

LT1447M

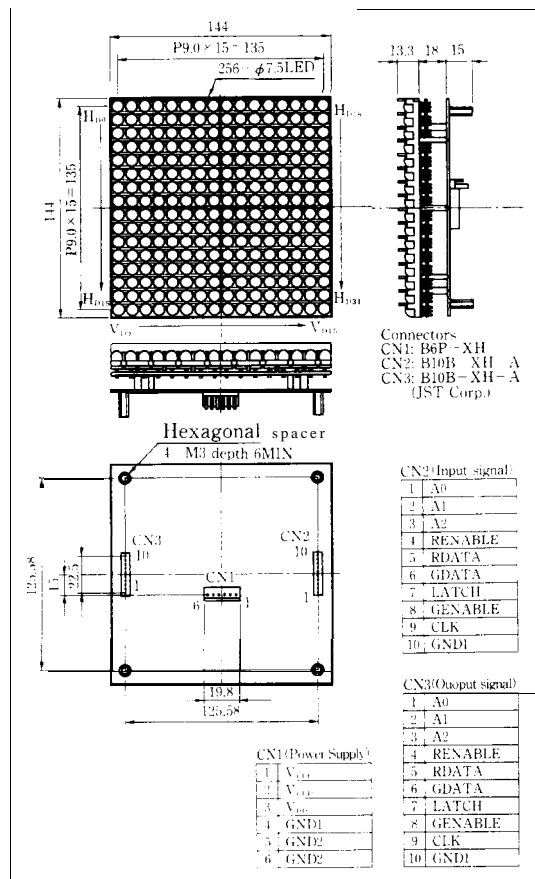
1 6X 16 Dot Matrix LED Unit for Outdoor Use

■ Features

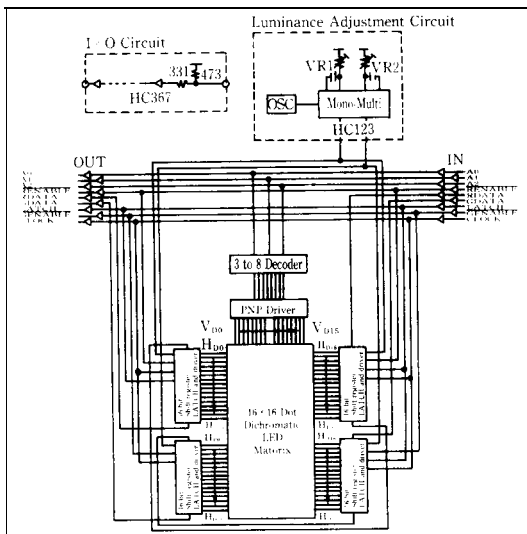
1. 16x 16 dot matrix LED unit
2. Active display size: 144. Omm square
3. Three color emission by use of dichromatic LEDs
4. Radiation color: Red, yellow-green and orange (mixed color)
5. Wide viewing angle
6. Built-in shift registers, latch circuits, LED driver ICS, scanning line select circuits and luminance adjusting circuits
7. Clock frequency: 3MHz
8. Dynamic drive (Duty ratio: 1/8)

■ Outline Dimensions

(Unit: mm)



■ Block Diagram



■ Terminal Functions

Connector	Pin No	Name	Function
CN1 (Power supply)	1, 2	V _{LED}	Power supply for LED
	3	V _{DD}	Power supply for IC
	4	GND1	Ground for IC
	5, 6	GND2	Ground for LED
CN2 (Input signal)	1 to 3	A ₀ to A ₂	Address specification signal for column driver
	4	REnable	"L": Each dot can be driven in accordance with data for red
	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	GENABLE	"L": Each dot can be driven in accordance with data for yellow-green
	9	CLOCK	Clock signal for data transmission in the shift register. (L-H: The data is shifted)
	10	GND1	Ground for IC
CN3 (Output signal)	1 to 3	A ₀ to A ₂	Buffered the input signals A ₀ to A ₂
	4	REnable	Buffered the input signal REenable
	5	RDATA	Input signal is generated through 32 bit shift register in the unit
	6	GDATA	Buffered the input signal LATCH
	7	LATCH	Buffered the input signal LATCH
	8	GENABLE	Buffered the input signal GENABLE
9	CLOCK	Buffered the input signal CLOCK	
10	GND1	Ground for IC	

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■ Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Rating	Unit
IC supply voltage	V _{DD}	0.3to+6.0	V
LED supply voltage	v _{LED}	0.3to+5.5	v
Input voltage	v _i	0.3toV _{CC} +0.3	v
LED current dissipation	I _{LED}	*16,5	A
Operating temperature range	Topr1	*2-20 to +45	'c
	Topr2	*3-20 to +55	'c
Storage temperature range	Tstg	-25 to +85	'C

*1, *2 When all dots are lit, Duty ratio: 1/8

*3 When half rate of lighting

■ Electro-optical Characteristics

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

Parameter	Symbol	MIN	TYP	MAX	Unit
Operating IC supply voltage	V _{DD}	4.75	5.0	5.25	v
Operating LED supply voltage	v _{LED}	4.5	5.0	5.25	v
IC current dissipation	I _{DD}		270	350	mA
LED current dissipation	I _{LED1}		*43.0	3.5	A
	I _{LED2}		*53.0	3.5	A
	I _{LED3}		*65.0	6.0	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
Output voltage	V _{OL}			0.1	v
	V _{OH}	4.4			v
Clock frequency	f _{CLK}			3.0	MHz
Frame frequency	f _{FR}	125	200		Hz
*7, *3Luminance	Red	L _v	800		cd/m ²
	Yellow-green		1,000		
Peak emission wavelength	Red	λ _p	660		nm
	Yellow-green		565		
Spectrum radiation bandwidth	Red	Δλ	20	—	nm
	Yellow-green		30		

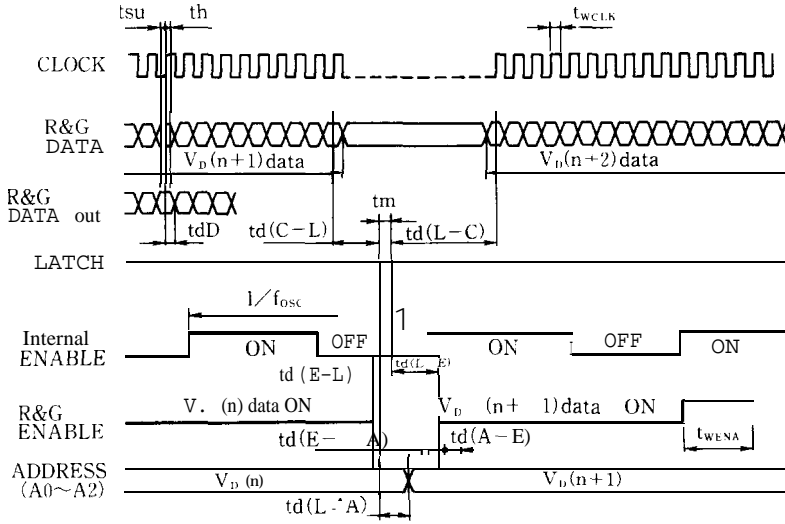
*3 Duty ratio: 1/8, When all dots are lit, f_{FR} = 200Hz

*4 When all yellow-green dots are lit,

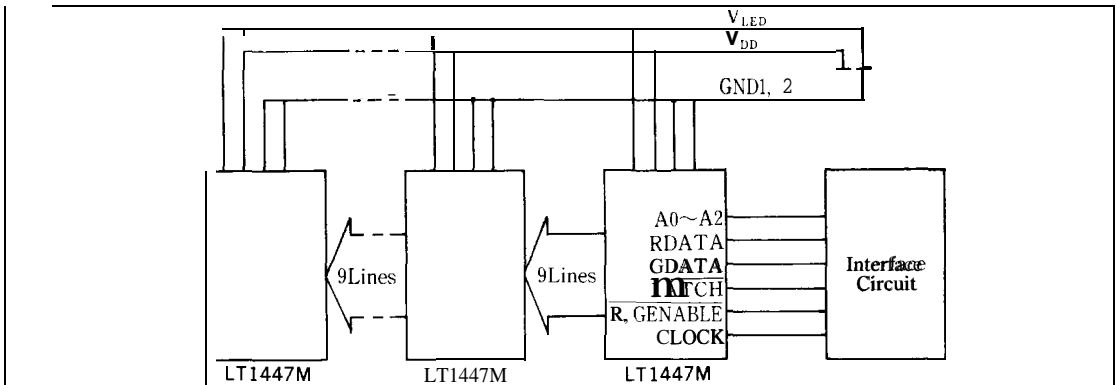
*5 When all red dots are lit,

*6,*7 When all dots are lit, Duty ratio: 1/8, f_{FR} = 200Hz

■ Interface Signals



■ Connections Method



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