

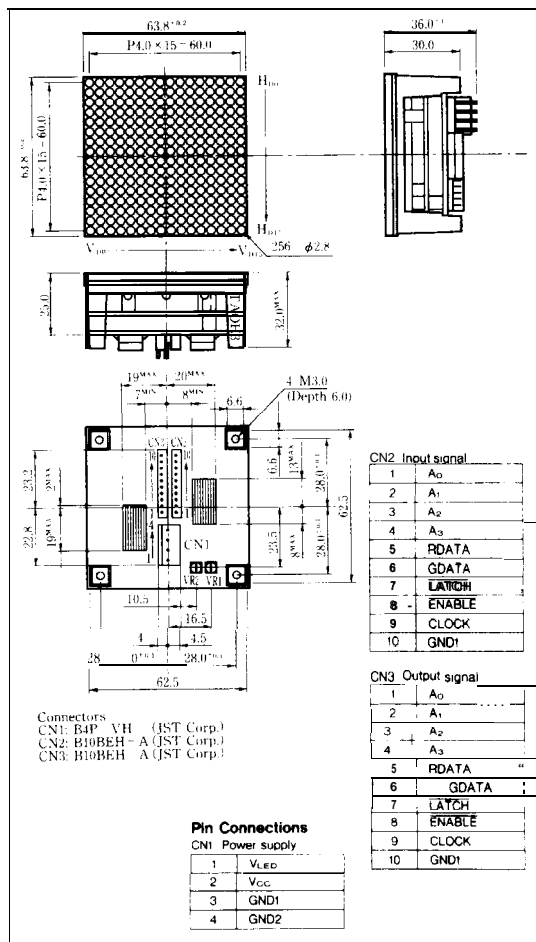
LT1461ED

16 X 16 Dot Matrix LED Unit for Indoor Use

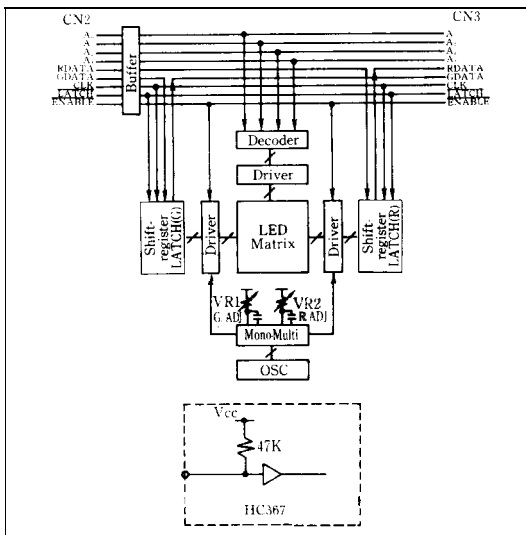
■ Features

1. 16X 16 dot matrix LED unit
2. Active display size: 63.8mm square
3. Three color emission by use of di-chromatic LED
4. Radiation color: Red, yellow-green and orange (mixed color)
5. Wide viewing angle
6. Built-in shift registers, latch circuits, LED driver ICS, scanning line select circuits and luminance adjusting circuits
7. Clock frequency: 4MHz
8. Dynamic drive (Duty ratio: 1/16)

■ Outline Dimensions (Unit: mm)



■ Block Diagram



■ Terminal Functions

Connector	Pin No	Name	Function
CN1 (Power supply)	1	V _{LED}	Power supply for LED
	2	V _{CC}	Power supply for IC
	3	GND1	Ground for IC
	4	GND2	Ground for LED
CN2 (Input signal)	1 to 4	A ₀ to A ₃	Address specification signal for row driver
	5	RDATA	Serial data input for red (H: lit, L: no lit)
	6	GDATA	Serial data input for Yellow-green (H: lit, L: no lit)
	7	LATCH	L: The contents are latched
	8	ENABLE	"L" Each dot can be driven in accordance with data
	9	CLOCK	Clock signal for data transmission in the shift-register. (L → H: The data are shifted)
CN3 (Output signal)	1 to 4	A ₀ to A ₃	Buffered the input signals A ₀ to A ₃
	5	RDATA	Input signals generated through 16-bit shift register in the unit.
	6	GDATA	
	7	LATCH	Buffered the input signal LATCH.
	8	ENABLE	Buffered the input signal ENABLE
	9	CLOCK	Buffered the input signal CLOCK
	10	GND1	Ground for IC

6

■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Rating	Unit
IC supply voltage	V_{CC}	6.0	V
LED supply voltage	V_{LED}	6.0	V
Input voltage	V_i	*15.5	V
LED current dissipation	I_{LED}	*22.4	A
Operating temperature range	Topr	-10 to +45	°C
Storage temperature range	Tstg	-20 to +70	°C

*1 $V_i < V_{CC}$ at $V_{CC} \leq 5.5$

*2 When all dots are lit, Duty ratio: 1/16

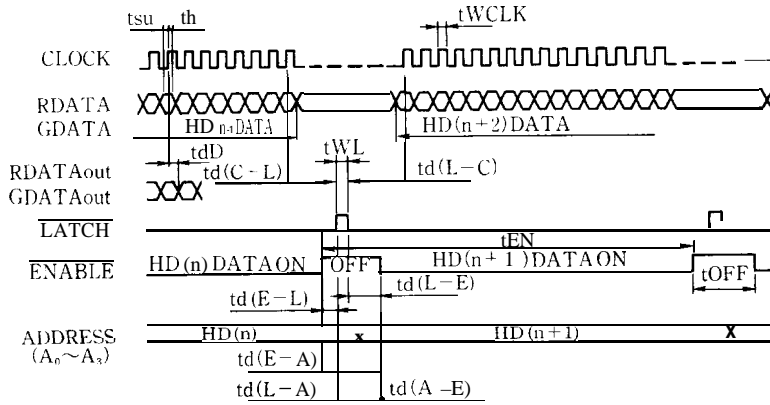
■ Electro-optical Characteristics

(Ta = 25°C, $V_{CC} = 5V$, $V_{LED} = 5V$)

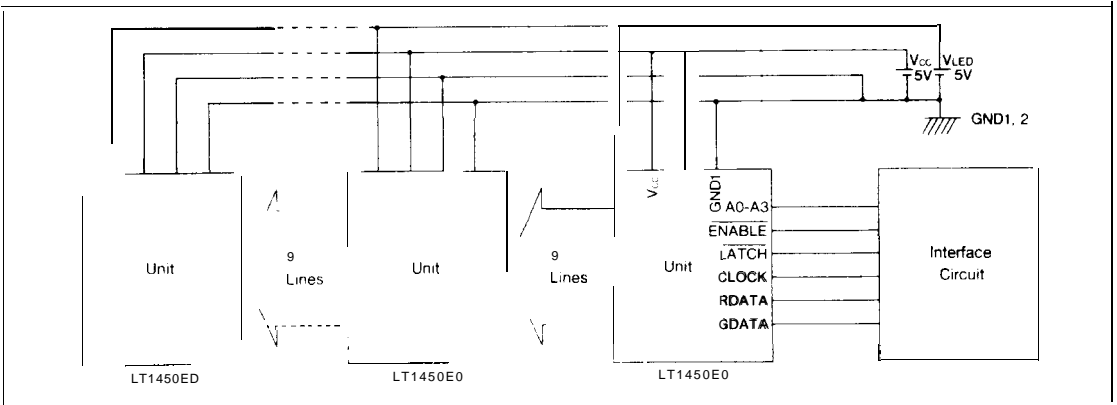
Parameter	Symbol	MIN	TYP	MAX	Unit
Operating IC supply voltage	V_{CC}	4.75	5.0	5.25	V
Operating LED supply voltage	V_{LED}		5.0	5.25	V
IC current dissipation	I_{CC}		50		mA
LED current dissipation	I_{LED}		*11.8		A
Input voltage	V_{iL}	0		1.5	V
	V_{iH}	3.5			V
Input current	I_{iL}			0.12	mA
	I_{iH}			0.1	μA
Clock frequency	f_{CLK}			4.0	MHz
Frame frequency	f_{FR}	80		625	Hz
*3 Luminance	Red	L_v		90	cd/m ²
	Yellow-green			90	
Peak emission wavelength	Red	λ_p		635	nm
	Yellow-green			565	
Spectrum radiation bandwidth	Red	$\Delta\lambda$		35	nm
	Yellow-green			30	

*3 Duty ratio: 1/16, When all dots are lit

■ Interface Signals



■ Connections Method



6