

FEATURES

- * 0.764 inch (19.4 mm) MATRIX HEIGHT
- * LOW POWER REQUIREMENT
- * SINGLE PLANE, WIDE VIEWING ANGLE
- * SOLID STATE RELIABILITY
- * 8x8 ARRAY WITH X-Y SELECT
- * COMPATIBLE WITH USASCII AND EBCDIC CODES
- * STACKABLE HORIZONTALLY
- * CATEGORIZED FOR LUMINOUS INTENSITY

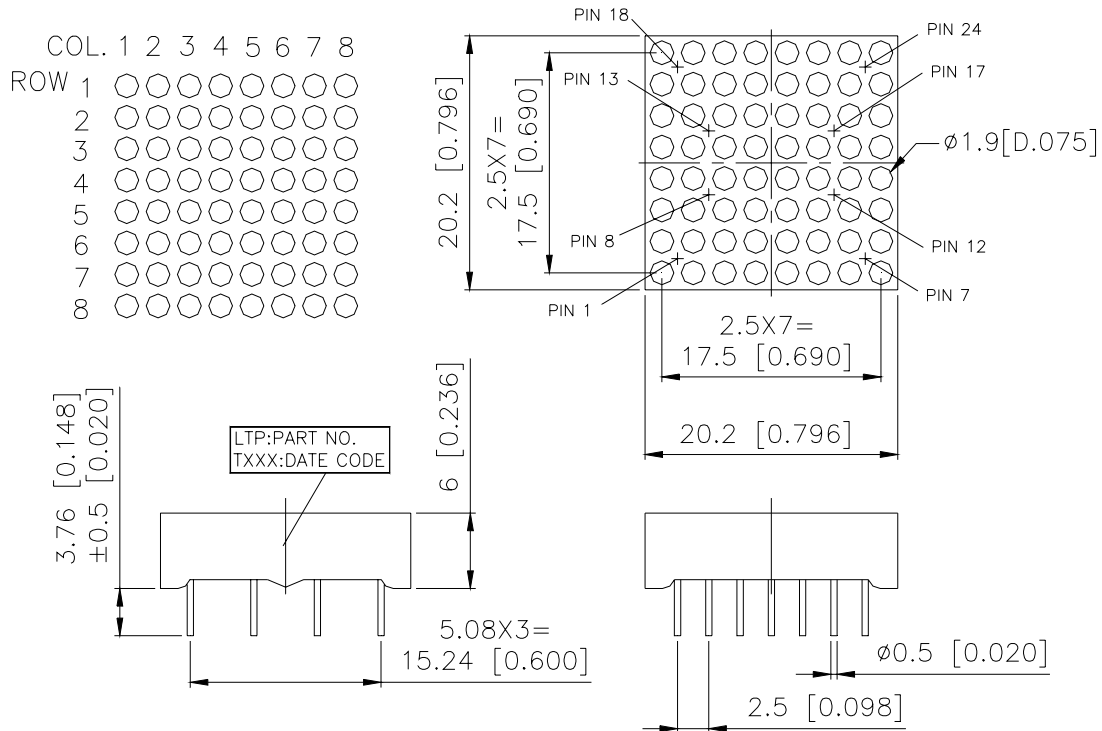
DESCRIPTION

The LTP-7388KM-J is a 0.764 inch (19.4 mm) matrix height 8x8 dot matrix display. The device is multicolor applicable display. It uses AllnGaP GREEN LED chips (AllnGaP epi on GaAs substrate) and AllnGaP HYPER RED chips (AllnGaP epi on GaAs substrate). The display has black face and white dots.

DEVICE

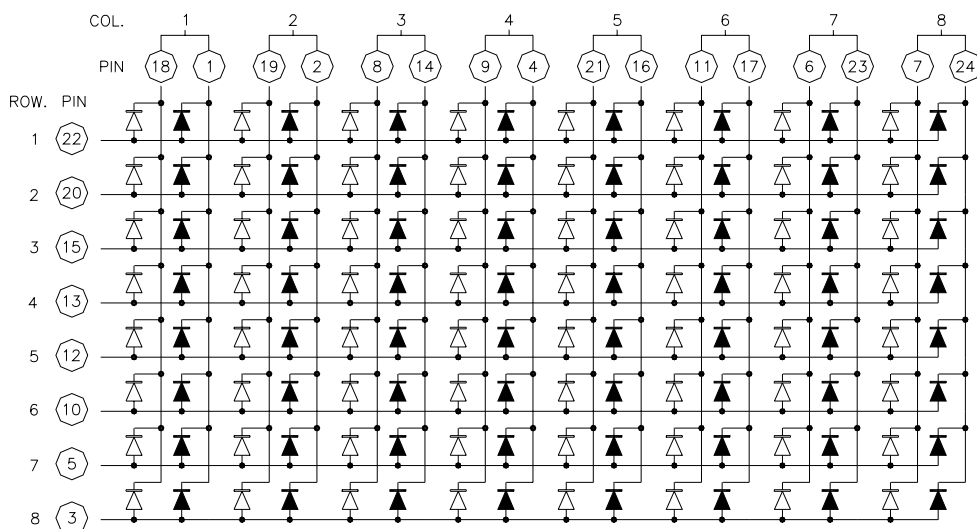
PART NO.	DESCRIPTION
MULTI-COLOR	Cathode Column
LTP-7388KM-J	Anode Row

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



THE SIGN " \blacktriangleright " STANDS FOR AllnGaP HAPER RED CHIPS
 THE SIGN " \blacktriangleleft " STANDS FOR AllnGaP GREEN CHIPS

PIN CONNECTION

No.	CONNECTION	No.	CONNECTION
1	Cathode Column 1 AlInGaP HYPER RED	13	Anode Row 4
2	Cathode Column 2 AlInGaP HYPER RED	14	Cathode Column 3 AlInGaP HYPER RED
3	Anode Row 8	15	Anode Row 3
4	Cathode Column 4 AlInGaP HYPER RED	16	Cathode Column 5 AlInGaP HYPER RED
5	Anode Row 7	17	Cathode Column 6 AlInGaP HYPER RED
6	Cathode Column 7 AlInGaP GREEN	18	Cathode Column 1 AlInGaP GREEN
7	Cathode Column 8 AlInGaP GREEN	19	Cathode Column 2 AlInGaP GREEN
8	Cathode Column 3 AlInGaP GREEN	20	Anode Row 2
9	Cathode Column 4 AlInGaP GREEN	21	Cathode Column 5 AlInGaP GREEN
10	Anode Row 6	22	Anode Row 1
11	Cathode Column 6 AlInGaP GREEN	23	Cathode Column 7 AlInGaP HYPER RED
12	Anode Row 5	24	Cathode Column 8 AlInGaP HYPER RED

ABSOLUTE MAXIMUM RATING

PARAMETER	AllnGaP GREEN	UNIT
Average Power Dissipation Per Dot	35	mW
Peak Forward Current Per Dot (Frequency 1Khz, 10% duty cycle)	60	mA
Average Forward Current Per Dot	13 0.17	mA
Forward Current Derating from 25 ⁰ C	0.33	mA/ ⁰ C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 ⁰ C to +85 ⁰ C	
Storage Temperature Range	-35 ⁰ C to +85 ⁰ C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 ⁰ C		

ELECTRICAL / OPTICAL CHARACTERISTICS

AllnGaP GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity per Dot	I _v	480	1269		ucd	I _p =16mA 1/16Duty
Peak Emission Wavelength	λ _p		571		nm	I _F =20mA
Spectral Line Half-Width	Δλ		15		nm	I _F =20mA
Dominant Wavelength	λ _d		572		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.05	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 (Similar Light Area)	I _{v-m}			2:1		I _p =16mA 1/16Duty

ABSOLUTE MAXIMUM RATING

PARAMETER	AllnGaP HAPER RED	UNIT
Average Power Dissipation Per Dot	40	mW
Peak Forward Current Per Dot (Frequency 1Khz, 10% duty cycle)	90	mA
Average Forward Current Per Dot	15 0.2	mA
Forward Current Derating from 25 ⁰ C	0.33	mA/ ⁰ C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 ⁰ C to +85 ⁰ C	
Storage Temperature Range	-35 ⁰ C to +85 ⁰ C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 ⁰ C		

ELECTRICAL / OPTICAL CHARACTERISTICS

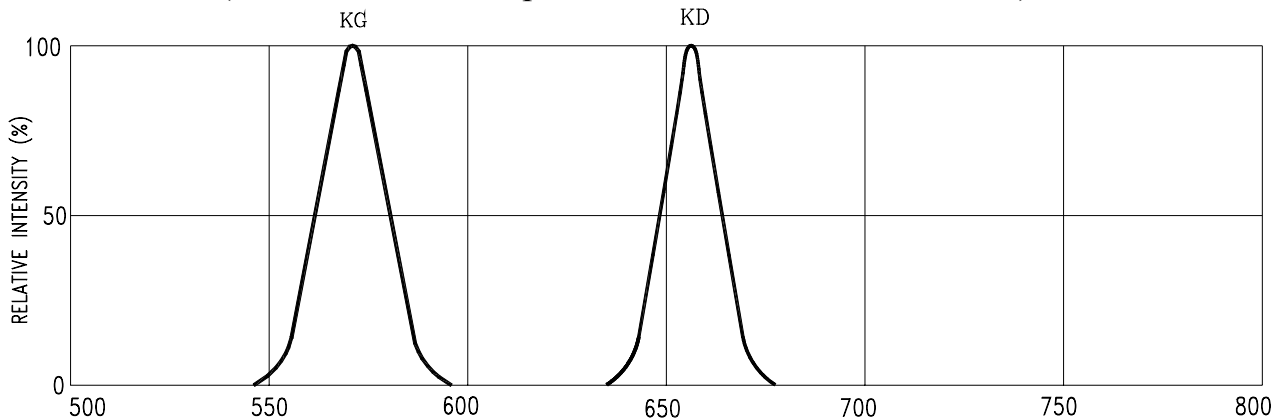
AllnGaP HAPER RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity per Dot	I _v	480	1238		ucd	I _p =16mA 1/16Duty
Peak Emission Wavelength	λ _p		650		nm	I _F =20mA
Spectral Line Half-Width	Δλ		20		nm	I _F =20mA
Dominant Wavelength	λ _d		639		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.05	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 (Similar Light Area)	I _{v-m}			2:1		I _p =16mA 1/16Duty

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

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)



PEAK WAVELENGTH λ_p (nm)
Fig1. Spectral Emission

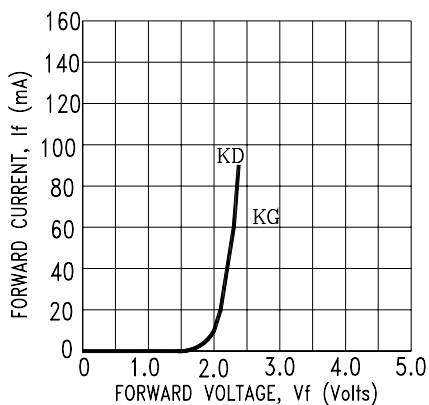


Fig2. Forward Current vs. Forward Voltage

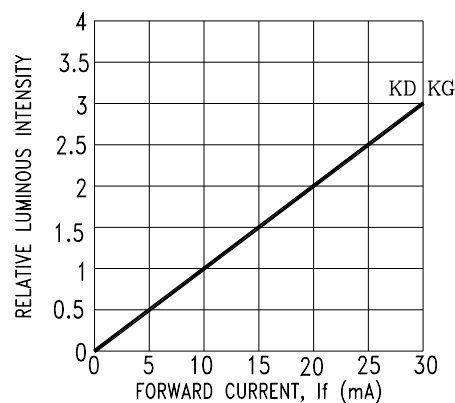


Fig3. Relative Luminous Intensity vs. DC Forward Current

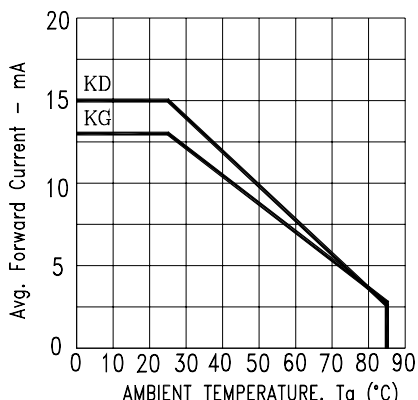


Fig4. Max. Average Forward Current vs. Ambient Temperature

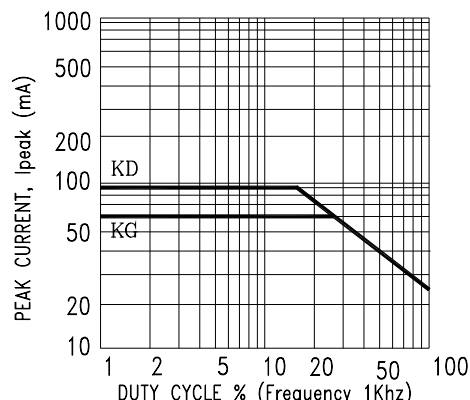


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KD=AlInGaP HYPER RED
KG=AlInGaP GREEN