



# D50100CDM LED DOT MATRIX

MODEL : SSD-D50100CDM

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## 1. 특성 (FEATURES)

COLOR	RED, GREEN, AMBER
DIMENSION (mm)	50.0 * 100.0 (mm)
NUMBER OF DOT	512
Drive mode	Dynamic Drive (1/16 Duty)

## 2. 전기광학적 특성 (ELECTRICAL & OPTICAL SPECIFICATION)

(Ta=25°C)

Parameter	Symbol	Red	Green	Unit
Power dissipation	P <sub>D</sub>	7.37	7.37	W
Forward current	I <sub>F</sub>	30	30	mA
Peak forward current*	I <sub>FP</sub>	60	60	mA
Reverse voltage	V <sub>R</sub>	5	5	V
Operating temperature	T <sub>opr</sub>	-10 ~ +60		°C
Operating temperature	T <sub>stg</sub>	-20 ~ +70		°C

\* Conditions: Duty ratio ≤ 1/10, I<sub>FP</sub> = 60mA

\* I<sub>FP</sub> conditions: Pulse width Tw ≤ 0.1ms, Duty ratio ≤ 1/10

(Ta=25°C)

Parameter	Condition	Symbol	Red			Green			-			Unit
			Min	Typ	Max	Min	Typ	Max	-	-	-	
FORWARD Voltage	I <sub>F</sub> = 20mA	V <sub>F</sub>	-	2.0	2.4	-	2.1	2.4	-	-	-	V
Reverse current	V <sub>R</sub> = 5V	I <sub>R</sub>	-	-	10	-	-	10	-	-	-	μA
Wavelength	I <sub>F</sub> = 20mA	λ <sub>p</sub>	-	635	-	-	573	-	-	-	-	nm
Spectral bandwidth	I <sub>F</sub> = 20mA	Δλ	-	30	-	-	30	-	-	-	-	nm



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3. 최적 동작 조건(RECOMMENABLE OPERATING CONDITION)

(Ta=25°C)

ITEM	SYMBOL	TYP.	UNIT
SUPPLY VOLTAGE	$V_{cc}$	5.0	V
OPERATING AMBIENT TEMPERATURE	$T_{opr}$	-10 ~ +60	°C

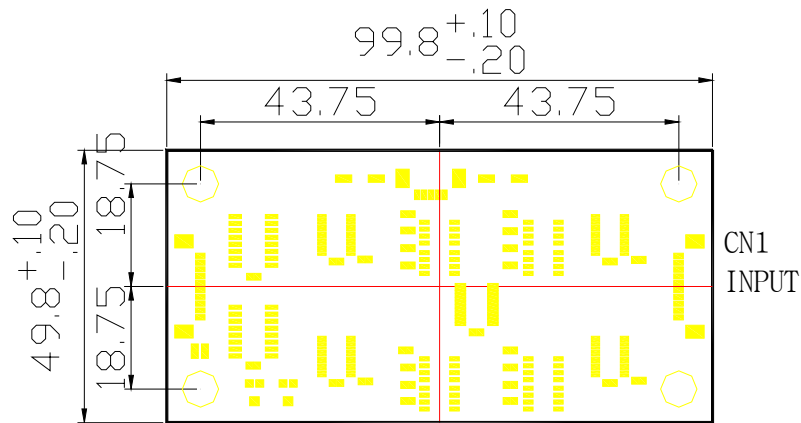
4. 광학적 특성(OPTICAL SPECIFICATION)

(Ta=25 C)

ITEM		SYMBOL	MIN.	TYP.	MAX.	UNIT
LUMINOUS INTENSITY	RED GREEN	$L_v$	-	225 225	-	cd/m <sup>2</sup>
WAVELENGTH	RED GREEN	$\lambda_D$	-	635 573	-	nm
VIEWING ANGLE *	RED GREEN	$2\theta$ 1/2	-	160 160	-	deg

\*  $\theta_{1/2}$  is the off-axis where the luminous intensity is 1/2 the peak intensity

5. 외형도(OUT LINE DRAWING)



< VIEW OF BOTTOM >

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## 6. 핀 배열 (PIN ASSIGNS)

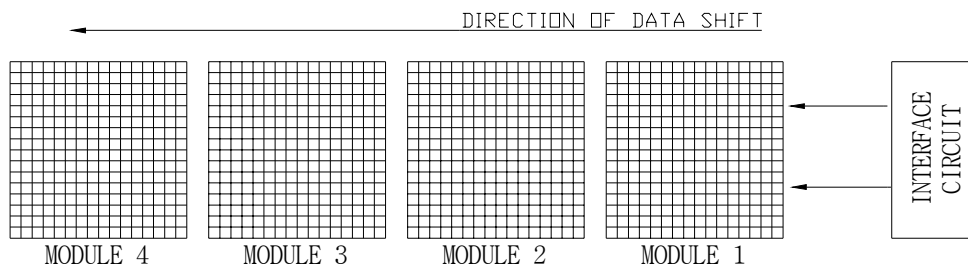
INPUT SIGNAL(CN1)		OUTPUT SIGNAL(CN2)		POWER(CN3)	
NO	SIGNAL NAME	NO	SIGNAL NAME	NO	SIGNAL NAME
1	RED DATA	1	RED DATA	1	GND
2	CLOCK	2	CLOCK	2	GND
3	LATCH	3	LATCH	3	VLED
4	A0	4	A0	4	VCC
5	A1	5	A1	5	VCC
6	A2	6	A2		
7	A3	7	A3		
8	$\overline{\text{ENABLE}}$	8	$\overline{\text{ENABLE}}$		
9	GREEN DATA	9	GREEN DATA		
10	GROUND	10	GROUND		

NO	CONNECTOR NAME	MAKER	TYPE NO.	QTY
1	INPUT SIGNAL (CN1)	YEONHO	12505WS-10	1
2	OUTPUT SIGNAL(CN2)	YEONHO	12505WS-10	1
3	POWER(CN3)	YEONHO	YW396-06V	1

\* 주의! 핀순서에 주의요망 (MIND THE PIN ORDER)

## 7. 신호선 접속(SIGNAL CABLE CONNECTION)

1) DATA 진행방향 (DYNAMIC MODULE 적용)



( FRONT VIEW )



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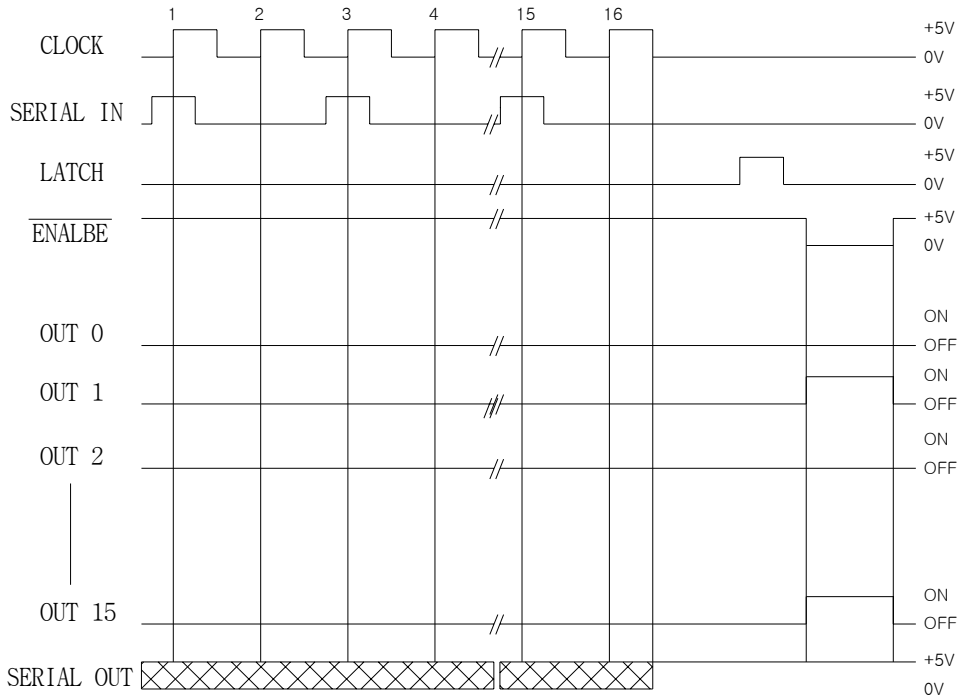
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## 8. 타이밍 차트 (TIMMING CHART)



(NOTE) Latches are level sensitive (not edge triggerde).  
 LATCH-terminal = H level, latches become transparent; LATCH-terminal = L level, latches hold data.  
 ENABLE-terminal = H level, all outputs (OUT0-15) are off.  
 SERIAL-OUT changes state on the falling edges of clock.

### Recommended Operating Condition

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	VDD	-	4.5	5.0	5.5	V
Output Voltage	VOUT	-	-	-	9	V
Output Current	IO	OUTn	5	-	115	mA
	IOH	SERIAL OUT	-	-	1.0	
	OIL	SERIAL OUT	-	-	-1.0	
Input Voltage	VIH	-	0.7VDD	0.7VDD	VDD+0.3	V
	VIL	-	-0.3	-0.3	0.3VDD	
LATCH Pulse Width	tw LAT	VDD = 4.5 ~ 5.5 V	15	-	-	ns
CLOCK Pulse Width	tw CLK		15	-	-	ns
Set up Time for DATA	tsetup(D)		20	-	-	ns
Hold Time for DATA	thold(D)		20	-	-	ns
Set up Time for LATCH	tsetup(L)		15	-	-	ns
Clock Frequency	fCLK	Cascade operation	-	-	25	MHz



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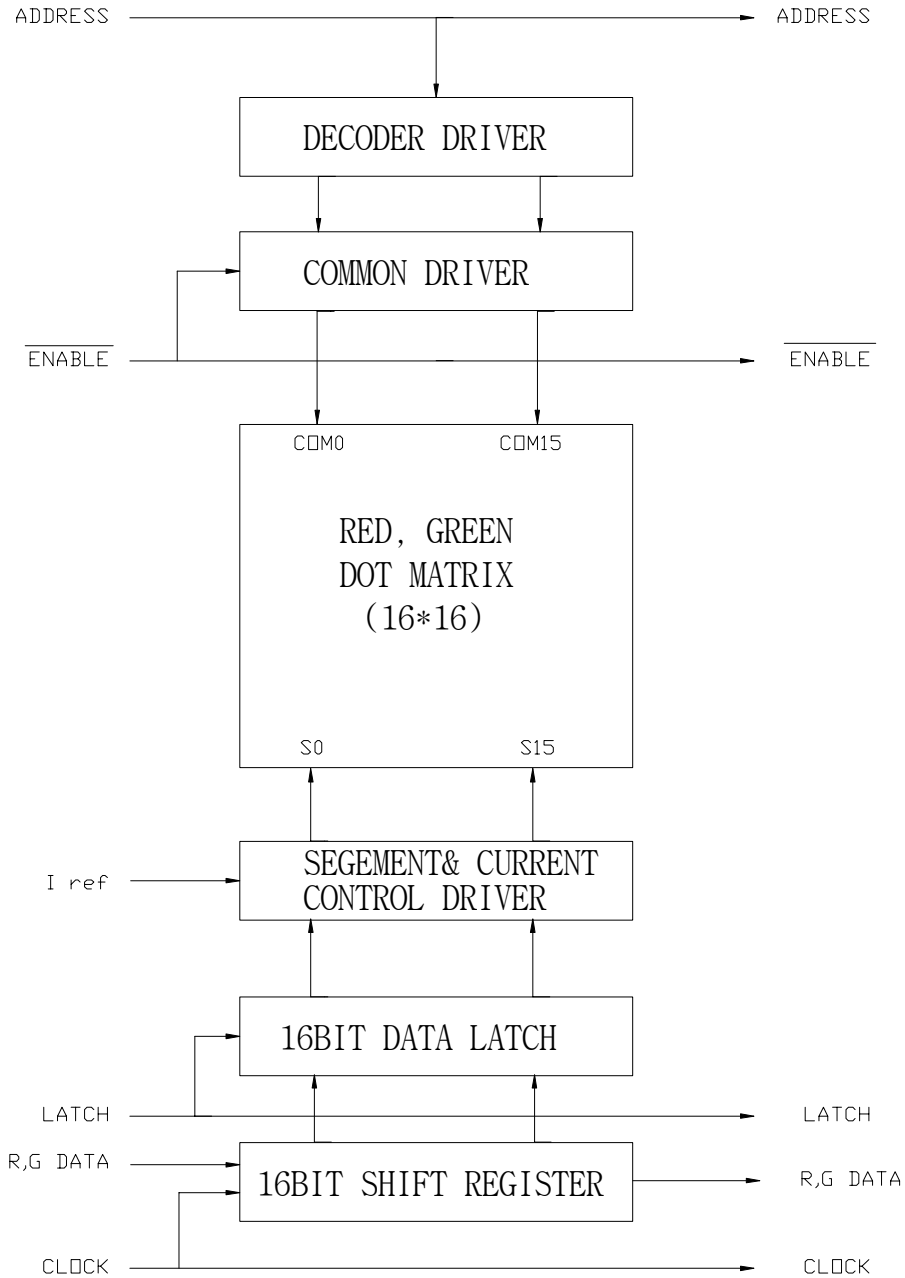
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## 9. 블럭도 ( BLOCK DIAGRM )



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## 11. 취급 및 설치시 주의사항 (SAFETY)

- 입력 범위 이상의 전원이나 역전압이 LED MODULE에 유입될시는 내부회로가 손상되오니 입력전압 범위를 반드시 지켜주시기 바랍니다.
- Backward voltage or overvoltage flows in the LED module can damage the internal circuits. Please operate the module under the permitted scope of voltage supply.
- 높은 습도나 누수에 의해 LED MODULE의 고장 원인이 될수 있습니다.
- High humidity and leak can damage LED module.
- DISPLAY PANEL의 수가 많을경우 및 배기시설이 양호하지 않을 경우에는 LED 발열에 의한 MODULE의 손상과 오동작이 발생할수 있으므로 필요시 COOLING FAN을 설치하시기 바랍니다.
- Install a cooling fan for cooling out the LED module in order to avoid damage or operateing failure caused by the heat when many display panels are attached to one board or the module is operated under ill-ventilated conditions.
- LED DOT MATRIX MODULE에 충격 및 진동을 가할 경우 DOT불량, 단선등의 원인이 될수 있으므로 삼가하여 주시기 바랍니다.
- LED Module could be damaged or broken by a shock or collision.
- LED MODULE에 찍힘이나 긁힘이 발생하지 않도록 주의하시기 바랍니다.
- Be careful not to scratch or impact the LED Module.
- MODULE을 취급, 보관할경우 정전기 방지 포장을 하여 주십시오.
- Treat or keep under the condtion of static electricity-proof packing.
- Twiste cable 또는 Shield wire는 고주파 잡음으로 부터 module을 보호하여 안정된 동작을 할수 있으므로 필히 사용 하십시오.
- It is recommended to use twist cable or shielded wire to protect the module from high-frequency nosie and to secure stable operation.



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