FEATURES

* 1.85 inch (47.0 mm) MATRIX HEIGHT
* LOW POWER REQUIREMENT
* SINGLE PLANE, WIDE VIEWING ANGLE
* SOLID STATE RELIABILITY
* 8×8 ARRAY WITH X-Y SELECT.
* COMPATIBLE WITH USASCII AND EBCDIC CODES
* STACKABLE HORIZONTALLY
* CATEGORIZED FOR LUMINOUS INTENSITY

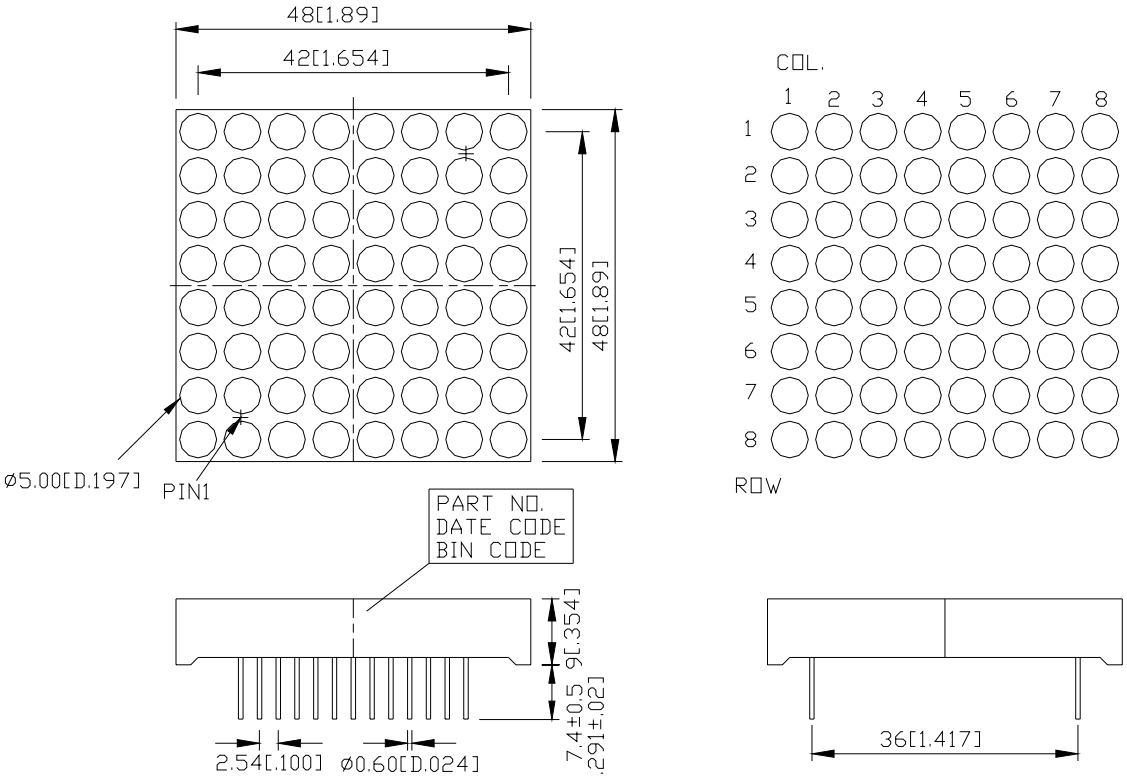
DESCRIPTION

The LTP-18188KM-01 is a 1.85 inch (47.0 mm) matrix height 8×8 dot matrix displays. This device uses AS-AlInGaP HYPER RED LED chips (AlInGaP epi on GaAs substrate) and AS-AlInGaP GREEN LED chips (AlInGaP epi on GaAs substrate). The display has black face white dots.

DEVICE

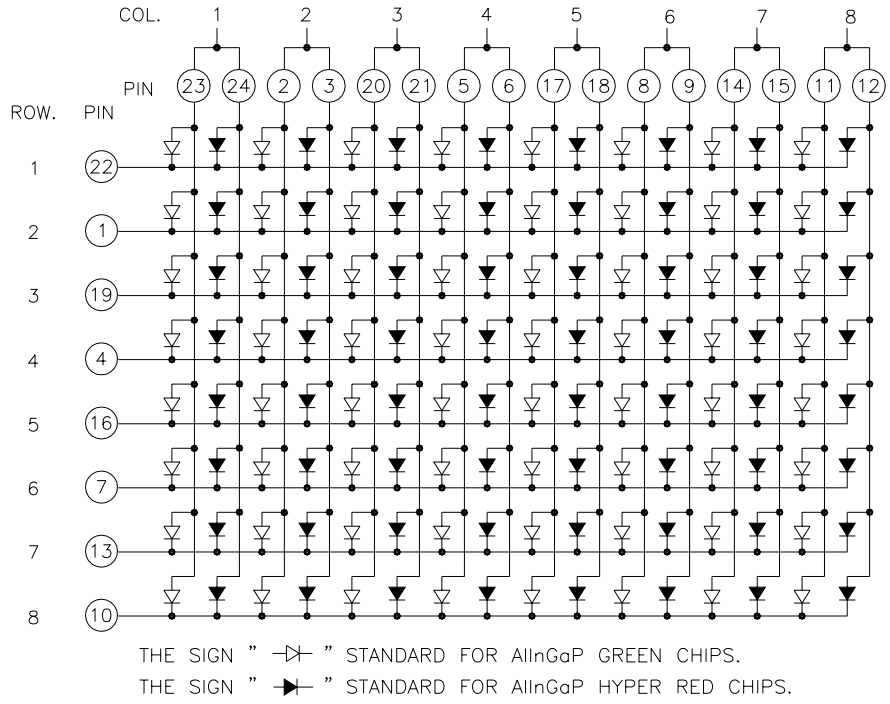
PART NO.	DESCRIPTION
AlInGaP HYPER RED & AlInGaP GREEN	Anode Column
LTP-18188KM-01	Cathode Row

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING

PARAMETER	AlInGaP GREEN	UNIT
Average Power Dissipation Per Dot	35	mW
Peak Forward Current Per Dot	60	mA
Average Forward Current Per Dot Derating Linear From 25℃ Per Dot	13 0.17	mA 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

AlInGaP GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	1370	3600		μcd	I_p=30mA 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		I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		I_p=30mA 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.

ABSOLUTE MAXIMUM RATING

PARAMETER	AlInGaP HYPER RED	UNIT
Average Power Dissipation Per Dot	40	mW
Peak Forward Current Per Dot	90	mA
Average Forward Current Per Dot Derating Linear From 25℃ Per Dot	15 0.2	mA 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

AlInGaP HYPER RED

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		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		I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	Iv-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)

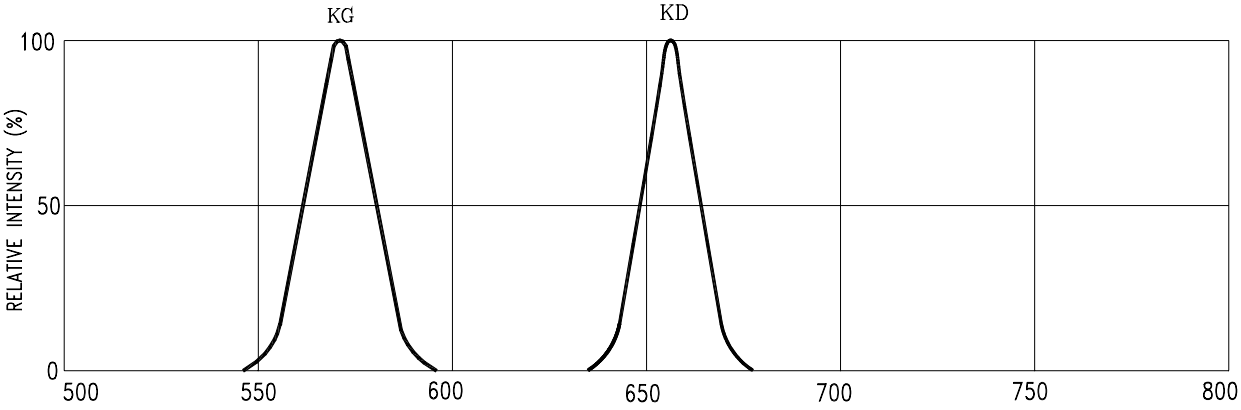


Fig1.Spectral Emission

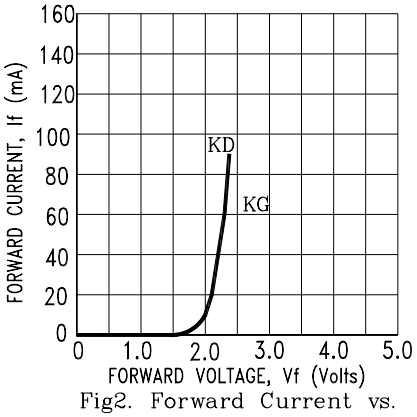


Fig2. Forward Current vs. Forward Voltage

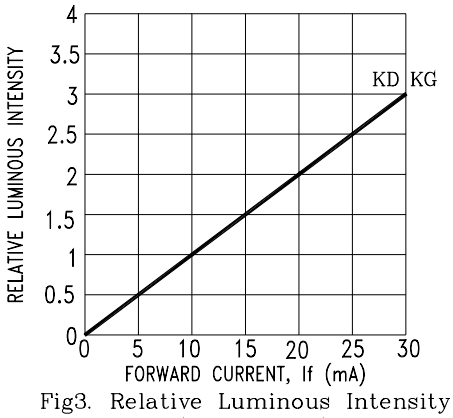


Fig3. Relative Luminous Intensity vs. DC Forward Current

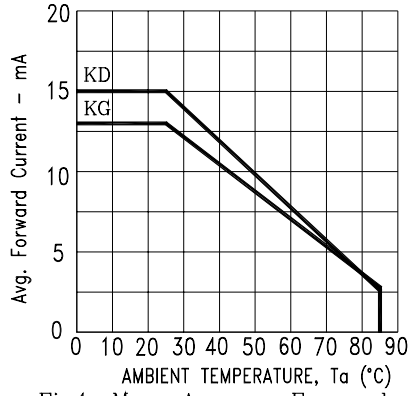


Fig4. Max. Average Forward Current vs. Ambient Temperature

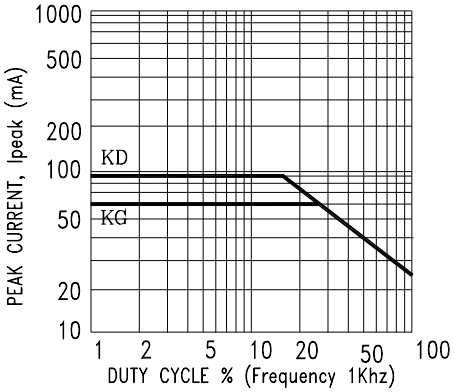


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KD=AlInGaP HYPER RED
KG=AlInGaP GREEN