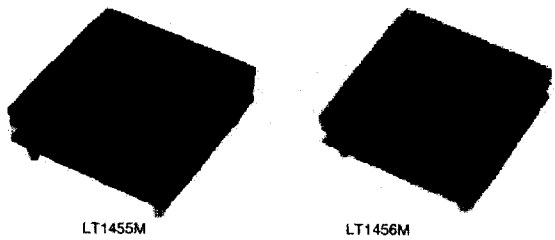
Dot Matrix LED Unit for Indoor/Outdoor Use LT1455M/LT1456M(Lamp Type)

■ Features

- No. of dots : 16×16dots
- Outline dimensions : 96.0×96.0mm
- Dot size : ø5.0mm
- Dot pitch : 6.0mm
- Radiation color : Yellow-green+Red(High-luminosity)dichromatic type
- Driving method : 1/8 duty dynamic drive



LT1455M LT1456M

■ Absolute Maximum Ratings (Ta=25°C)

Supply voltage for IC	V_{CC}	-0.3 to +6.0	V
Supply voltage for LED	V_{LED}	-0.3 to +5.5	V
Input voltage	V_I	-0.3 to Vcc+0.3	V
Turn-on time	t_{ON}	1	ms
Operating temperature	T_{opr}	-10 to +65	°C
Storage temperature	T_{stg}	-20 to +85	°C
Power dissipation	P	22	W

■ Optical Characteristics (Vcc=5V,VLED=5V,Ta=25°C)

Viewing angle		$2\theta 1/2$	50/40	°
Peak emission wavelength	Red	λp	660	nm
	Yellow-green		565	

Each figure in the table is the one of LT1455M/LT1456M in sequence.

■ Luminance

Luminance is classified into 2 ranks shown below.

(Vcc=5V,VLED=5V,Ta=25°C)

Red	450/700	550/1000	cd/m²
Yellow-green	330/700	450/1000	

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■ Terminal Functions

Power supply (CN1)	V_{LED}	Supply voltage for LED(+5V)
	V_{CC}	Supply voltage for IC(+5V)
	GND1	Ground for IC
	GND2	Ground for LED
Input signal (CN2)	A0 to A2	Address specification signal for column driver
	$\overline{RENABLE}$ $\overline{GENABLE}$	Controls ON/OFF of each color of LED (H: LED OFF)
	RDATA	Serial data input for red(H=ON, L=OFF) Shift from up to down in the unit H_{D16}→H_{D31}→H_{D0}→H_{D15}
	GDATA	Serial data input for yellow-green(H=ON, L=OFF) Shift from up to down in the unit H_{D16}→H_{D31}→H_{D0}→H_{D15}
	$\overline{LATCH}$	Latch signal of display data H: Serial data is converted to parallel data.L: Contents are latched.
	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 A2	Buffered input signal
	$\overline{RENABLE}$	Buffered input signal
	RDATA	Input signal generated through 32-bit shift register
	GDATA	Input signal generated through 32-bit shift register
	$\overline{LATCH}$	Buffered input signal
	$\overline{GENABLE}$	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.

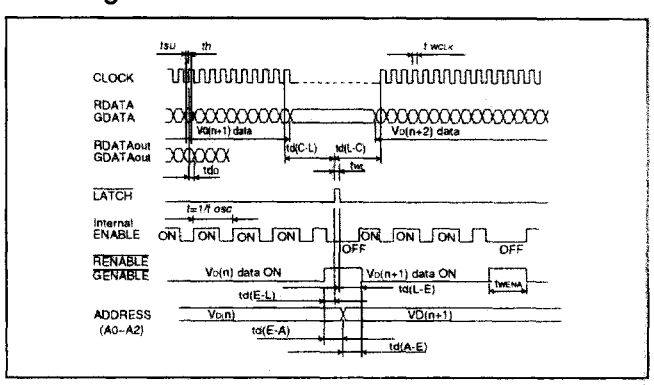
* As for the terminal number, refer to the outline dimensions

■ Electrical Characteristics (Vcc=5V,VLED=5V,Ta=25°C)

Supply voltage for IC	V_{CC}	4.75	5.0	5.25	V
Supply voltage for LED	V_{LED}	4.5	5.0	5.25	V
IC current dissipation	I_{CC}	—	15	40	mA
LED current dissipation*1	I_{LED}	—	3.5	3.9	A
Signal input voltage	V_{IL}	3.5	—	—	V
	V_{IH}	—	—	1.5	V
Signal input current	I_{IL}	—	—	0.1	μA
	I_{IH}	—	—	0.12	mA
Clock frequency	f_{CLK}	—	—	3.0	MHz
Frame frequency	f_{FR}	125	200	400	Hz

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

■ Timing Chart



■ Block Diagram