LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTP-2157AKR

Spec No.: DS30-2001-251

Effective Date: 12/06/2001

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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FEATURES

∗2.0 inch (50.8 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.

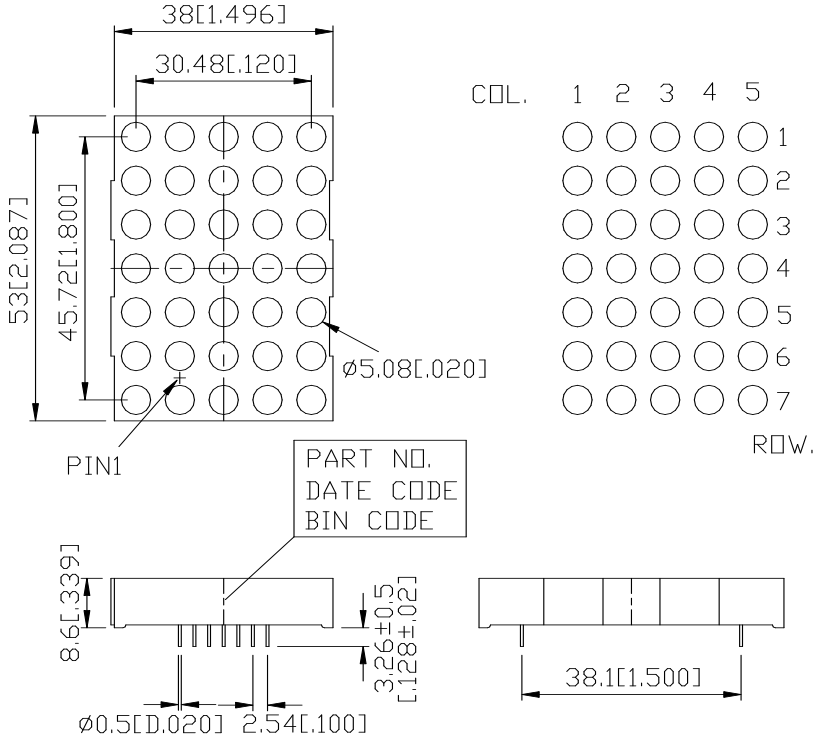
DESCRIPTION

The LTP-2157AKR is a 2.0 inch (50.8 mm) matrix height 5×7 dot matrix display. This device utilizes AlInGaP Super Red LED chips, which are made from AlInGaP on a non-transparent GaAs substrate and has a gray face and white dot color.

DEVICE

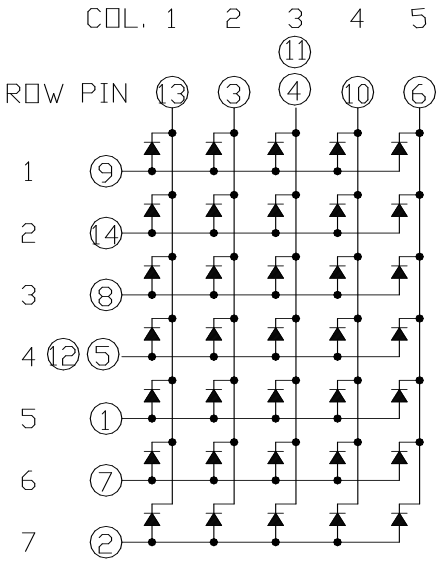
PART NO.	DESCRIPTION
AlInAaP Super Red	Cathode Column
LTP-2157AKR	Anode Row

PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are ± 0.25 mm (0.01“) unless otherwise noted.

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

No.	CONNECTION
1	ANODE ROW 5
2	CATHODE ROW 7
3	ANODE COLUMN 2
4	ANODE COLUMN 3*1
5	CATHODE ROW 4*2
6	ANODE COLUMN 5
7	ANODE ROW 6
8	ANODE ROW 3
9	ANODE ROW 1
10	CATHODE COLUMN 4
11	CATHODE COLUMN 3*1
12	ANODE ROW 4*2
13	CATHODE COLUMN 1
14	ANODE ROW 2

NOTES : 1. Pin 4 & 11 are internally connected.
2. Pin 5 & 12 are internally connected.

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	70	mW
Peak Forward Current Per Dot	90	mA
Average Forward Current Per Dot	15	mA
Derating Linear From 25℃ Per Dot	0.2	mA/℃
Reverse Voltage Per Dot	5	V
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	
Solder Temperature: max 260℃ 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_V	1650	3500		μcd	I_p=32mA 1/16Duty
Peak Emission Wavelength	λp		639		nm	I_F=20mA
Spectral Line Half-Width	Δλ		20		nm	I_F=20mA
Dominant Wavelength	λd		631		nm	I_F=20mA
Forward Voltage any Dot	V_F		2	2.6	V	I_F=20mA
			2.3	2.8		I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	I_V-m			2:1		I_p=32mA 1/16Duty

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)

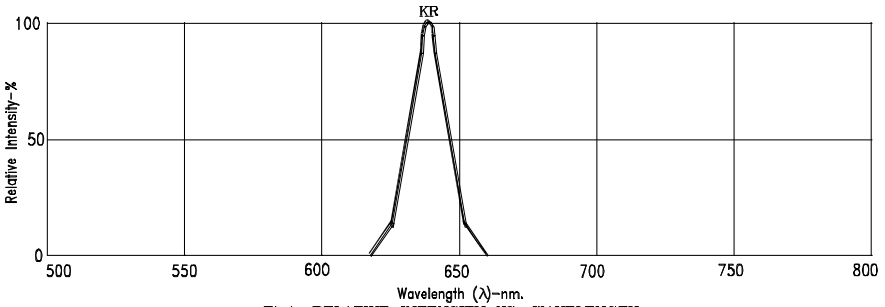


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

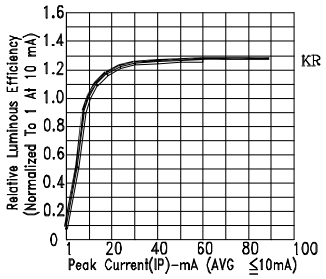


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT
(REFRESH RATE 1KHz)

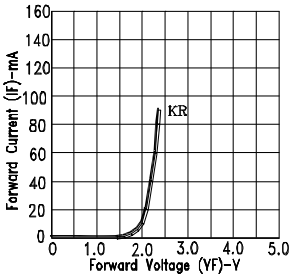


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

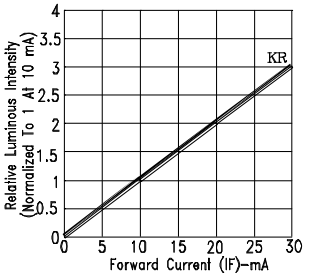


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

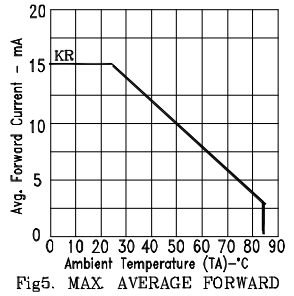


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

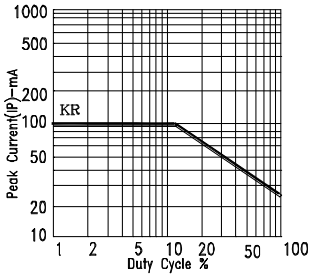


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE 1KHz)

NOTE: KR=AlInGaP SUPER RED