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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

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**Spec No.: DS-30-95-121**Effective Date: 06/06/2000

Revision: -

**LITE-ON DCC** 

**RELEASE** 

BNS-OD-FC001/A4

### Property of Lite-On Only

#### **FEATURES**

- \*2.2 inch (57.22 mm) MATRIX HEIGHT.
- \*LOW POWER REQUIREMENT.
- \* SINGLE PLANE, WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \*5×7 ARRAY WITH X-Y SELECT.
- \*COMPATIBLE WITH USASCII AND EBCDIC CODES.
- \*STACKABLE HORIZONTALLY.
- \*CATEGORIZED FOR LUMINOUS INTENSITY.

#### **DESCRIPTION**

The LTP-22357E is a 2.2 inch (57.22 mm) matrix height 5x7 dot matrix display. This device utilizes AlGaAs Red LED chips, which are made from GaAsP on GaP substrate, and has a gray face and white dots.

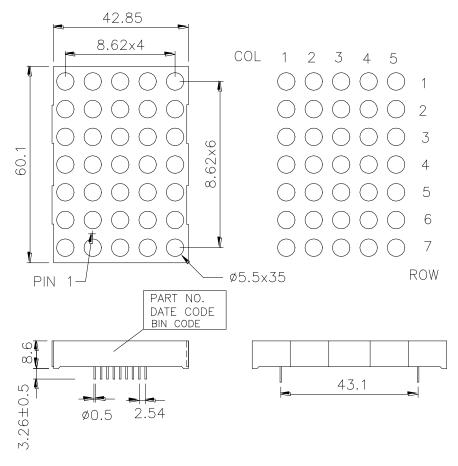
#### **DEVICE**

PART NO.	DESCRIPTION				
Red Orange	ANODE ROW				
LTP-22357E	CATHODE COLUMN				

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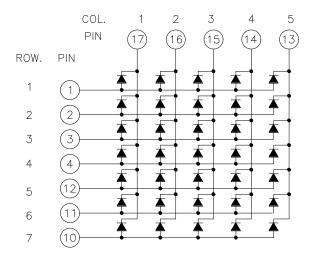
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#### **PACKAGE DIMENSIONS**



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

#### INTERNAL CIRCUIT DIAGRAM



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**Property of Lite-On Only** 

### PIN CONNECTION

No.	CONNECTION	No.	CONNECTION
1	ANODE ROW 1	10	ANODE ROW 7
2	ANODE ROW 2	11	ANODE ROW 6
3	ANODE ROW 3	12	ANODE ROW 5
4	ANODE ROW 4	13	CATHODE CLOUMN 5
5	NO CONNECTION	14	CATHODE CLOUMN 4
6	NO CONNECTION	15	CATHODE CLOUMN 3
7	NO CONNECTION	16	CATHODE CLOUMN 2
8	NO CONNECTION	17	CATHODE CLOUMN 1
9	NO CONNECTION	18	NO CONNECTION

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**Property of Lite-On Only** 

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

PARAMETER	MAXIMUM RATING	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 Segment	5	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
A	T	1700	4800		الم ما	I <sub>p</sub> =80mA
Average Luminous Intensity	Iv	1780	4800		μcd	1/16Duty
Peak Emission Wavelength	λр		630		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λd		621		nm	I <sub>F</sub> =20mA
B 1771	<b>X</b> 7		2.0	2.6	<b>X</b> 7	I <sub>F</sub> =20mA
Forward Voltage any Dot	$V_{\mathrm{F}}$		2.6	3.4	V	I <sub>F</sub> =80mA
Reverse Current any Dot	IR			100	μΑ	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	Iv-m			2:1		I=10mA

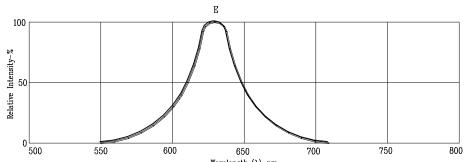
Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

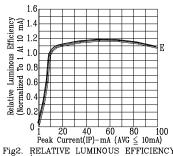
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Property of Lite-On Only

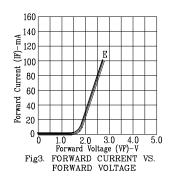
#### TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

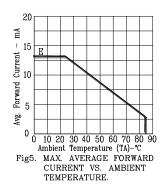
(25°C Ambient Temperature Unless Otherwise Noted)

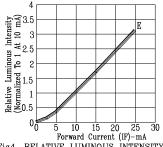




0 1 20 40 60 80 100
Peak Current(IP)-mA (AVG \( \) 10mA)
RELATIVE LUMINOUS EFFICIENCY
(LUMINOUS INTENSITY PER UNIT
CURRENT) VS. PEAK CURRENT
(REFRESH RATE 1KHz)







Forward Current (IF)-mA
Fig4. RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT

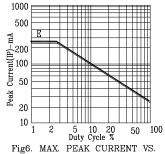


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: E=RED ORANGE

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