

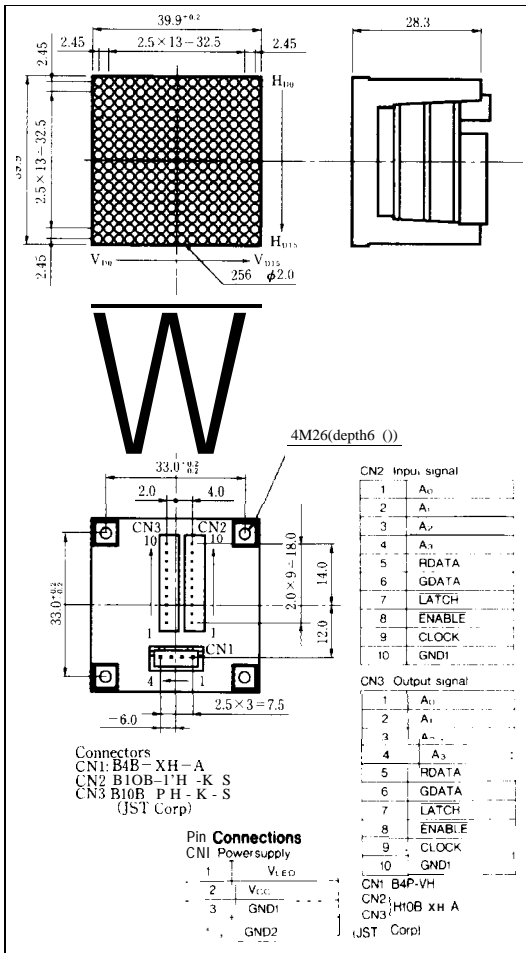
LT1480ED

1 6X 16 Dot Matrix LED Unit for Indoor Use

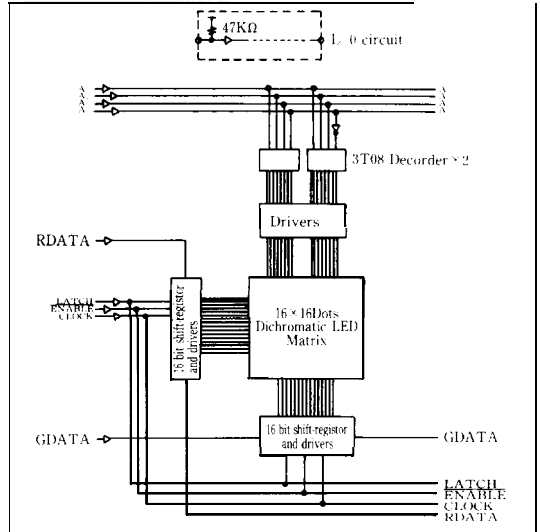
■ Features

1. 16X 16 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	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 signals generated through 16 bit shift register in the unit.
		6	GDATA	Input signals 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		

■ 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	Topr	-10 to +45	°C
Storage temperature range	Tstg	-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

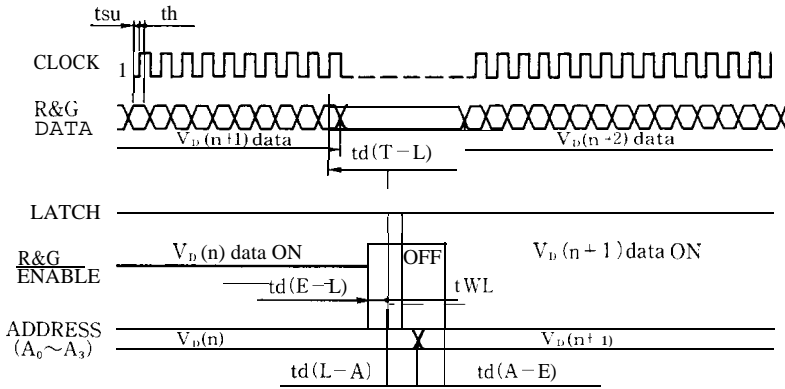
(Ta = 25°C, V_{CC} = 5V, V_{LED} = 5V)

Parameter	Symbol	MIN	TYP	MAX	Unit	
Operating IC supply voltage	V ^{''}	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 _i ^{''}	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

