FEATURES

- ∗2.0 inch (50.80 mm) MATRIX HEIGHT
- ∗LOW POWER REQUIREMENT
- ∗HIGH BRIGHTNESS & HIGH CONTRAST
- ∗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

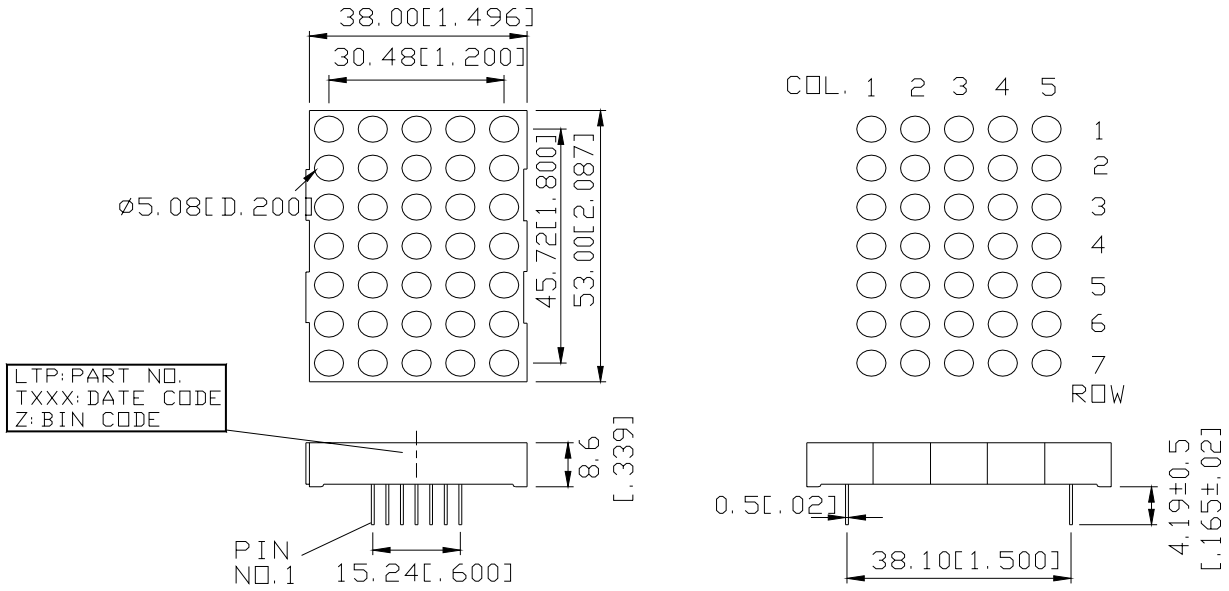
DESCRIPTION

The LPTL21157AFBK1 is a 2.0 inch (50.8 mm) matrix height 5×7 dot matrix display. This device uses AS-AlInGaP RED LED chips (AlInGaP epi on GaAsP substrate). The matrix display has black face and transparent dot.

DEVICE

PART NO.	DESCRIPTION
AlInGaP RED	Cathode Column
LPTL21157AFBK1	Anode Row

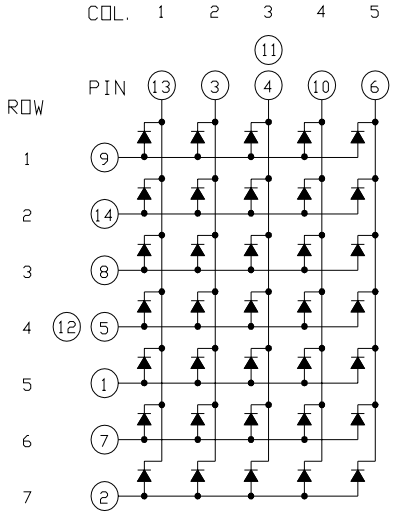
PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters. Tolerance is ± 0.25 mm (0.01“) unless otherwise noted.

2.Pin tip’s shift tol. is +/0.4mm

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

No.	CONNECTION
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

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	40	mW
Peak Forward Current Per Dot (Frequency 1Khz, 18% duty cycle)	90	mA
Average Forward Current Per Dot Forward Current Derating from 25^0C	15 0.2	mA mA/℃
Reverse Voltage Per Dot	5	V
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260℃, or temperature of unit (during assembly) not over max. temperature rating above		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V		3003		μcd	I_P=2mA 1/16Duty
Peak Emission Wavelength	λp		632		nm	I_F=20mA
Spectral Line Half-Width	Δλ		20		nm	I_F=20mA
Dominant Wavelength	λd		624		nm	I_F=20mA
Forward Voltage any Dot	V_F		2.05	2.6	V	I_F=20mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	I_V-m			2:1		I_F=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.

BIN GRADE	K2	L1	L2	M1
RANGE	21.1 : 34.0	34.1 : 54.4	54.5 : 87.0	54.5 : 87.0

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

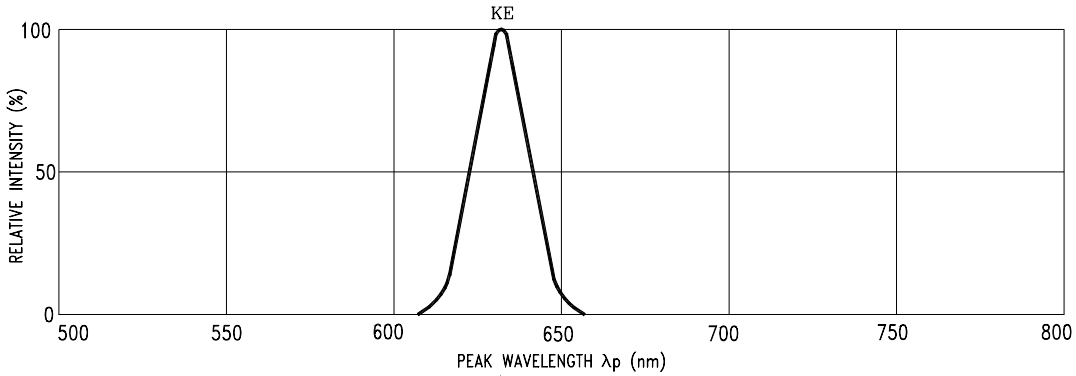


Fig1.Spectral Emission

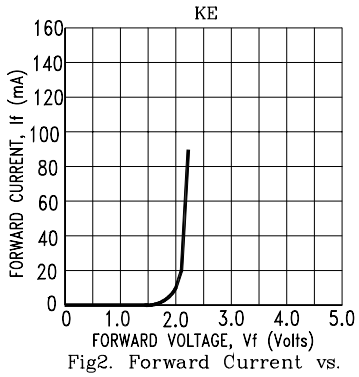


Fig2. Forward Current vs. Forward Voltage

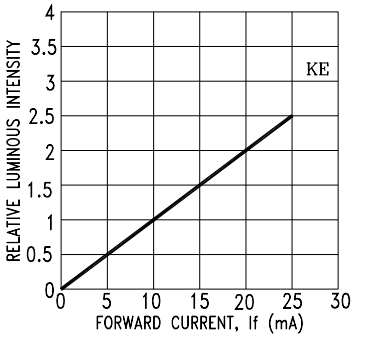


Fig3. Relative Luminous Intensity vs. DC Forward Current

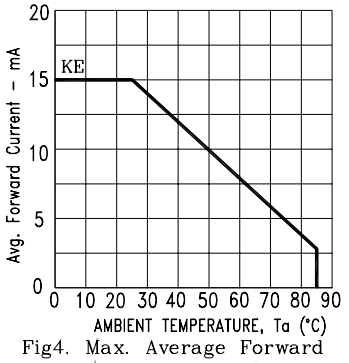


Fig4. Max. Average Forward Current vs. Ambient Temperature

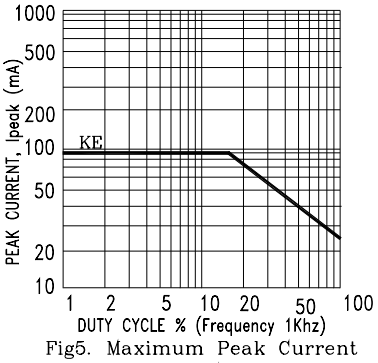


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KE=AlInGaP RED