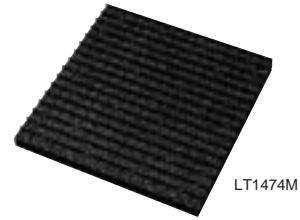


Dot Matrix LED Unit for Outdoor Use LT1474M(Lamp Type,Water-proof Type)

■ Features

- No. of dots : 16X16dots
- Outline dimensions : 320X320mm
- Dot size : 18X18mm(Using oval lamp)
- Dot pitch : 20.0mm
- Radiation color : Yellow-green+Red(High-luminosity)dichromatic type
- Driving method : 1/16 duty dynamic drive



LT1474M

■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage for IC	V _{CC}	-0.3 to +6.0	V
Supply voltage for LED	V _{LED}	-0.3 to +9.5	V
Input voltage ^{*1}	V _I	-0.3 to V _{CC} +0.3	V
Turn-on time	t _{ON}	1	ms
Operating temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-25 to +100	°C
Power dissipation	P	176	W

*1 V_I<V_{CC} at V_{CC}≤5

■ Optical Characteristics

(V_{CC}=5V, V_{LED}=9V, Ta=25°C)

Parameter	Symbol	TYP.	Unit
Luminance	Red	1 900	cd/m ²
	Yellow-green	1 500	
Viewing angle[Horizontal(Red/Yellow-green)]	2θ1/2	60/70	°
Peak emission wavelength	Red	660	nm
	Yellow-green	565	

■ Terminal Functions

Connector	Symbol	Function
Power supply (CN1)	V _{LED}	Supply voltage for LED(+9V)
	V _{CC}	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)
	GDATA	Serial data input for yellow-green (H=ON, L=OFF)
	LATCH	Latch signal of display data
	RENEWABLE GENABLE	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
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
	RENEWABLE GENABLE	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.

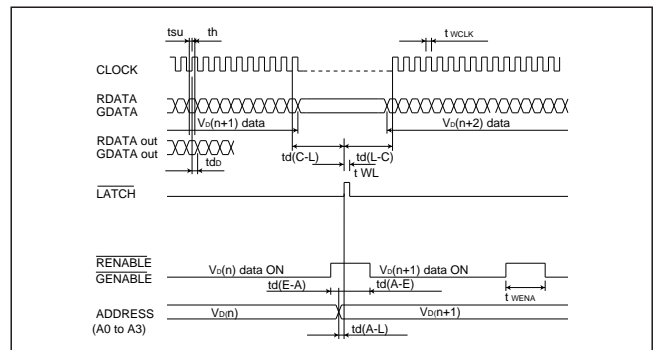
■ Electrical Characteristics

(V_{CC}=5V, V_{LED}=9V, Ta=25°C)

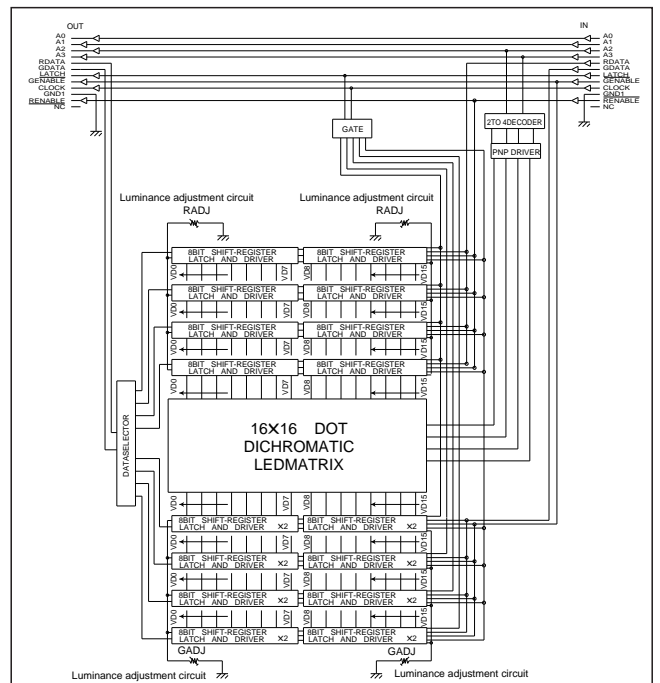
Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Supply voltage for IC	LCC	4.75	5.0	5.25	V
Supply voltage for LED	V _{LED}	8.75	9.0	9.25	V
IC current dissipation ^{*1}	ICC	—	500	750	mA
LED current dissipation ^{*1}	I _{LED}	—	12	18	A
Input voltage	V _{IH}	3.5	—	—	V
	V _{IL}	—	—	1.5	V
Input current	I _{IH}	—	—	0.1	μA
	I _{IL}	—	—	0.12	mA
Clock frequency	f _{CLK}	—	—	10	MHz

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

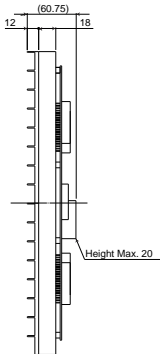
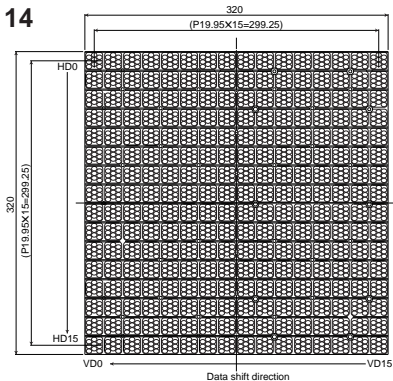
■ Timing Chart



■ Block Diagram



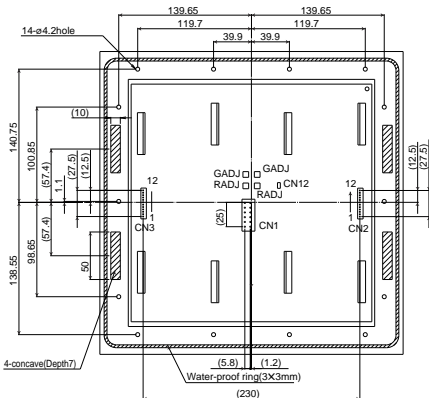
14



● Red LEDX3

○ Yellow-green LEDX6

Lamp position in a dot (For all 256 pcs.)



Pin connection

CN1: (Power supply)

1	VLED	7	GND1
2	VLED	8	GND2
3	VLED	9	GND2
4	VLED	10	GND2
5	VLED	11	GND2
6	VCC	12	GND2

CN2: (Input signal)

1	A0
2	A1
3	A2
4	A3
5	RDATA
6	GDATA
7	LATCH
8	GENABLE
9	CLOCK
10	GND1
11	REENABLE
12	NC

CN3: Output signal)

1	A0
2	A1
3	A2
4	A3
5	RDATA
6	GDATA
7	LATCH
8	GENABLE
9	CLOCK
10	GND1
11	REENABLE
12	NC

LT1474M