

**FEATURES**

- \* 1.2 inch (30.42 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.

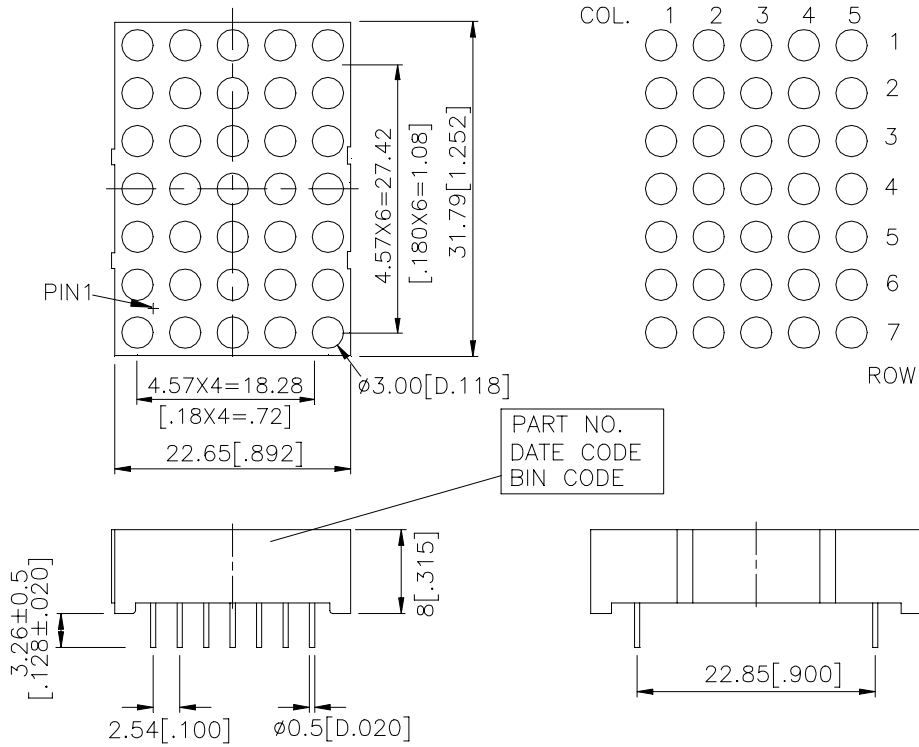
**DESCRIPTION**

The LTP-1557AKR is a 1.2 inch (30.42 mm) matrix height 5 × 7 dot matrix displays. This device utilizes AllnGaP Super Red LED chips, which are made from AllnGaP on a non-transparent GaAs substrate, and has a gray face and white dot color.

**DEVICE**

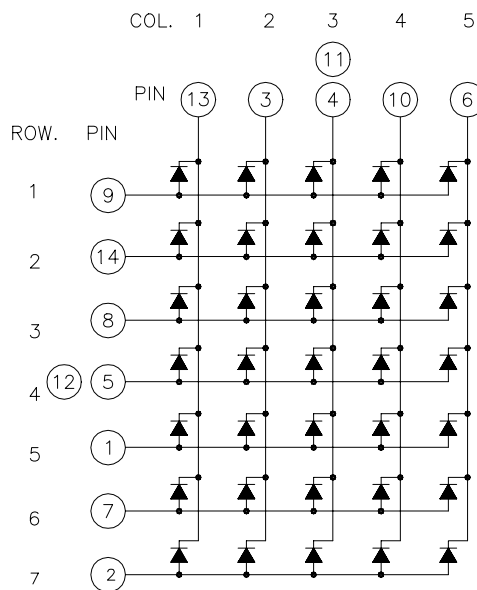
<b>PART NO.</b>	<b>DESCRIPTION</b>
AllnGaP SUPER RED	CATHODE COLUMN
LTP-1557AKR	ANODE ROW

## 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	ANODE ROW 5
2	ANODE ROW 7
3	CATHODE COLUMN 2
4	CATHODE COLUMN 3
5	ANODE ROW 4
6	CATHODE COLUMN 5
7	ANODE ROW 6
8	ANODE ROW 3
9	ANODE ROW 1
10	CATHODE COLUMN 4
11	CATHODE COLUMN 3
12	ANODE ROW 4
13	CATHODE COLUMN 1
14	ANODE ROW 2

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

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	33	mW
Peak Forward Current Per Dot (1/10 Duty Cycle, 0.1 ms Pulse Width)	90	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	
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>	2100	3800		μcd	I <sub>p</sub> =80mA 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		639		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		631		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> =20mA
Reverse Current any Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
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 (Commission Internationale De L'Eclairage) eye-response curve.

**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)

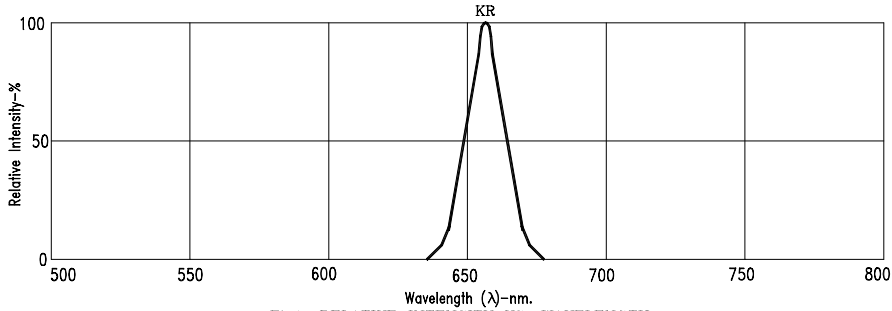


Fig.1. RELATIVE INTENSITY VS. WAVELENGTH

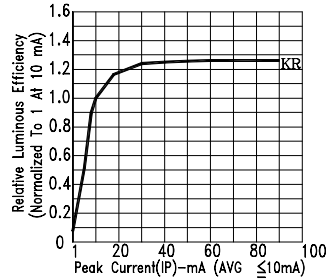


Fig.2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

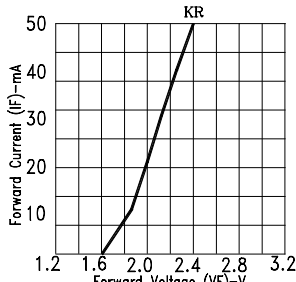


Fig.3. FORWARD CURRENT VS. FORWARD VOLTAGE

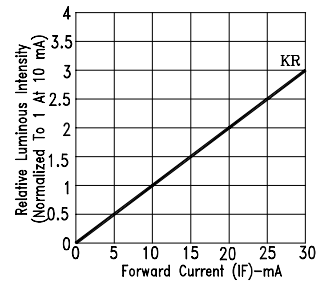


Fig.4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

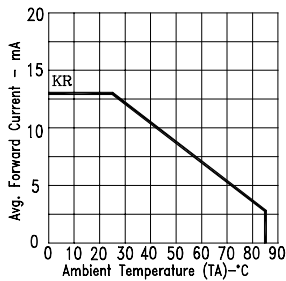


Fig.5. MAX AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

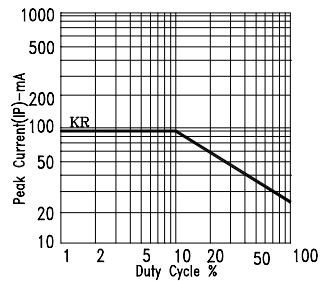


Fig.6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: KR=AlInGaP SUPER RED (REFRSH RATE 1KHz)