

**LED DISPLAY****LTP-2558CA****DATA SHEET**

<b>Rev</b>	<b>Description</b>	<b>By</b>
-	NPPR Original Spec	Jenny Ni 08/22/2000
A	Revise package dimensions on page 2/5 Change from: Width 37.9 mm, Length 60.8mm Change to: Width 32.0 mm, Length 50.9 mm	Phanomkorn J. 01/28/2008

SPEC. NO.: DS-30-98-429DATE : 01/28/2008REV. NO. : A

## **FEATURES**

- \* 1.95 inch (49.45 mm) MATRIX HEIGHT.
- \* LOW POWER REQUIREMENT.
- \* SINGLE PLANE, WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \* 5x8 ARRAY WITH X-Y SELECT.
- \* COMPATIBLE WITH USASCII AND EBCDIC CODES.
- \* STACKABLE HORIZONTALLY.
- \* CATEGORIZED FOR LUMINOUS INTENSITY.
- \* LEAD-FREE PACKAGE (ACCORDING TO ROHS)

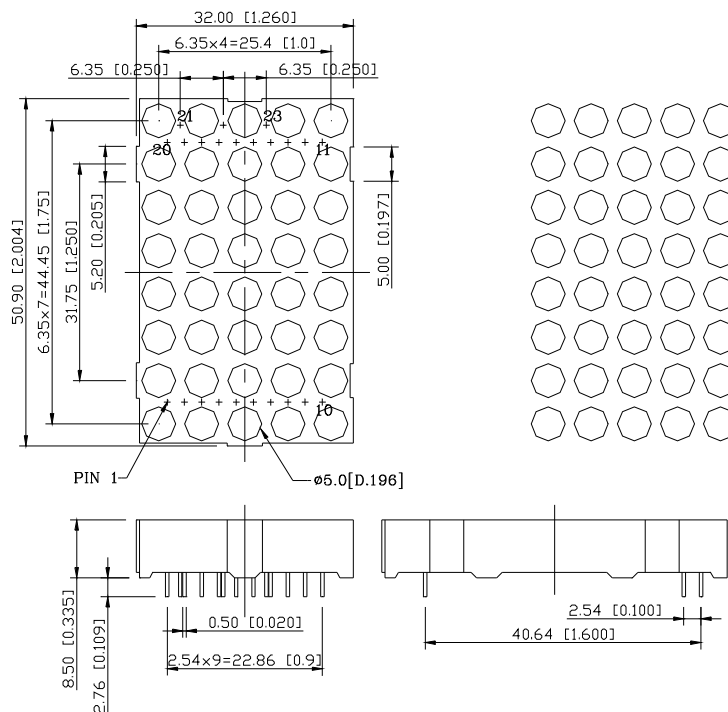
## **DESCRIPTION**

The LTP-2558CA is a 1.95 inch ( 49.45 mm) matrix height 5x8 dot matrix displays  
This device utilizes Red Orange and Green LED chips The Red Orange LED chips are made from GaAsP on GaP a transparent substrate, the green LED chips are made from GaP on GaP substrate , and has a gray face and white dot color.

## **DEVICE**

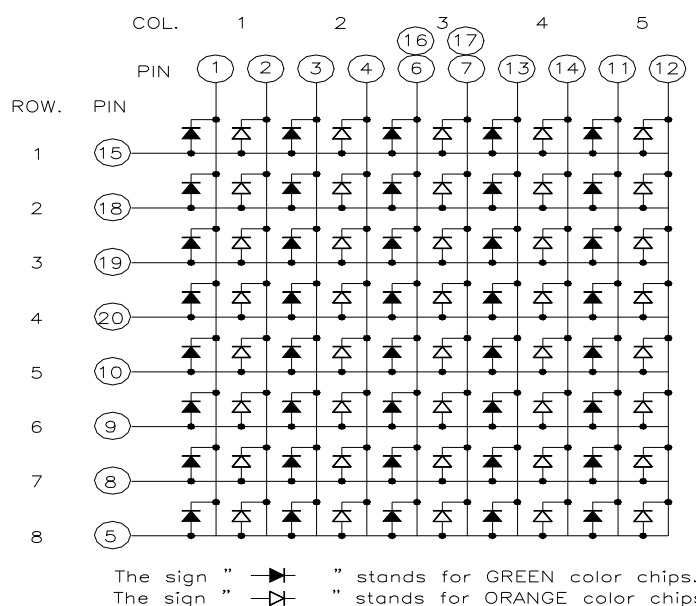
<b>PART NO.</b>	<b>DESCRIPTION</b>
Red Orange and Green	CATHODE COLUMN
LTP-2558CA	ANODE ROW

## PACKAGE DIMENSIONS



- NOTES: 1. All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm unless otherwise note.  
 2. Pin tip's shift tolerance is  $\pm 0.4$  mm.

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

No.	CONNECTION	No.	CONNECTION
1	CATHODE COLUMN 1 GREEN	2	CATHODE COLUMN 1 RED ORANGE
3	CATHODE COLUMN 2 GREEN	4	CATHODE COLUMN 2 RED ORANGE
5	ANODE ROW 8	6	CATHODE COLUMN 2 GREEN
7	CATHODE COLUMN 3 RED ORANGE	8	ANODE ROW 7
9	ANODE Row 6	10	ANODE ROW 5
11	CATHODE COLUMN 5 GREEN	12	CATHODE COLUMN 5 RED ORANGE
13	CATHODE COLUMN 4 GREEN	14	CATHODE COLUMN 4 RED ORANGE
15	ANODE Row 1	16	CATHODE COLUMN 3 GREEN
17	CATHODE COLUMN 3 RED ORANGE	18	ANODE Row 2
19	ANODE Row 3	20	ANODE Row 4

## ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	GREEN	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot	100	mA
Average Forward Current Per Dot	13	mA
Derating Linear From 25°C Per Dot	0.17	mA/°C
Reverse Voltage Per Dot	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C or of temperature unit (during assembly) not over max. temperature rating above.		

## ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

### GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	1780	4800		μcd	I <sub>p</sub> =80mA 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		565		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		30		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		569		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> =20mA
			3.0	3.7		I <sub>F</sub> =80mA
Reverse Current any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio (Similar Light Area)	I <sub>v-m</sub>			2:1		I <sub>F</sub> =10mA

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

## ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	RED ORANGE	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot	100	mA
Average Forward Current Per Dot	13	mA
Derating Linear From 25°C Per Dot	0.17	mA/°C
Reverse Voltage Per Dot	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	

Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C  
 or of temperature unit (during assembly) not over max. temperature rating above.

## ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

### RED ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	1780	4800		μcd	I <sub>p</sub> =80mA 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		630		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		621		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> =20mA
			2.6	3.4		I <sub>F</sub> =80mA
Reverse Current any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio (Similar Light Area)	I <sub>v-m</sub>			2:1		I <sub>F</sub> =10mA

Note: 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°C Ambient Temperature Unless Otherwise Noted)

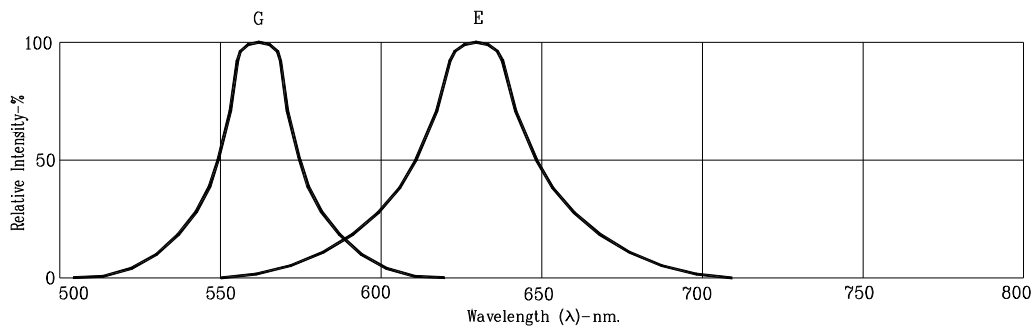


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

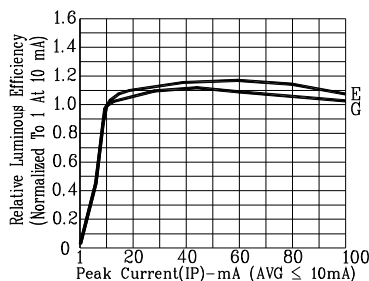


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

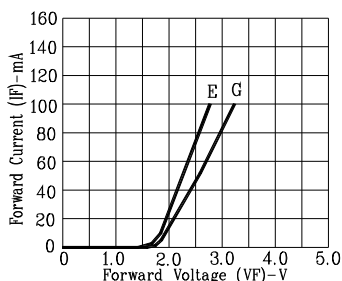


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

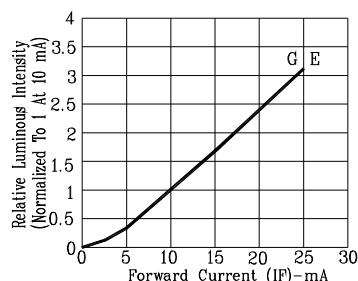


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

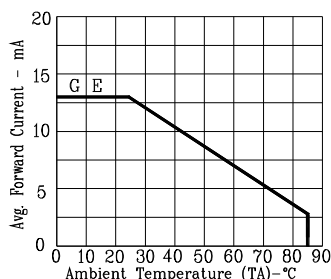


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

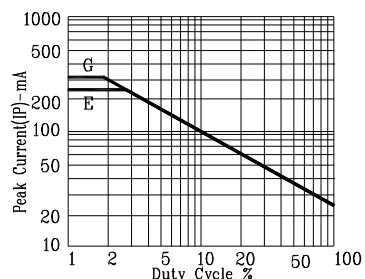


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN E=RED ORANGE