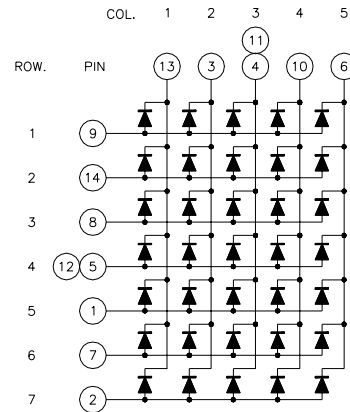


Internal Circuit Diagrams

A. LTP-4057A

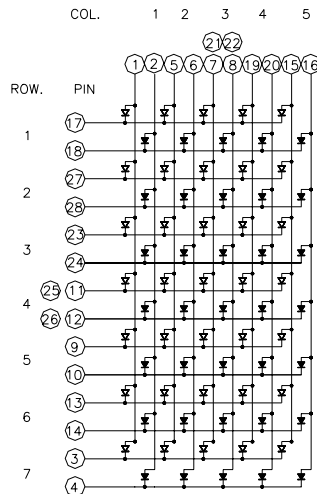


B. LTP-4157A

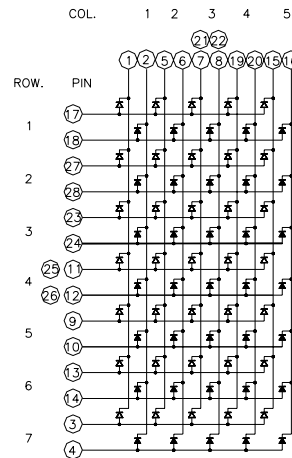


Note : The Sign " " Stands For 2 Chips in Series.

C. LTP-4257AA



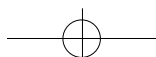
D. LTP-4357AA



Notes : The Sign " " stands for Green color 2 chips sceries.
The Sign " " stands for Red Orange color 2 chips sceries.

Absolute Maximum Ratings at Ta=25°C

Parameter	Green	Yellow	Red Orange	AlGaAs Red	Unit
Average Power Dissipation Per Dot	64	60	64	64	mW
Peak Forward Current Per Dot (1/10 Duty Cycle, 0.1ms Pulse Width)	90	80	90	110	mA
Average Forward Current Per Dot Derating Linear from 25°C Per Dot	11 0.15	8 0.11	11 0.15	14 0.19	mA mA/°C
Reverse Voltage Per Dot	10	10	10	10	V
Operating Temperature Range	-35°C to +85°C				
Storage Temperature Range	-35°C to +85°C				
Solder Temperature 1/16 Inch Below Seating Plane for 3 Seconds at 260°C					





Electrical/Optical Characteristics at Ta=25°C

LTP-4057AG/4157AG & LTP-4257AA/4357AA (Green)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I _v	3000	9600		μ cd	I _F =80mA 1/16 Duty
Peak Emission Wavelength	λ _P		565		nm	I _F =20mA
Spectral Line Half-Width	Δλ		30		nm	I _F =20mA
Dominant Wavelength	λ _d		569		nm	I _F =20mA
Forward Voltage, any Dot	V _F		4.2	5.2	V	I _F =20mA
			6	7.4	V	I _F =80mA
Reverse Current, any Dot	I _R			100	μ A	V _R =10V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _F =80mA 1/16 Duty

LTP-4057AY/4157AY

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I _v	3000	9600		μ cd	I _F =80mA 1/16 Duty
Peak Emission Wavelength	λ _P		585		nm	I _F =20mA
Spectral Line Half-Width	Δλ		35		nm	I _F =20mA
Dominant Wavelength	λ _d		588		nm	I _F =20mA
Forward Voltage, any Dot	V _F		4.2	5.2	V	I _F =20mA
			6.0	7.4	V	I _F =80mA
Reverse Current, any Dot	I _R			100	μ A	V _R =10V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _F =80mA 1/16 Duty

LTP-4057AE/4157AE & LTP-4257AA/4357AA (Red Orange)

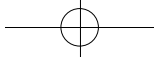
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I _v	3000	9600		μ cd	I _F =80mA 1/16 Duty
Peak Emission Wavelength	λ _P		630		nm	I _F =20mA
Spectral Line Half-Width	Δλ		40		nm	I _F =20mA
Dominant Wavelength	λ _d		621		nm	I _F =20mA
Forward Voltage, any Dot	V _F		4	5.2	V	I _F =20mA
			5.2	6.8	V	I _F =80mA
Reverse Current, any Dot	I _R			100	μ A	V _R =10V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _F =80mA 1/16 Duty

LTP-4057AC/4157AC

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I _v	11600	20000		μ cd	I _F =80mA 1/16 Duty
Peak Emission Wavelength	λ _P		660		nm	I _F =20mA
Spectral Line Half-Width	Δλ		35		nm	I _F =20mA
Dominant Wavelength	λ _d		638		nm	I _F =20mA
Forward Voltage, any Dot	V _F		3.6	4.8	V	I _F =20mA
			4	6.2	V	I _F =80mA
Reverse Current, any Dot	I _R			100	μ A	V _R =10V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _F =80mA 1/16 Duty

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.

DISPLAYS



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

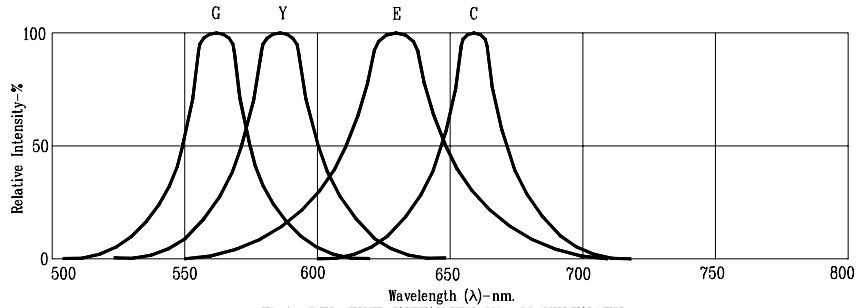


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

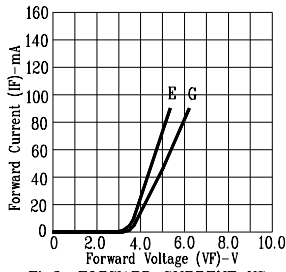


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

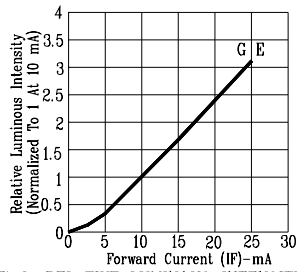


Fig3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

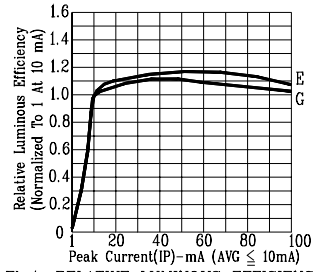


Fig4. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

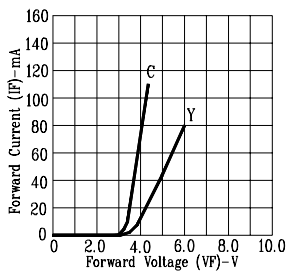


Fig5. FORWARD CURRENT VS. FORWARD VOLTAGE

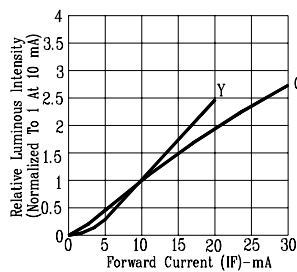


Fig6. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

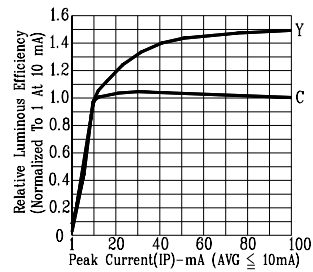


Fig7. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

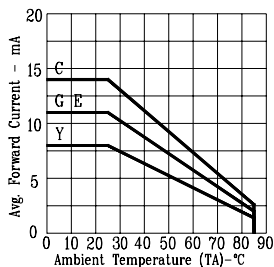


Fig8. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

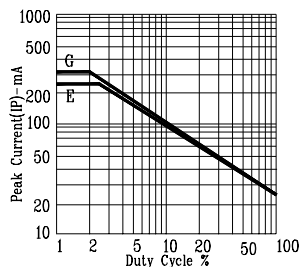


Fig9. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

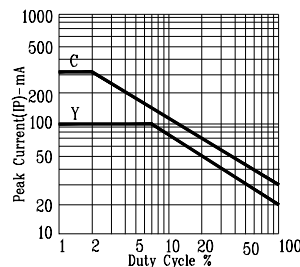


Fig10. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN E=RED ORANGE C=AlGaAs RED Y=YELLOW (REFRESH RATE 1KHz)