

FEATURES

- * 2.0 inch (50.80 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.

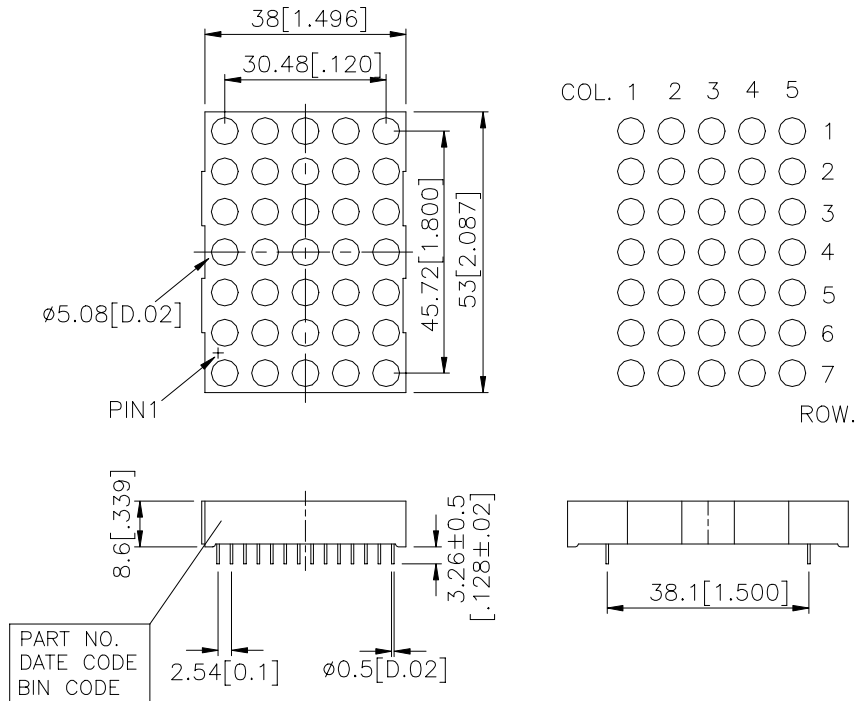
DESCRIPTION

The LTP-2757AA-04 series are 2.0 inch (50.80 mm) matrix height 5×7 dot matrix display. The green series devices utilize LED chips which are made from GaP on a transparent GaP substrate. The AlGaAs-Red series devices utilize LED chips which are made from AlGaAs on a non-transparent GaAs substrate. The multicolor displays have black face and white dots.

DEVICE

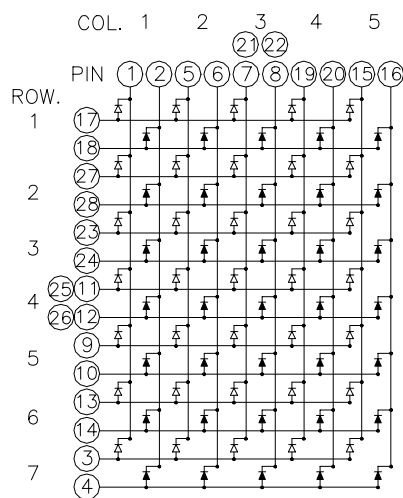
PART NO.	DESCRIPTION
MULTI-COLOR	CATHODE COLUMN
LTP-2757AA-04	ANODE ROW

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 COLUMN 1 GREEN	15	CATHODE COLUMN 5 GREEN
2	CATHODE COLUMN 1 AlGaAs RED	16	CATHODE COLUMN 5 AlGaAs RED
3	ANODE ROW 7 GREEN	17	ANODE ROW 1 GREEN
4	ANODE ROW 7 AlGaAs RED	18	ANODE ROW 1 AlGaAs RED
5	CATHODE COLUMN 2 GREEN	19	CATHODE COLUMN 4 GREEN
6	CATHODE COLUMN 2 AlGaAs RED	20	CATHODE COLUMN 4 AlGaAs RED
7	CATHODE COLUMN 3 GREEN	21	CATHODE COLUMN 3 GREEN
8	CATHODE COLUMN 3 AlGaAs RED	22	CATHODE COLUMN 3 AlGaAs RED
9	ANODE ROW 5 GREEN	23	ANODE ROW 3 GREEN
10	ANODE ROW 5 AlGaAs RED	24	ANODE ROW 3 AlGaAs RED
11	ANODE ROW 4 GREEN	25	ANODE ROW 4 GREEN
12	ANODE ROW 4 AlGaAs RED	26	ANODE ROW 4 AlGaAs RED
13	ANODE ROW 6 GREEN	27	ANODE ROW 2 GREEN
14	ANODE ROW 6 AlGaAs RED	28	ANODE ROW 2 AlGaAs RED

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	GREEN	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot	100	mA
Average Forward Current Per Dot	13	mA
Derating Linear From 25°C Per Dot	0.17	mA/°C
Reverse Voltage Per Segment	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**GREEN**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	1780	4800		μcd	I _p =80mA 1/16Duty
Peak Emission Wavelength	λ _p		565		nm	I _F =20mA
Spectral Line Half-Width	Δλ		30		nm	I _F =20mA
Dominant Wavelength	λ _d		569		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.1	2.6	V	I _F =20mA
			3.0	3.7		I _F =80mA
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.

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	AlGaAs RED	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot	125	mA
Average Forward Current Per Dot	15	mA
Derating Linear From 25°C Per Dot	0.20	mA/°C
Reverse Voltage Per Segment	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.		

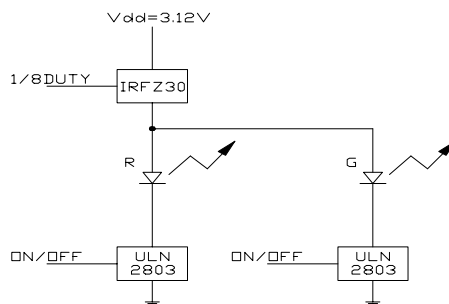
LECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

AlGaAs RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	6300	12000		μcd	I _p =80mA 1/16Duty
Peak Emission Wavelength	λ _p		660		nm	I _F =20mA
Spectral Line Half-Width	Δλ		35		nm	I _F =20mA
Dominant Wavelength	λ _d		638		nm	I _F =20mA
Forward Voltage any Dot	V _F		1.8	2.4	V	I _F =20mA
			2.0	3.1		I _F =80mA
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.

* Binning Condition:



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

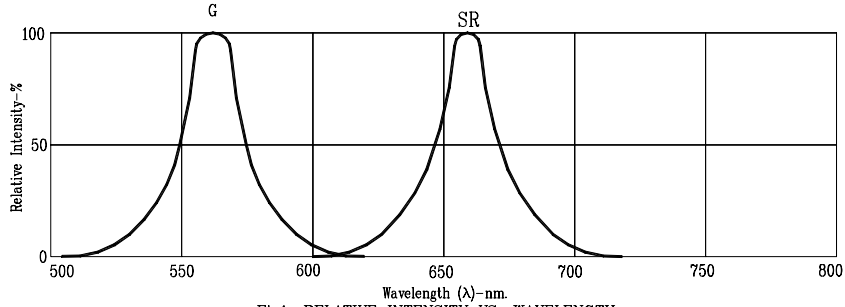


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

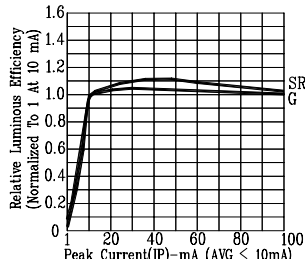


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

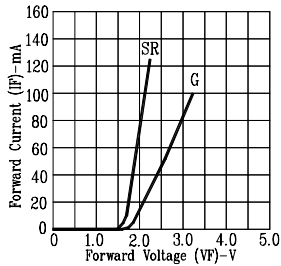


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

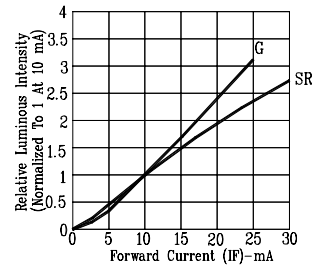


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

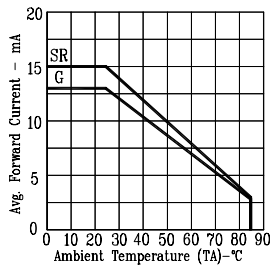


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

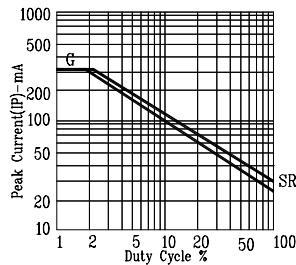


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN SR=AlGaAs RED