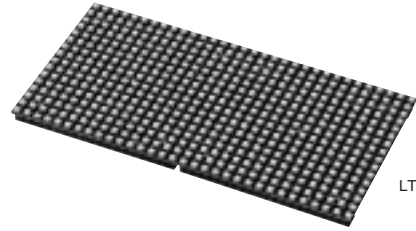


Dot Matrix LED Unit for Indoor Use LT1560ED(Chip Type)

■ Features

- No. of dots : 16X32dots
- Outline dimensions : 96X192mm
- Dot size : 3.0X3.0mm
- Dot pitch : 6.0mm
- Radiation color : Yellow-green+Red (dichromatic type)
- Driving method : 1/16 duty dynamic drive



LT1560ED

■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage for IC	VCC	-0.3 to +5.5	V
Supply voltage for LED	VLED	-0.3 to +4.5	V
Input voltage ^{*1}	VI	-0.3 to VCC+0.3	V
Turn-on time	t _{ON}	1	ms
Operating temperature	T _{opr}	-10 to +60	°C
Storage temperature	T _{stg}	-20 to +70	°C
Power dissipation	P	26	W

*1 VI<VCC at VCC≤5

■ Optical Characteristics

(VCC=5V, VLED=4V, Ta=25°C)

Parameter	Symbol	TYP	Unit
Luminance	Red	100	cd/m ²
	Yellow-green	100	
Viewing angle	2θ _{1/2}	120	°
Peak emission wavelength	Red	635	nm
	Yellow-green	565	

■ Terminal Functions

Connector	Symbol	Function
Power supply (CN1)	VLED	Supply voltage for LED (+5V)
	VCC	Supply voltage for IC (+4V)
	GND	Ground
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. H: Serial data is converted to parallel data. L: Contents 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.)
	GND	Ground for signal
Output signal (CN3)	A0 to A3	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
	LATCH	Buffered input signal
	ENABLE	Buffered input signal
	CLOCK	Buffered input signal
	GND	Ground for signal

Each signal is used as input signal for next unit.

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

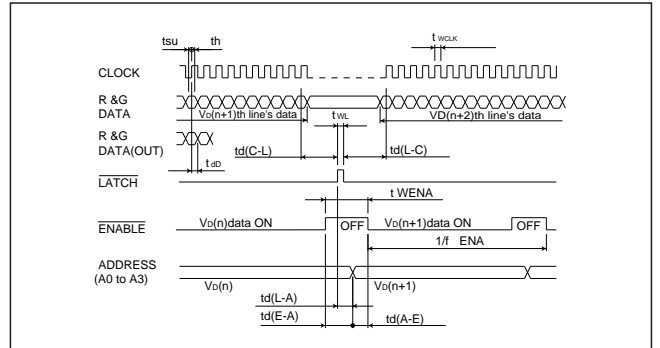
■ Electrical Characteristics

(VCC=5V, VLED=4V, Ta=25°C)

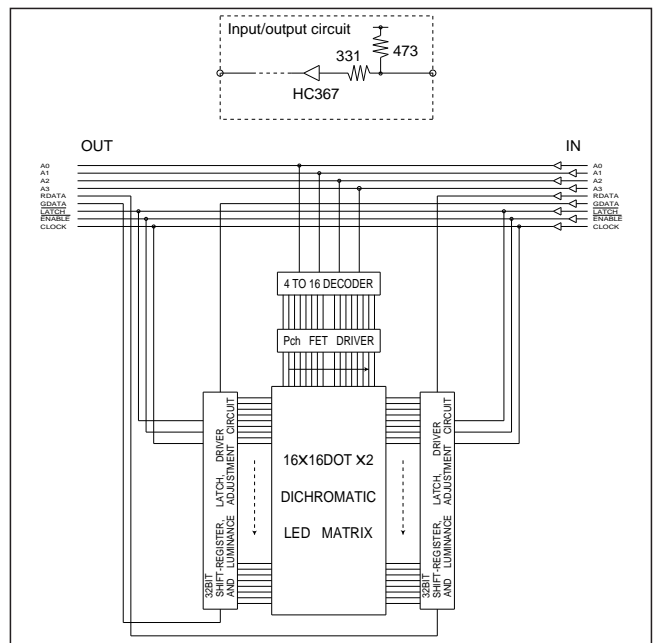
Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Supply voltage for IC	VCC	4.75	5.0	5.25	V
Supply voltage for LED	VLED	3.75	4.0	4.25	V
IC current dissipation ^{*1}	ICC	—	150	200	mA
LED current dissipation ^{*1}	ILED	—	4.5	5.5	A
Input voltage	VIH	3.5	—	—	V
	VIL	—	—	1.5	V
Input current	I _{IH}	—	—	0.1	μA
	I _{IL}	—	—	0.12	mA
Clock frequency	fCLK	—	—	10	MHz
Frame frequency	fFR	70	250	1000	Hz

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

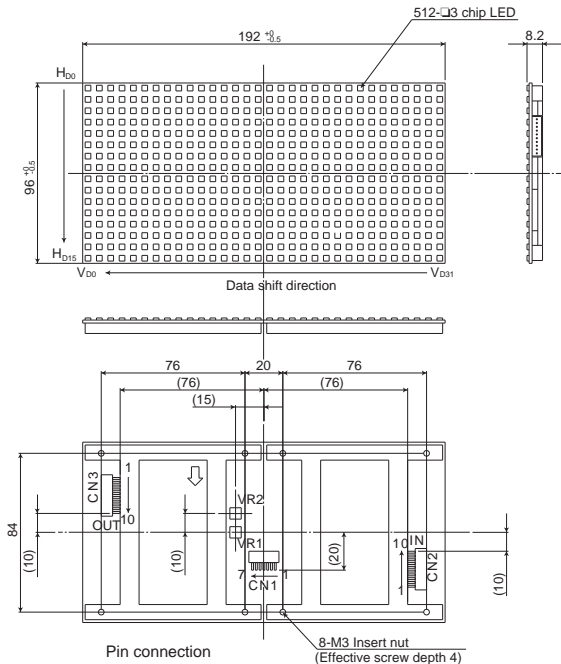
■ Timing Chart



■ Block Diagram



5



Pin connection

CN1(Power supply) CN2(Input signal) CN3(Output signal)

Pin No.	Name	Pin No.	Name	Pin No.	Name
1	VLED	1	A0	1	A0
2	VLED	2	A1	2	A1
3	VLED	3	A2	3	A2
4	VCC	4	A3	4	A3
5	GND	5	RDATA	5	RDATA
6	GND	6	GDATA	6	GDATA
7	GND	7	LATCH	7	LATCH
		8	ENABLE	8	ENABLE
		9	CLOCK	9	CLOCK
		10	GND	10	GND