

LED DOT MATRIX MODULE

MODEL : SSD-D3264DM

Seoul Semiconductor Co., Ltd.

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1. 특성 (FEATURES)

COLOR	RED , GREEN , AMBER
DOT SIZE (mm)	1.6
DOT PITCH (mm)	2.0
NUMBER OF DOT	512 (16*32)
DIMENSION (mm)	32*64

2. 전기적 특성(ELECTRICAL SPECIFICATION)

1) 최대정격(ABSOLUTE MAXIMUM RATINGS)

(Ta=25°C)

ITEM	SYMBOL	RATINGS	UNIT
SUPPLY VOLTAGE	Vcc	5	V
OPERATING FREQUENCY	f	10	MHz
INPUT VOLTAGE	Vin	Vcc-0.3 ~ Vcc+0.3	V
OPERATING AMBIENT TEMPERATURE	Topr	-10 ~ +60	°C
STORAGE TEMPERATURE	Tstg	-20 ~ +70	°C

2) 전기적 조건(ELECTRICAL CONDITION)

ITEM	SYMBOL	RATINGS	UNIT
SUPPLY VOLTAGE	Vcc	-0.3 ~ 7.0	V
OPERATING FREQUENCY	f	MAX. 10	MHz
SUPPLY CURRENT	I	MAX. 4	A

3. 최적 동작 조건(RECOMMENDABLE OPERATING CONDITION)

ITEM	SYMBOL	RATINGS	UNIT
SUPPLY VOLTAGE	Vcc	5.0	V
OPERATING AMBIENT TEMPERATURE	Topr	0 ~ 40	°C



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4. 신호레벨 (INPUT LEVEL)

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
INPUT " L "	V _{IL}	GND _{LOG}	-	0.8	V
INPUT " H "	V _{IH}	4.0	-	V _{LOG}	

5. 신호 (SIGNAL FUNCTION)

SIGNAL NAME	FUNCTION DESCRIPTION
RED DATA GREEN DATA	DATA INPUT FOR RED COLOR DATA INPUT FOR GREEN COLOR (SERIAL INPUT FOR DISPLAY)
CLOCK	SYNCHRONOUS CLOCK INPUT FOR SERIAL DATA TRANSFER. THE INPUT DATA IS SYNCHRONIZED TO THE RISING EDGE OF CLOCK.
$\overline{\text{LATCH}}$	WHEN LATCH IS HIGH, DATA ON SHIFT REGISTER GOES THROUGH LATCH. WHEN LATCH IS LOW, DATA IS LATCHED.
$\overline{\text{ENABLE}}$	DISPALY ON/OFF : "H" IS OFF, "L" IS ON
A0-A3	4 BIT LINE ADDRESS (ROW 0 ~ ROW 15)

6. 광학적 특성(OPTICAL SPECIFICATION)

(Ta=25°C)

ITEM		SYMBOL	MIN.	TYP.	MAX.	UNIT
LUMINANCE	RED	Lv	-	150	200	cd/m ²
	GREEN		-	240	300	
PEAK EMISSION WAVELENGTH	RED	λ_p	-	635	-	nm
	GREEN		-	570	-	
VIEWING ANGLE	HORIZONTAL	2 θ 1/2	-	45	-	deg
	VERTICAL		-	45	-	

* DUTY RATIO : 1/16

*일반오차(GENERAL ALLOWANCE) : ±15%



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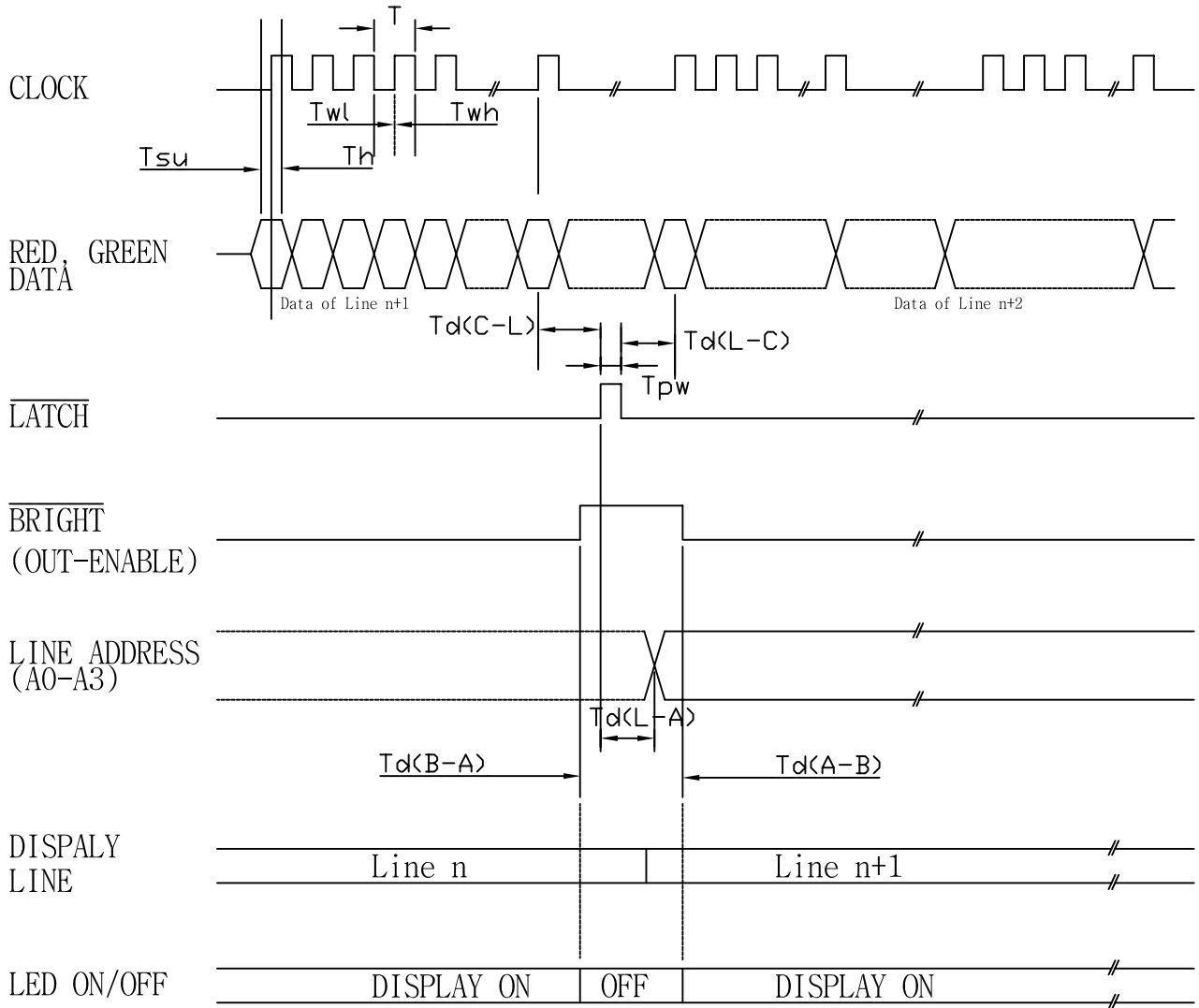
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7. 타이밍 차트 (TIMMING CHART)



($T_a=25^\circ\text{C}$)

ITEM	SYMBOL	MIN.	MAX.	UNIT
Clock(Sift clock frequency)	T	-	25	MHz
Clock pulse duration(High or low level)	T_{wh}/T_{wl}	40	-	ns
Clock Rise/Fall time	T_r/T_f	-	100	ns
Data Setup Time	T_{su}	10	-	ns
Data Hold Time	T_h	10	-	ns
Latch Pulse Width	T_{pw}	20	-	ns
Clock-Latch Time	$T_d(C-L)$	10	-	ns
Latch-Clock Time	$T_d(L-C)$	10	-	ns
Address-Bright Time	$T_d(A-B)$	10	-	ns
Bright-Address Time	$T_d(B-A)$	10	-	ns
Latch-Address Time	$T_d(L-A)$	0	-	us



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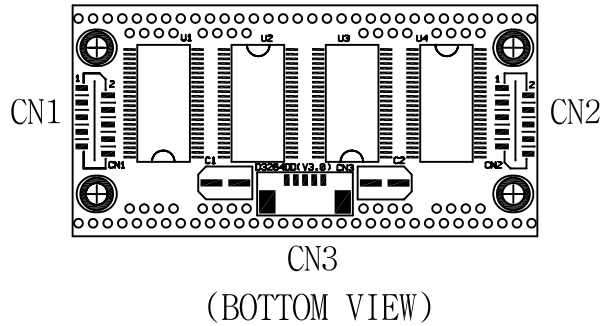
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8. 커넥터 기능(CONNECTOR FUNCTION)

-각부의 커넥터의 기본 기능은 다음과 같다.

- 1) CN3 : POWER CONNECTOR
- 2) CN1, CN2 : DATA INPUT, OUTPUT CONNECTOR



1) CONNECTOR

NO.	CONNECTOR NAME	MAKER	TYPE NO.	QTY
CN1	INPUT SIGNAL	yeon-ho	10022-10	1
CN2	OUTPUT SIGNAL	yeon-ho	10022-10	1
CN3	SOURCES OF ELECTRICITY	MOLEX	53398-0590	1

2) SOURCE OF ELECTRICITY

NO.	LINE NAME	FUNCTION
1	GND	GROUND FOR CIRCUIT AND LED
2	GND	
3	VCC	SUPPLY VOLTAGE FOR CIRCUIT
4	VLED	SUPPLY VOLTAGE FOR LED
5	VLED	



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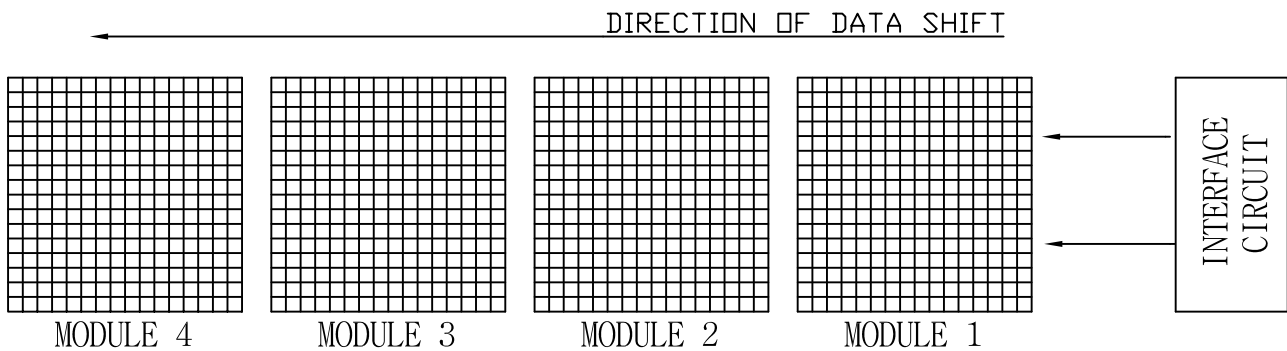
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3) INPUT/OUTPUT SIGNAL

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

9. 신호선 접속(SIGNAL CABLE CONNECTION)

1) DATA 진행방향 (DYNAMIC MODULE 적용)



(FRONT VIEW)



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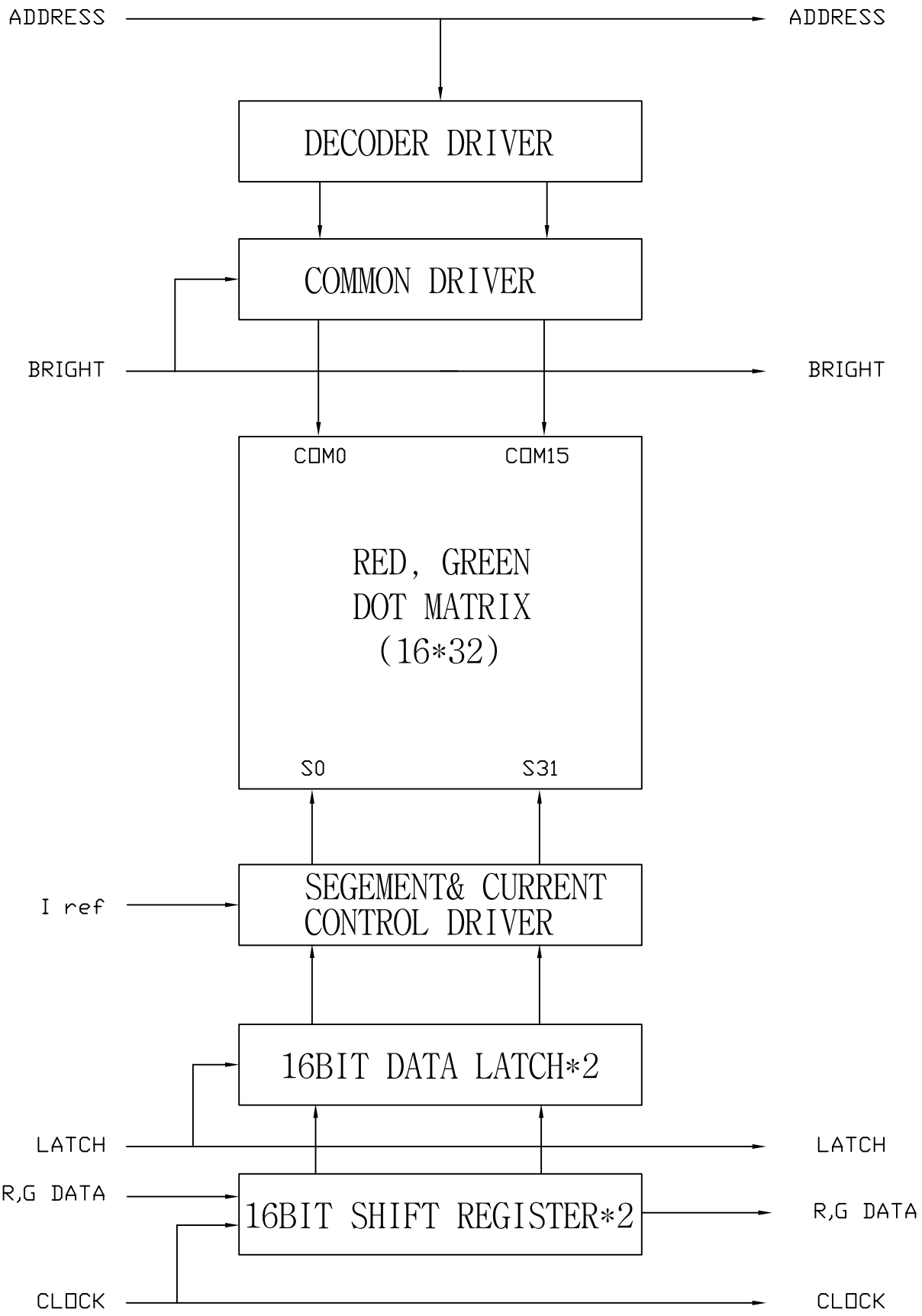
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10. 블럭도 (BLOCK DIAGRM)



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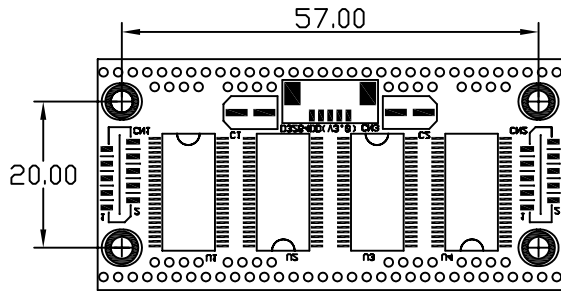
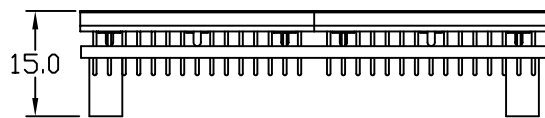
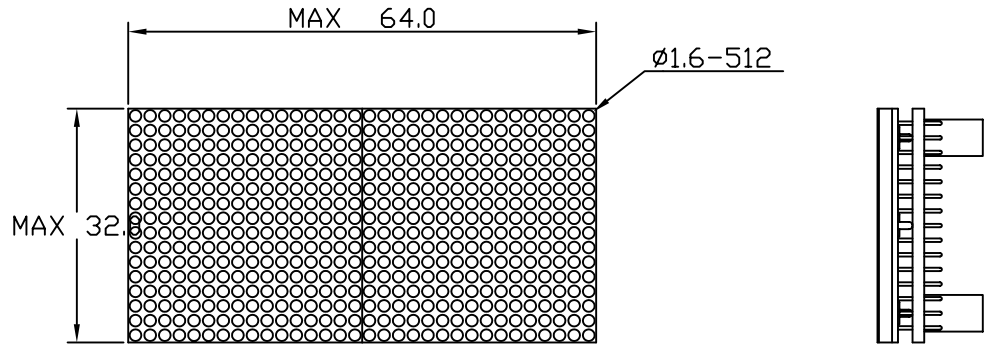
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11. 외관도면 (OUTER DIMENSION)



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12. 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 LED Module can damaged internal circuits, operate in the permitted scope of Supplying voltage only.
- 높은 습도나 누수에 의해 LED MODULE의 고장 원인이 될수 있습니다.
- High humidity and leak can damaged LED Module.
- DISPLAY PANEL의 수가 많을경우 및 배기시설이 양호하지 않을 경우에는 LED 발열에 의한 MODULE의 손상과 오동작이 발생될수 있으므로 필요시 COOLING FAN을 설치하시기 바랍니다.
- Install Cooling Fan, when attached many Display Panels at a board or operating under the ill-ventilated condition to avoid damage or operating failure by the heat cooling out of LED Module.
- LED DOT MATRIX MODULE에 충격 및 진동을 가할 경우 DOT불량, 단선등의 원인이 될수 있으므로 삼가하여 주시기 바랍니다.
- LED Module could damaged or broken by a shock or collision.
- LED MODULE에 찍힘이나 긁힘이 발생하지 않도록 주의하시기 바랍니다.
- Be careful to do not scratch and impact the LED Module.
- MODULE을 취급, 보관할경우 정전기 방지 포장을 하여 주십시오.
- Handle and keep under the condition of static electricity-proof packing.
- Twiste cable 또는 Shield wire는 고주파 잡음으로부터 module을 보호하여 안정된 동작을 할수 있으므로 필히 사용 하십시오.
- Twiste cable or Shield wire is necessary to protect Module from high - frequency noise & allow stable operation.



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