FEATURES

* 2 inch (50.8 mm) MATRIX HEIGHT.
* LOW POWER REQUIREMENT.
* SINGLE PLANE, WIDE VIEWING ANGLE
* SOLID STATE RELIABILITY.
* 5x7 ARRAY WITH X-Y SELECT.
* COMPATIBLE WITH USASCLL AND EBCDIC CODES.
* STACKABLE HORIZONTALLY.
* CATEGORIZED FOR LUMINOUS INTENSITY.

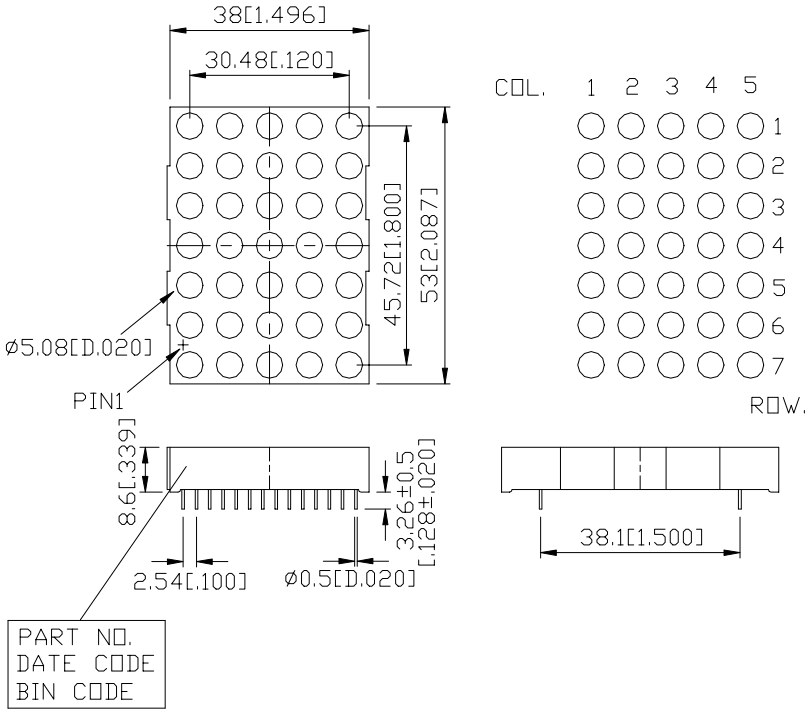
DESCRIPTION

The LTP-2657KM is a 2 inch (50.8 mm) matrix height 5x7 dot matrix display. This device is multicolor applicable display, which has gray face and white dot color. The AlInGap Hyper Red LED chips are made from AlInGaP on a non-transparent GaAs substrate. The AlInGaP Green LED chips are made from AlInGaP on a non-transparent GaAs substrate.

DEVICE

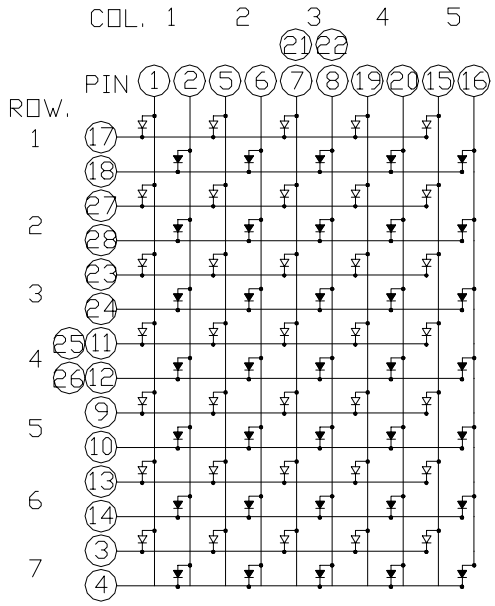
PART NO.	DESCRIPTION
AlInGap Hyper Red & AlInGaP Green	Anode Column
LTP-2657KM	Cathode Row

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	NO.	CONNECTION
1	ANODE COLUMN 1 (GREEN)	15	ANODE COLUMN 5 (GREEN)
2	ANODE COLUMN 1 (RED ORANGE)	16	ANODE COLUMN 5 (RED ORANGE)
3	CATHODE ROW 7 (GREEN)	17	CATHODE ROW 1 (GREEN)
4	CATHODE ROW 7 (RED ORANGE)	18	CATHODE ROW 1 (RED ORANGE)
5	ANODE COLUMN 2 (GREEN)	19	ANODE COLUMN 4 (GREEN)
6	ANODE COLUMN 2 (RED ORANGE)	20	ANODE COLUMN 4 (RED ORANGE)
7	ANODE COLUMN 3 (GREEN)	21	ANODE COLUMN 3 (GREEN)
8	ANODE COLUMN 3 (RED ORANGE)	22	ANODE COLUMN 3 (RED ORANGE)
9	CATHODE ROW 5 (GREEN)	23	CATHODE ROW 3 (GREEN)
10	CATHODE ROW 5 (RED ORANGE)	24	CATHODE ROW 3 (RED ORANGE)
11	CATHODE ROW 4 (GREEN)	25	CATHODE ROW 4 (GREEN)
12	CATHODE ROW 4 (RED ORANGE)	26	CATHODE ROW 4 (RED ORANGE)
13	CATHODE ROW 6 (GREEN)	27	CATHODE ROW 2 (GREEN)
14	CATHODE ROW 6 (RED ORANGE)	28	CATHODE ROW 2 (RED ORANGE)

ABSOLUTE MAXIMUM RATING AT T_A=25°C

PARAMETER	AlInGaP GREEN	AlInGaP Hyper RED	UNIT
Average Power Dissipation Per Dot	35	40	mW
Peak Forward Current Per Dot	60	90	mA
Average Forward Current Per Dot Derating Linear From 25°C Per Dot	13 0.17	15 0.2	mA 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 1/16 inch Below Seating Plane for 3 Seconds at 260°C			

ELECTRICAL / OPTICAL CHARACTERISTICS AT T_A=25°C

AlInGaP GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	1300	3600		μcd	I_p=32mA 1/16DUTY
Peak Emission Wavelength	λp		571		nm	I_F=20mA
Spectral Line Half-Width	Δλ		15		nm	I_F=20mA
Dominant Wavelength	λd		572		nm	I_F=20mA
Forward Voltage any Dot	V_F		2.05	2.6	V	I_F=20mA
			2.3	2.8	V	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

AlInGaP Hyper RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	1650	2700		μcd	I_p=32mA 1/16DUTY
Peak Emission Wavelength	λp		650		nm	I_F=20mA
Spectral Line Half-Width	Δλ		20		nm	I_F=20mA
Dominant Wavelength	λd		639		nm	I_F=20mA
Forward Voltage any Dot	V_F		2.1	2.6	V	I_F=20mA
			2.3	2.8	V	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)

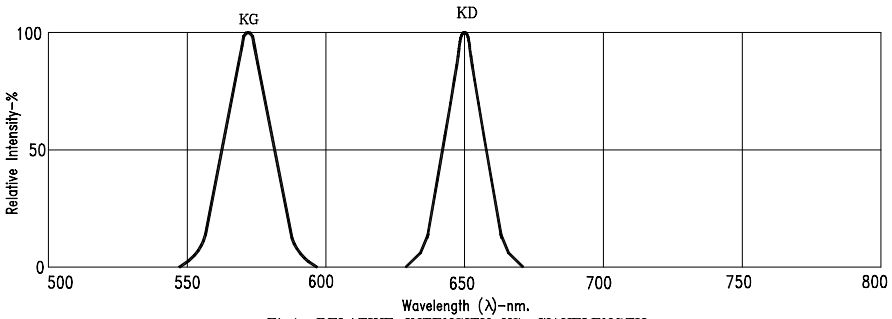


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

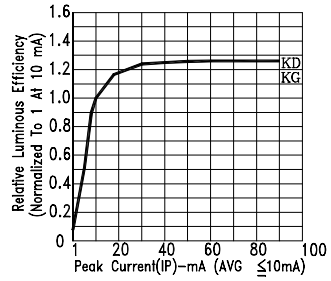


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

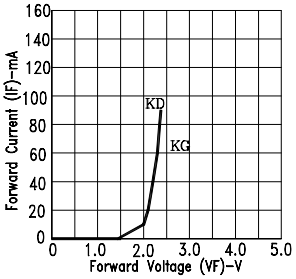


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

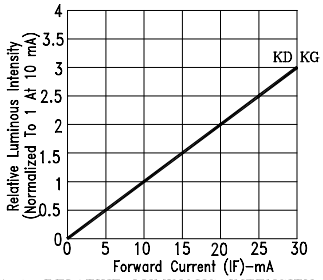


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

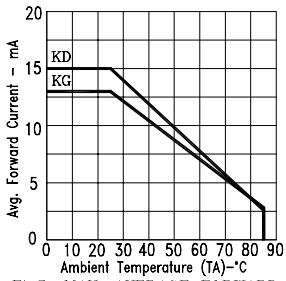


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

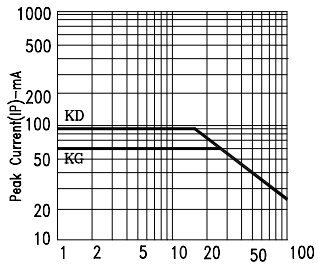


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : KD=AlInGaP HYPER RED
KG=AlInGaP GREEN