

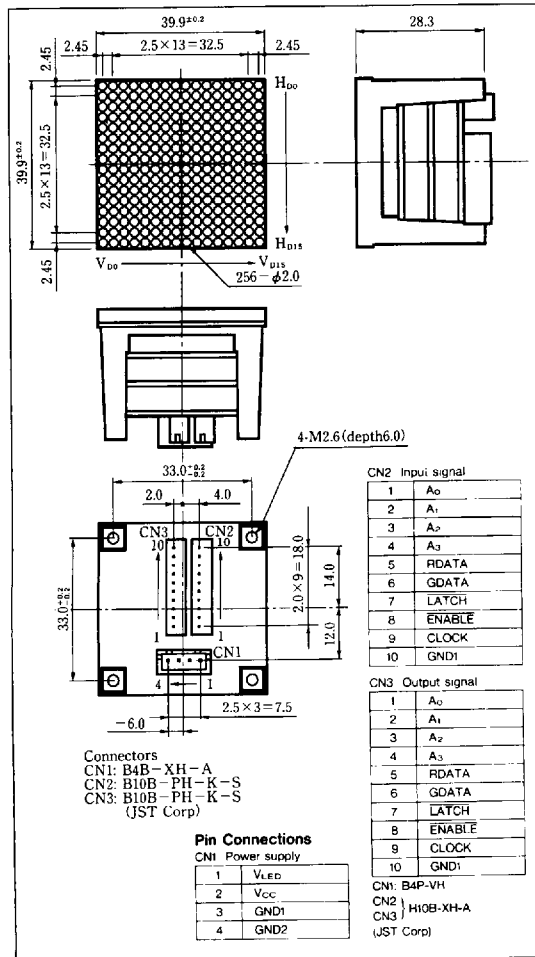
LT1480ED

16X16 Dot Matrix LED Unit for Indoor Use

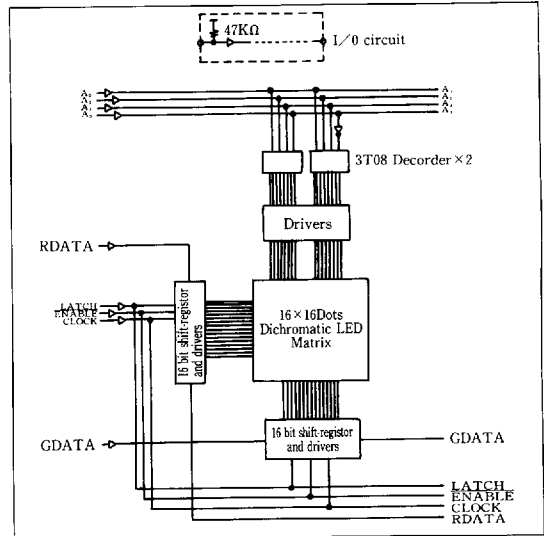
Features

1. 16X16 dot matrix LED unit
2. Active display size: 39.9mm square
3. Three color emission by use of dichromatic 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 and scanning line select circuits
7. Clock frequency: 3MHz
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)	
	10	GND1	Ground for IC	
	CN3 (Output signal)	1 to 4	A ₀ to A ₃	Buffered the input signals A ₀ to A ₃
		5	RDATA	Input signal is generated through 16-bit shift register in the unit.
		6	GDATA	Input signal is generated through 16-bit shift register in the unit.
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	

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SHARP

■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Rating	Unit
IC supply voltage	V _{CC}	5.5	V
LED supply voltage	V _{LED}	5.5	V
Input voltage	V _I	*15.5	V
LED current dissipation	I _{LED}	*22.0	A
Operating temperature range	T _{opr}	-10 to +45	°C
Storage temperature range	T _{stg}	-20 to +70	°C
Lighting ratio	—	*330	%

*1 V_I < V_{CC} at V_{CC} ≤ 5.5

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

*3 Each color

■ Electro-optical Characteristics

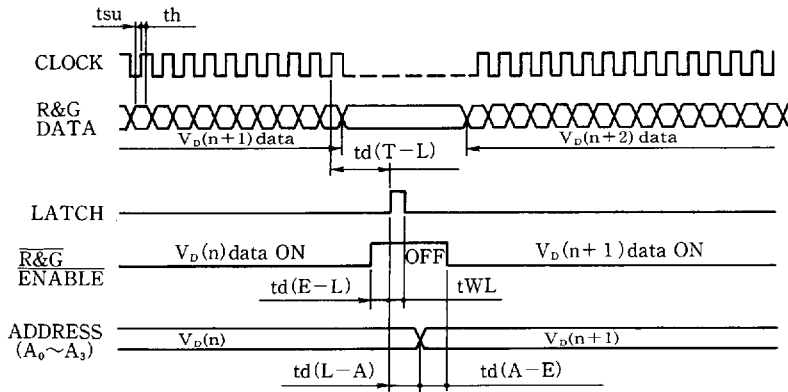
(Ta = 25°C, V_{CC} = 5V, V_{LED} = 5V)

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}	—	*31.6	—	A	
Input voltage	V _{IL}	—	—	1.5	V	
	V _{IH}	3.5	—	—	V	
Input current	I _{IL}	—	—	0.12	mA	
	I _{IH}	—	—	0.1	μA	
Clock frequency	f _{CLK}	—	—	3.0	MHz	
Frame frequency	f _{FR}	70	—	—	Hz	
*4 Luminance	Red	L _v	110	140	180	cd/m ²
	Yellow-green		110	140	180	
Peak emission wavelength	Red	λ _p	—	635	—	nm
	Yellow-green		—	565	—	
Spectrum radiation bandwidth	Red	Δλ	—	35	—	nm
	Yellow-green		—	30	—	

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

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■ Interface Signals



■ Connections Method

