0FEATURES

∗1.854-inch (47.10-mm) MATRIX HEIGHT.
∗CONTINUOUS UNIFORM DOTS.
∗LOW POWER REQUIREMENT.
∗EXCELLENT CHARACTERS AND APPEARANCE.
∗SOLID STATE RELIABILITY.
∗4× 4 ARRAY WITH X-Y SELECT.
∗WIDE VIEWING ANGLE.
∗CATEGORIZED FOR LUMINOUS INTENSITY.
∗EPOXY TYPE.

DESCRIPTION

The LTP-2C44F-01 is a 1.854 inch (47.10 mm) matrix height 4× 4 dot matrix display.The LTP-2C44F-01 is a full color applicable display and has gray face white dots. This display utilizes AlGaAs red, green and blue LED chips. The AlGaAs red LED chips are made from AlGaAs on a non-transparent GaAs substrate, the green LED chips are made from GaP on a GaP substrate, the blue LED chips are made from GaN on a SiC substrate.

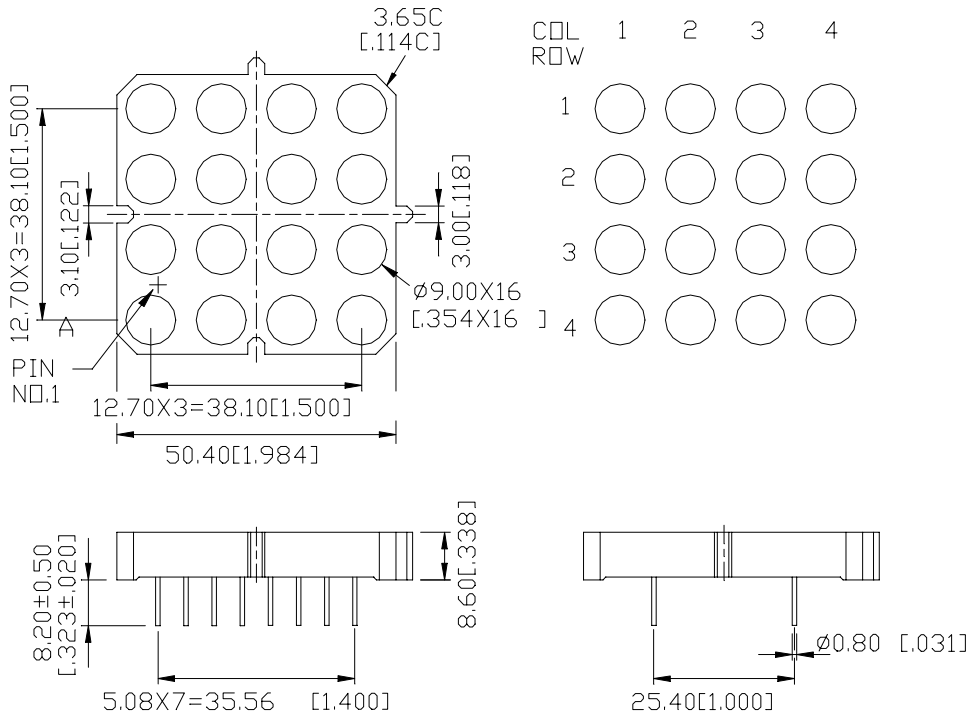
DEVICE

PART NO.	DESCRIPTION
FULL COLOR	ANODE ROW
LTP-2C44F-01	CATHODE COLUMN

*CAUTION :

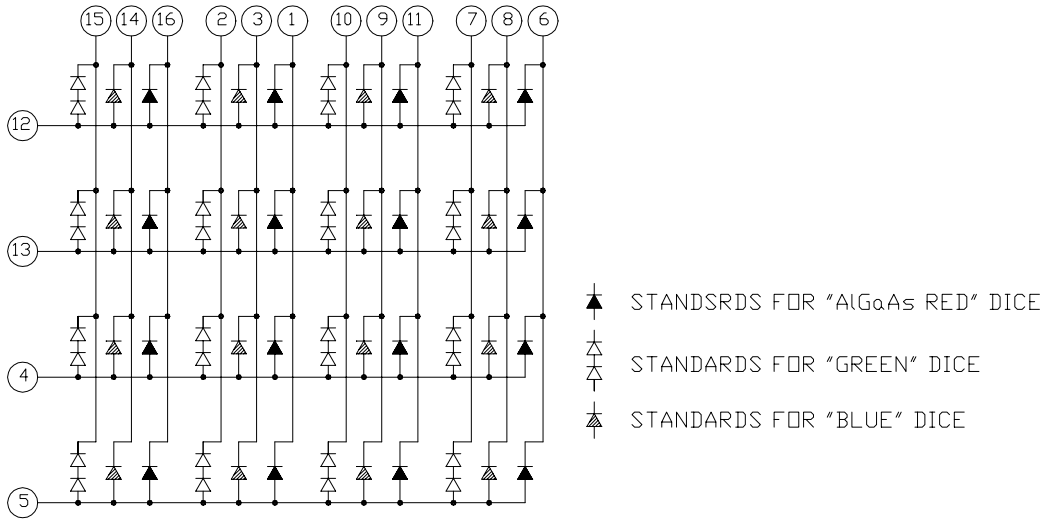
The LEDs will be damaged by the static electricity. Anti-electrostatic equipment Is recommended when holding the LED. The application must be grounded.

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
1	CATHODE COLUMN 2 AlGaAs RED
2	CATHODE COLUMN 2 GREEN
3	CATHODE COLUMN 2 BLUE
4	ANODE ROW 3
5	ANODE ROW 4
6	CATHODE COLUMN 4 AlGaAs RED
7	CATHODE COLUMN 4 GREEN
8	CATHODE COLUMN 4 BLUE
9	CATHODE COLUMN 3 BLUE
10	CATHODE COLUMN 3 GREEN
11	CATHODE COLUMN 3 AlGaAs RED
12	ANODE ROW 1
13	ANODE ROW 2
14	CATHODE COLUMN 1 BLUE
15	CATHODE COLUMN1 GREEN
16	CATHODE COLUMN 1 AlGaAs RED

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	AlGaAs RED	GREEN	BLUE	UNIT
Average Power Dissipation Per Dot	36	64	54	mW
Peak Forward Current Per Dot	100	90	40	mA
Average Forward Current Per Dot	14	11	5	mA
Derating Linear From 25℃ Per Dot	0.19	0.15	0.06	mA/℃
Reverse Voltage Per Dot	5	10	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

AlGaAs Red

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	3000	7800		μcd	I_p=80mA 1/16Duty
Peak Emission Wavelength	λp		660		nm	I_F=20mA
Spectral Line Half-Width	Δλ		35		nm	I_F=20mA
Dominant Wavelength	λd		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_p=80mA 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.

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

Green

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	3000	6200		μcd	I_p=80mA 1/16Duty
Peak Emission Wavelength	λp		565		nm	I_F=20mA
Spectral Line Half-Width	Δλ		30		nm	I_F=20mA
Dominant Wavelength	λd		569		nm	I_F=20mA
Forward Voltage any Dot	V_F		4.2	5.2	V	I_F=20mA
			6.0	7.4		I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=10V
Luminous Intensity Matching Ratio	Iv-m			2:1		I_p=80mA 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.

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

Blue

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	1370	4500		μcd	I_p=80mA 1/16Duty
Peak Emission Wavelength	λp		430		nm	I_F=20mA
Spectral Line Half-Width	Δλ		65		nm	I_F=20mA
Dominant Wavelength	λd		468		nm	I_F=20mA
Forward Voltage any Dot	V_F		3.8	4.5	V	I_F=20mA
			4.8	5.6		I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		I_p=80mA 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)

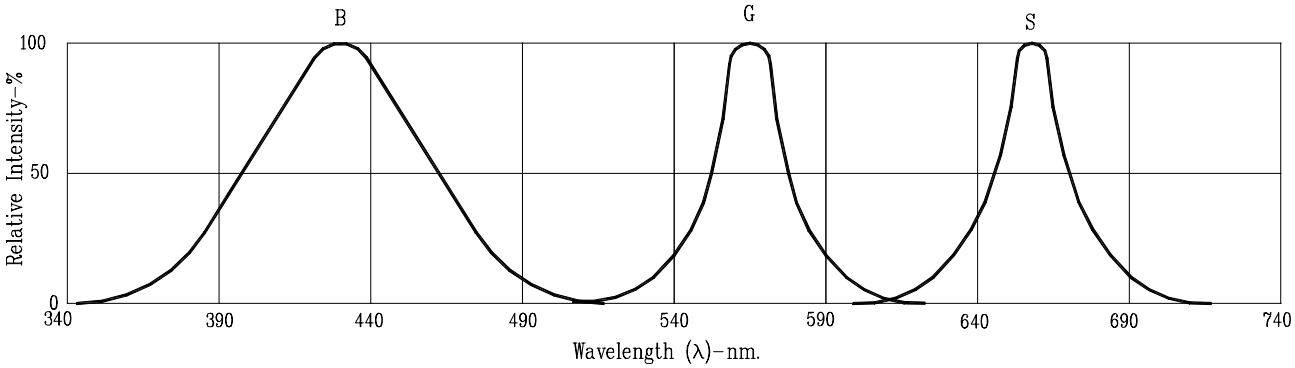


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

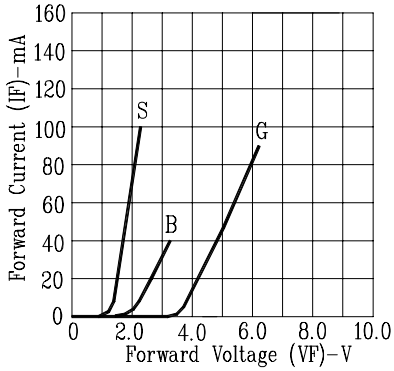


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

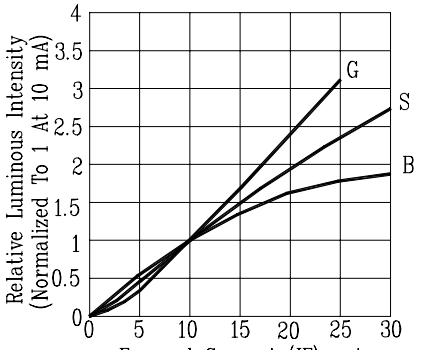


Fig3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

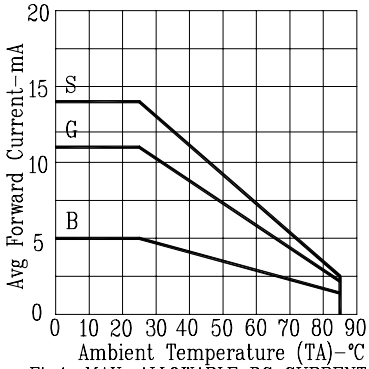


Fig4. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

NOTE: S=AlGaAs RED. G=GREEN B=BLUE