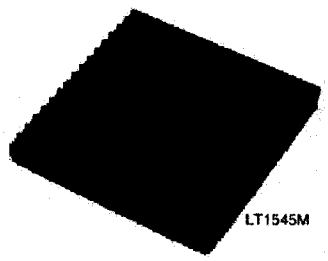
Dot Matrix LED Unit for Outdoor Use LT1545M(Lamp Type,Water-proof Type)

■ Features

- No. of dots : 16×16dots
- Outline dimensions : 240×240mm
- Dot size : 13.0×13.0mm
- Dot pitch : 14.9mm
- Radiation color : Yellow-green+Red(High-luminosity)dichromatic type
- Driving method : 1/8 duty dynamic drive



■ 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 +8.0	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	59	W

*1 V_I<V_{CC} at V_{CC}≤5

■ Optical Characteristics (V_{CC}=5V,V_{LED}=7.5V,Ta=25°C)

Viewing angle		$2\theta_{1/2}$	30	°
Peak emission wavelength	Red	λ_p	660	nm
	Yellow-green		565	

■ Luminance

Luminance is classified into 2 ranks shown below.It is adjustable by variable registers. (V_{CC}=5V,V_{LED}=7.5V,Ta=25°C)

Red	1 500	1 800	cd/m²
Yellow-green	1 500	1 800	

■ Terminal Functions

Power supply (CN1)	V_{LED}	Supply voltage for LED(+7.5V)
	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
	RDATA	Serial data input for red(H=ON, L=OFF)
	GDATA	Serial data input for yellow-green(H=ON, L=OFF)
	$\overline{\text{LATCH}}$	Latch signal of display data H: Serial data is converted to parallel data. L: Contents are latched. LATCH signal is set up after switching address(A0 to A2)
	$\overline{\text{RENABLE}}$ / 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 A2	Buffered input signal
	RDATA	Input signal generated through 32-bit shift register or buffer
	GDATA	Input signal generated through 32-bit shift register or buffer
	$\overline{\text{LATCH}}$	Buffered input signal
	$\overline{\text{RENABLE}}$ / GENABLE	Buffered input signal
	CLOCK	Buffered input signal
	GND1	Ground for signal

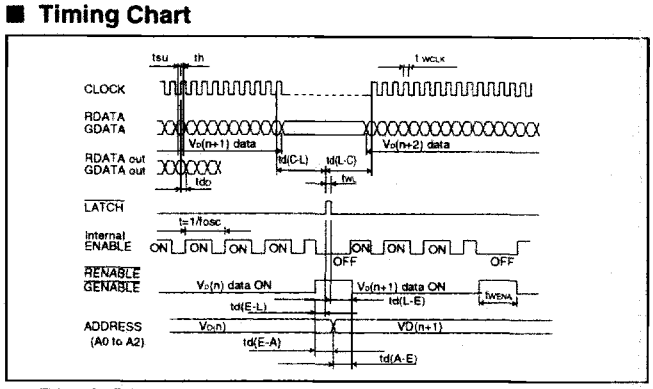
Each signal is used as input signal for next unit.
*As for the terminal number, refer to the outline dimensions.

■ Electrical Characteristics (V_{CC}=5V,V_{LED}=7.5V,Ta=25°C)

Supply voltage for IC	V_{CC}	4.75	5.0	5.25	V
Supply voltage for LED	V_{LED}	7.0	7.5	7.75	V
IC current dissipation*1	I_{CC}	—	200	500	mA
LED current dissipation*1	I_{LED}	—	5.5	7.0	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
Frame frequency	f_{FR}	250	400	3 000	Hz

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

■ Timing Chart



■ Block Diagram