

# Dot Matrix LED Unit for Outdoor Use LT1465ED(Lamp Type)

## ■ Features

- No. of dots : 16X16dots
- Outline dimensions : 64X64mm
- Dot size :  $\phi 3.0$ mm
- Dot pitch : 4.0mm
- Radiation color : Yellow-green+Red (dichromatic type)
- Driving method : 1/16 duty dynamic drive



LT1465ED

## ■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage for IC	V <sub>CC</sub>	5.5	V
Supply voltage for LED	V <sub>LED</sub>	5.5	V
Input voltage*1	V <sub>I</sub>	5.5	V
Turn-on time	t <sub>ON</sub>	1	ms
Operating temperature	T <sub>opr</sub>	-20 to +45	°C
Storage temperature	T <sub>stg</sub>	-25 to +85	°C
Power dissipation	P	13	W

\*1 V<sub>I</sub><V<sub>CC</sub> at V<sub>CC</sub>≤5

## ■ Optical Characteristics

(V<sub>CC</sub>=5V, V<sub>LED</sub>=5V, Ta=25°C)

Parameter	Symbol	TYP.	Unit
Viewing angle	2 $\theta$ <sup>1/2</sup>	110	°
Peak emission wavelength	Red	635	nm
	Yellow-green	565	

## ■ Luminance

Luminance is classified into 2 ranks shown below. It is adjustable by variable registers. (V<sub>CC</sub>=5V, V<sub>LED</sub>=5V, Ta=25°C)

Radiation color	Rank		Unit
	1	2	
Red	160	200	cd/m <sup>2</sup>
Yellow-green	160	200	

## ■ Terminal Functions

Connector	Symbol	Function
Power supply (CN1)	V <sub>LED</sub>	Supply voltage for LED (+5V)
	V <sub>CC</sub>	Supply voltage for IC (+5V)
	GND1	Ground for IC
	GND2	Ground for LED
Input signal (CN2)	A0 to A3	Address specification signal for row driver
	RDATA	Serial data input for red (H=ON, L=OFF) Shift from right to left (V <sub>D15</sub> →V <sub>D0</sub> ) in the unit
	GDATA	Serial data input for yellow-green (H=ON, L=OFF) Shift from right to left (V <sub>D15</sub> →V <sub>D0</sub> ) in the unit
	LATCH	Latch signal of display data. L→H: Contents of shift register are latched.
	ENABLE	Controls ON/OFF of LED (H: LED OFF)
	CLOCK	Clock signal for data transmission in the shift-register. (L→H: Serial data is shifted.)
	GND1	Ground for signal. (Connected to ground for IC)
Output signal (CN3)	A0 to A3	Buffered input signal
	RDATA	Input signal generated through 16-bit shift register or buffer
	GDATA	Input signal generated through 16-bit shift register or buffer
	LATCH	Buffered input signal
	ENABLE	Buffered input signal
	CLOCK	Buffered input signal
	GND1	Ground for signal. (Connected to ground for IC)

Each signal is used as input signal for next unit.

\* As for the terminal number, refer to the outline dimensions.

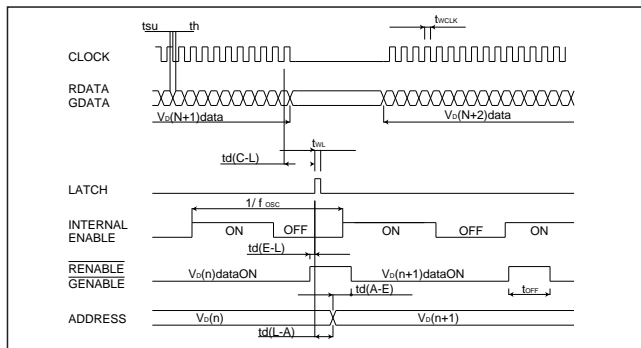
## ■ Electrical Characteristics

(V<sub>CC</sub>=5V, V<sub>LED</sub>=5V, Ta=25°C)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Supply voltage for IC	V <sub>CC</sub>	4.75	5.0	5.25	V
Supply voltage for LED	V <sub>LED</sub>	4.75	5.0	5.25	V
IC current dissipation*1	I <sub>CC</sub>	—	20	40	mA
LED current dissipation*1	I <sub>LED</sub>	—	1.7	2.0	A
Input voltage	V <sub>IH</sub>	3.5	—	—	V
	V <sub>IL</sub>	—	—	1.5	V
Input current	I <sub>IH</sub>	—	—	0.1	μA
	I <sub>IL</sub>	—	—	0.12	mA
Clock frequency	f <sub>CLK</sub>	—	—	3.0	MHz
Frame frequency	f <sub>fR</sub>	80	100	—	Hz

\*1 Under the condition that dichromatic all dots are lit.

## ■ Timing Chart



## ■ Block Diagram

