



# **LED Display**

## **Product Data Sheet**

### **LTP-2344G**

Spec No.: DS30-2000-359

Effective Date: 11/14/2000

Revision: -

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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**FEATURES**

- \* 2.0 inch (50.8 mm) DIGIT HEIGHT.
- \* LOW POWER REQUIREMENT.
- \* EXCELLENT CHARACTERS AND APPEARANCE.
- \* HIGH CONTRAST.
- \* HIGH BRIGHTNESS.
- \* WIDE VIEWING ANGLE.
- \* 4X4 ARRAY WITH X-Y SELECT.
- \* STACKABLE VERTICALLY AND HORIZONTALLY.

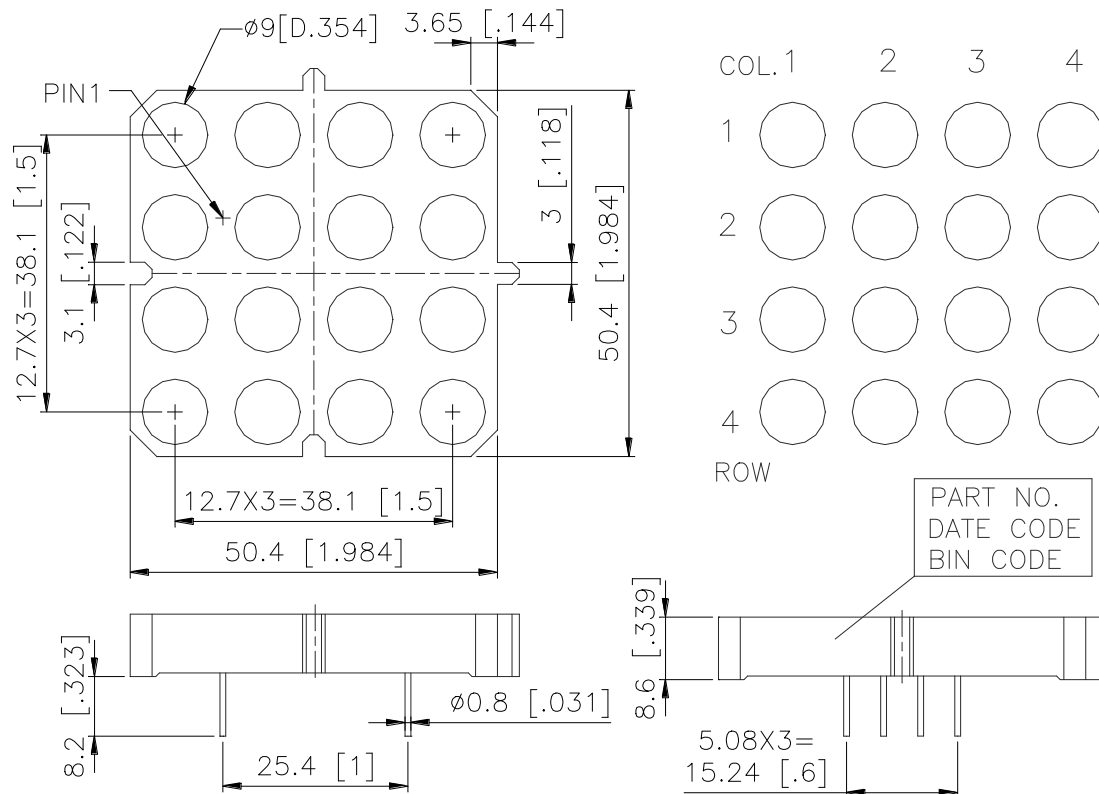
**DESCRIPTION**

The LTP-2344G is 2.0 inch (50.8 mm) matrix height 4x4 dot matrix display. This device utilizes green LED chips, which are made from GaP on a GaP substrate, and has a gray face and white dots.

**DEVICE**

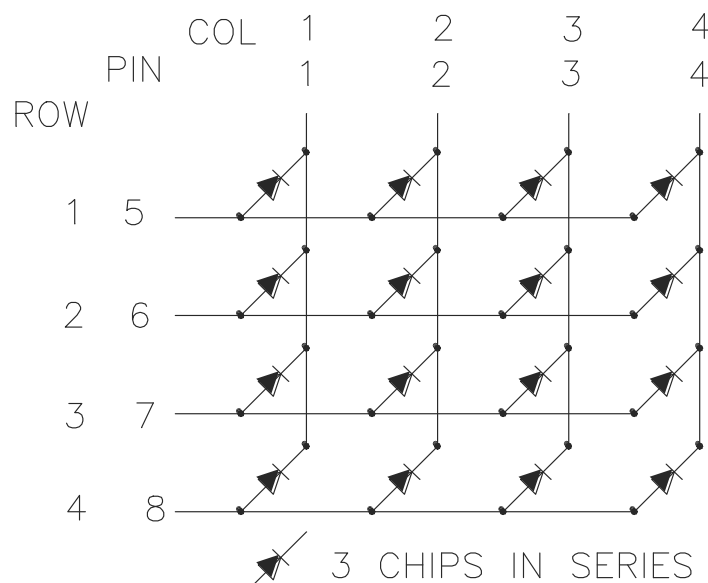
PART NO.	DESCRIPTION
GREEN	ANODE ROW
LTP-2344G	CATHODE COLUMN

## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	CATHODE COLUMN 1
2	CATHODE COLUMN 2
3	CATHODE COLUMN 3
4	CATHODE COLUMN 4
5	ANODE ROW 1
6	ANODE ROW 2
7	ANODE ROW 3
8	ANODE ROW 4

**ABSOLUTE MAXIMUM RATING AT Ta=25°C**

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	96	mW
Peak Forward Current Per Dot	90	mA
Average Forward Current Per Dot	11	mA
Derating Linear From 25°C Per Dot	0.15	mA/°C
Reverse Voltage Per Segment	15	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature: max 260°C for max 3sec at 1.6mm[1/16inch] below seating plane.		

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	5.0	11.0		mcd	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 Per Chip	V <sub>F</sub>		6.3	7.8	V	I <sub>F</sub> =20mA
			9.0	11.1		I <sub>F</sub> =80mA
Reverse Current Per Chip	I <sub>R</sub>			100	μA	V <sub>R</sub> =15V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>p</sub> =80mA 1/16DUTY

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

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

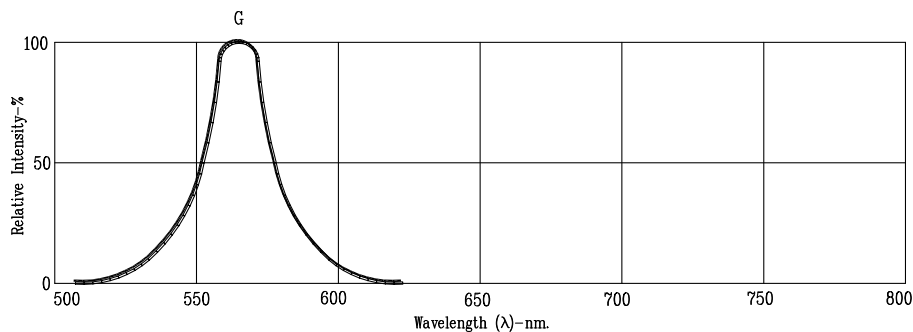


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

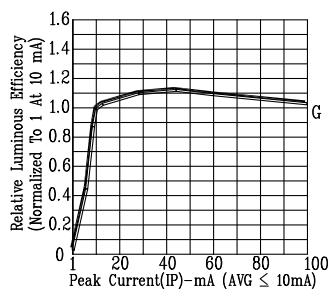


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

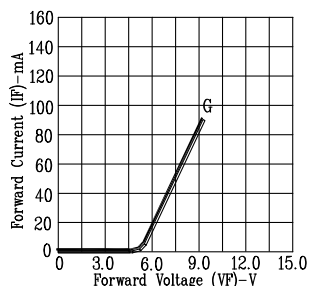


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

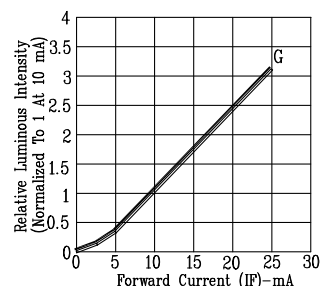


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

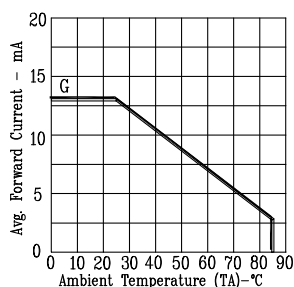


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

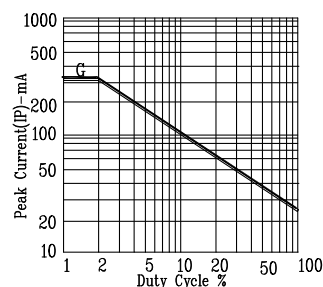


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN

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