SEOUL Semiconductor

16Dot*16Dot
LED DOT MATRIX

MODEL : SSD-D6464CFM

Seoul Semiconductor Co., Ltd.

148-29,Kasan-Dong, KeumChun-Ku, Seoul, Korea
TEL : 82-2-3281-6269   FAX:82-2-858-5537
Web-site : www.seoul-semicon.co.kr

Q-00-0553(Rev.0)

1.특성 (FEATURES)

COLOR	RED, GREEN, BLUE
DIMENSION (mm)	64.0 * 64.0 (mm)
NUMBER OF DOT	256
Drive mode	Dynamic Drive (1/16 Duty)
PROTECTION	WATCHDOG FUNCTION
WEIGHT (g)	-

2.전기적 특성(ELECTRICAL SPECIFICATION)

(Ta=25°C)

Parameter	Symbol	Red	GREEN	BLUE	Unit
Power dissipation *	P_D	2.94	3.22	3.22	W
Foward current	I_F	30	20	20	mA
Peak foward current**	I_{FP}	50	35	35	mA
Reverse voltage	V_R	5			V
Operating temperature	Topr	-20 ~ +75			°C
Storage temperature	Tstg	-30 ~ +90			°C

* conditions: RED I_{FP} = 50mA, GREEN, BLUE I_{FP} = 35mA, DUTY = 1/10
** conditions: I_{FP} = Pulse width Tw ≤ 0.1ms, Duty ratio ≤ 1/10

3. 전기광학적 특성(Electrical and optical characteristics)

- 일반오차(GENERAL ALLOWANCE) : ±15%   (Ta=25 C)

Parameter	Condition	Symbol	Red			Green			BLUE			Unit
			Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
FORWARD Voltage	I_F =10mA	V_F	-	2.2	2.3	-	3.1	3.6		3.1	3.4	V
Reverse current	V_R =5V	I_F	-		10	-	-	10	-	-	10	μA
Dominant wavelength	I_F =20mA	λ_d	-	625	-	-	525	-	-	474	-	nm
Spectral half-power bandwidth	I_F =20mA	$\Delta\lambda$	-	20	-	-	35	-	-	25	-	nm
VIEWING ANGLE	I =20mA	2θ 1/2	-	150	-	-	150	-	-	150	-	DEG

	제품명	발행일	REV
SEOUL SEOUL Semiconductor	SSD-D6464CFM	04.09.15	2 / SHEETS 1/7

Q-00-0553(Rev.0)

4. 광학적 특성(OPTICAL SPECIFICATION)

(Ta=25°C)

ITEM		SYMBOL	MIN.	TYP.	MAX.	UNIT
LUMINOUS INTENSITY	RED GREEN BLUE	L_v	–	762 1343 496	–	cd/m^2
DOMINANT WAVELENGTH	RED GREEN BLUE	λ_d	–	625 525 474	–	nm
VIEWING ANGLE	HORIZONTAL	$2\theta\ 1/2$	–	150	–	deg
	VERTICAL		–	150	–	

5. 핀이름(PIN NAMES)

<VIEW OF BOTTOM>

6. 연결단자(HARNESS)

150±0.5

UL 1016, CSA AWM 26AWG

CONT. TO LED

70.0

UL 1016, CSA AWM 26AWG

200±0.5

CONT. TO POWER
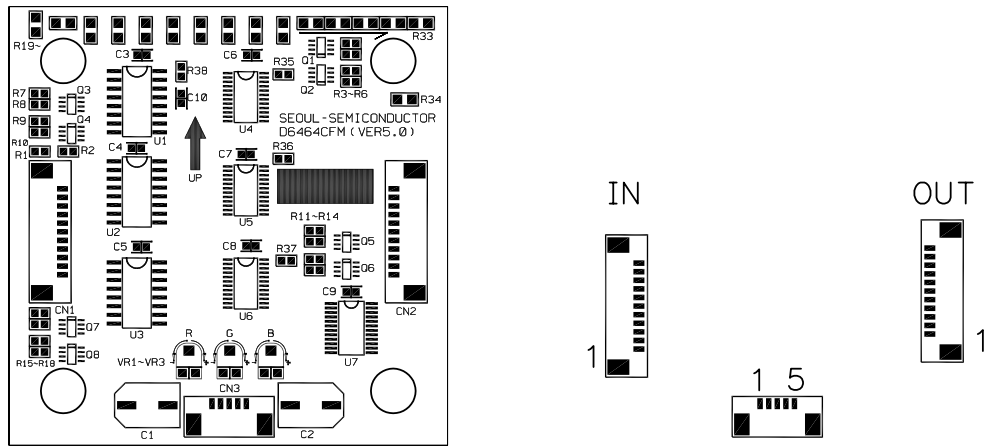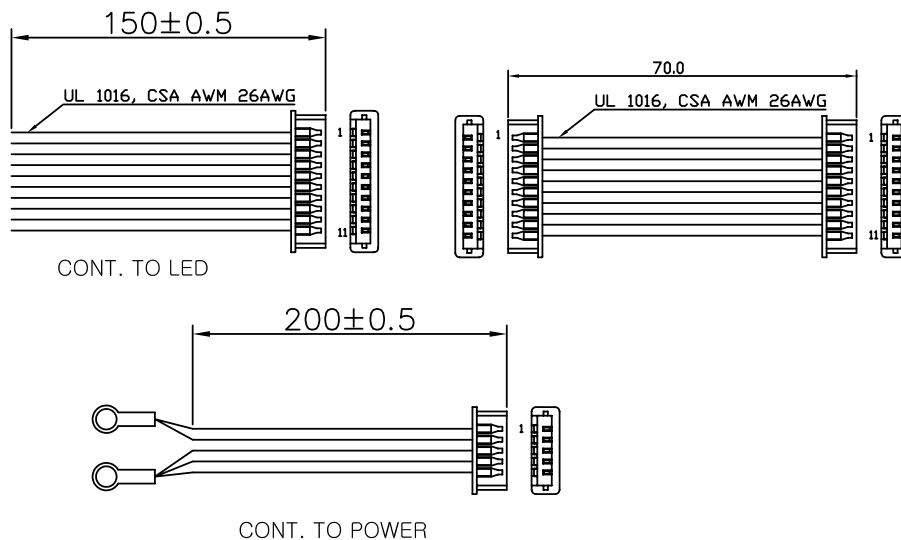
	제품명	발행일	REV
SEOUL Semiconductor	SSD-D6464CFM	04.09.15	2

SHEETS
2/7

7. 외관 (Demension)
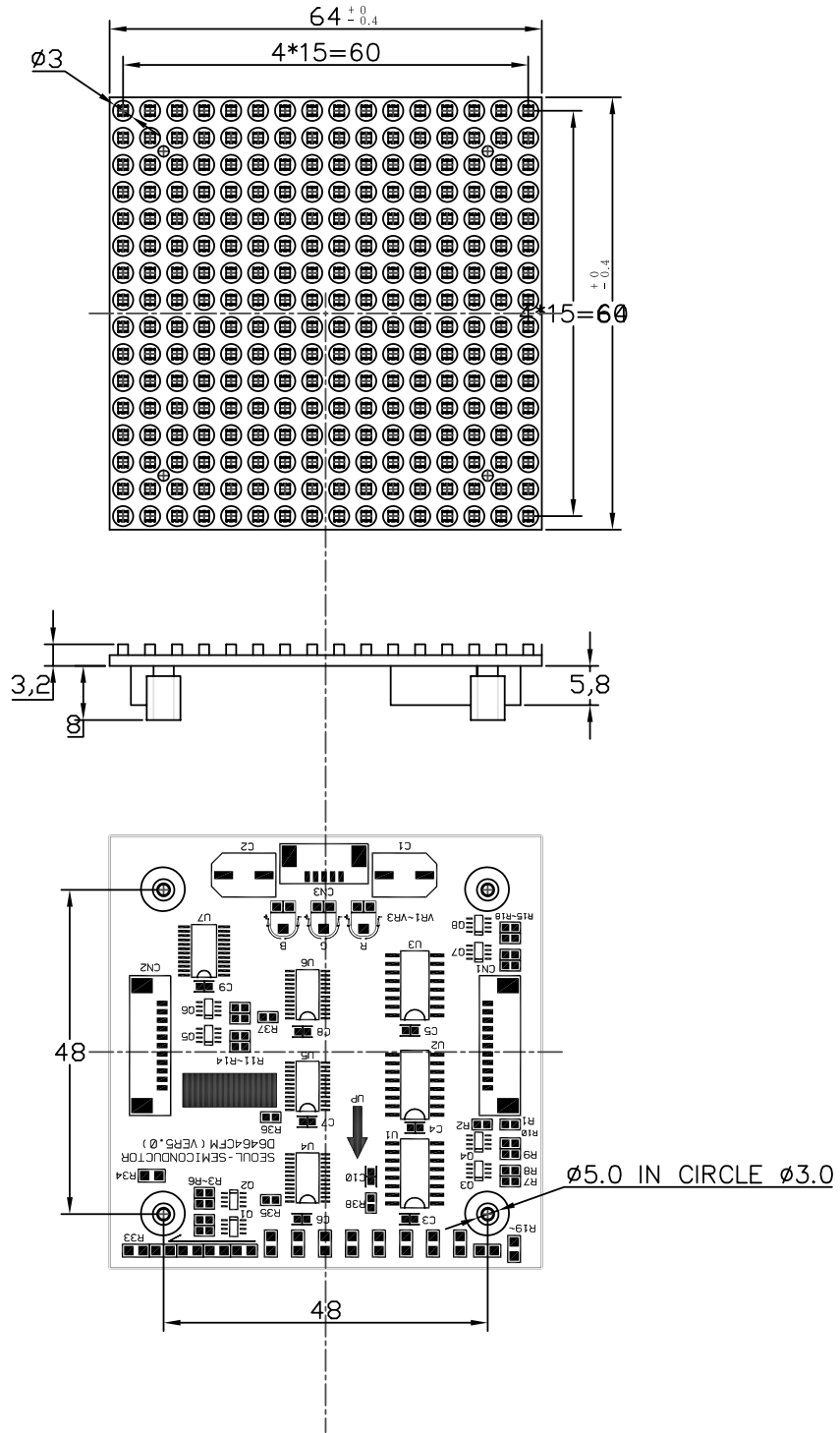
64 $^{+0}_{-0.4}$

4*15=60

ø3

4*15=60

3,2
8
5,8

SEOUL-SEMICONDUCTOR
D6464CFM(VER5.0)

48

48

ø5.0 IN CIRCLE ø3.0

Q-00-0553(Rev.0)

8. INPUT/OUPUT SIGNAL

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	VCC
4	A0	4	A0	4	VLED
5	A1	5	A1	5	VLED
6	A2	6	A2		
7	A3	7	A3		
8	$\overline{\text{BLANK}}$	8	$\overline{\text{BLANK}}$		
9	GREEN DATA	9	GREEN DATA		
10	BLUE DATA	10	BLUE DATA		
11	GROUND	11	GROUND		

NO	CONNECTOR NAME	MAKER	TYPE NO.	QTY
1	INPUT SIGNAL (CN1)	MOLEX	53398-11	1
2	OUTPUT SIGNAL(CN2)	MOLEX	53398-11	1
3	POWER(CN3)	MOLEX	53398-05	1

9. 신호선 접속(SIGNAL CABLE CONNECTION)

1) DATA 진행방향 (DYNAMIC MODULE 적용)

DIRECTION OF DATA SHIFT

MODULE 4   MODULE 3   MODULE 2   MODULE 1   INTERFACE CIRCUIT
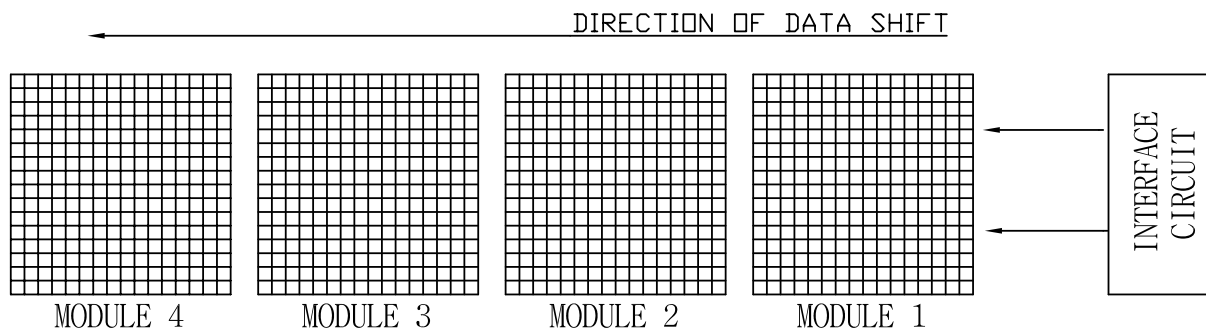
(FRONT VIEW)

	제품명	발행일	REV
SEOUL Semiconductor	SSD-D6464CFM	04.09.15	2
			SHEETS 4/7

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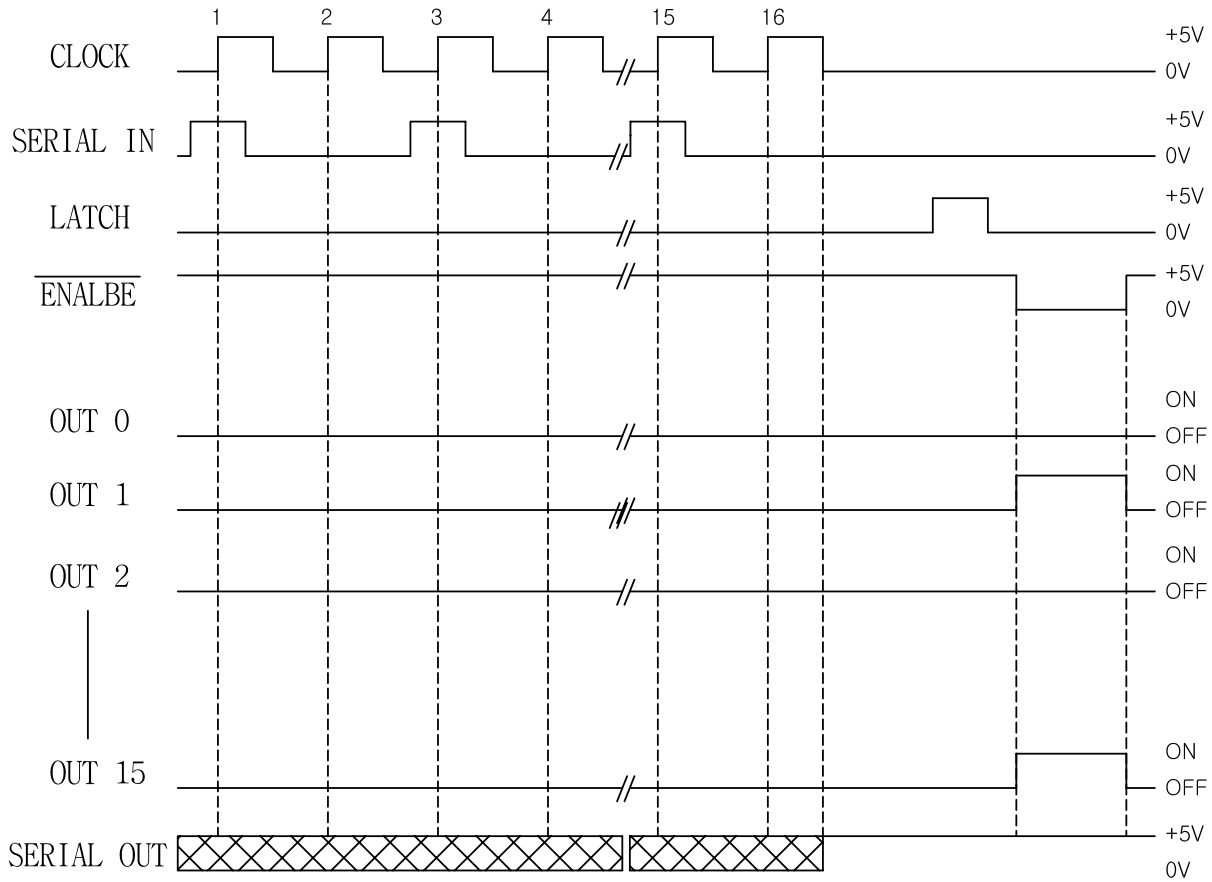
(NOTE) Latches are level sensitive (not edge triggerde).
    LATCH-terminal = H level, latches become transparent; LATCH-terminal = L level, latches hold data.
    ENABLE-terminal = H level, all outputs (OUT0-15) are off.
    SERIAL-OUT changes state on the falling edges of clock.
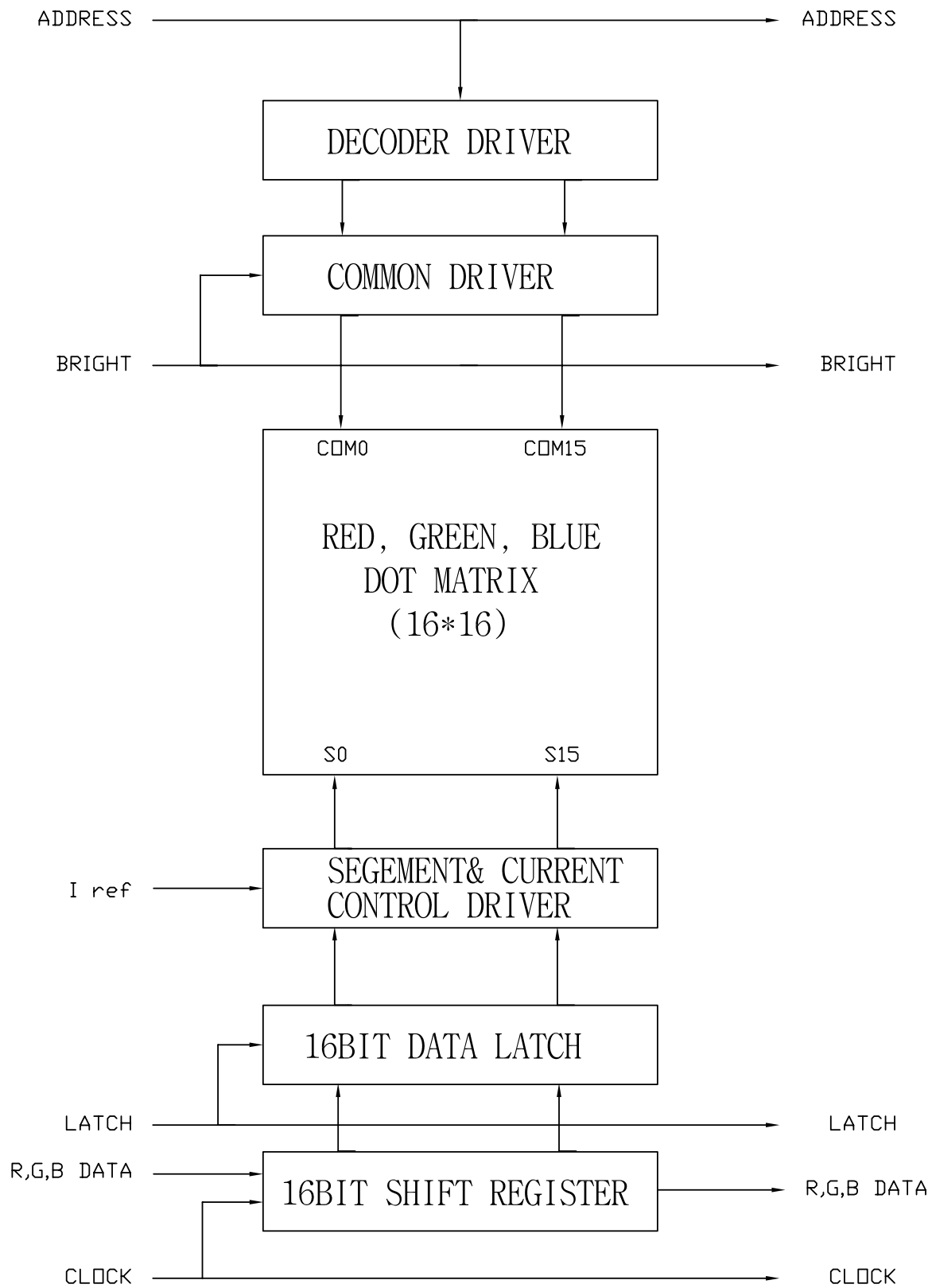
Recommended Operating Condition

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

	제품명	발행일	REV 2
SEOUL Semiconductor	SSD-D6464CFM	04.09.15	SHEETS 5/7

11. 블럭도 (BLOCK DIAGRM)

ADDRESS ─────────────────────────────────→ ADDRESS

```
                    ┌──────────────────────┐
                    │   DECODER DRIVER     │
                    └──────────────────────┘

                    ┌──────────────────────┐
                    │   COMMON DRIVER      │
                    └──────────────────────┘
```

BRIGHT ─────────────────────────────────→ BRIGHT

```
                    COM0          COM15
                    ┌──────────────────────┐
                    │                      │
                    │   RED, GREEN, BLUE   │
                    │    DOT MATRIX        │
                    │     (16*16)          │
                    │                      │
                    S0             S15     │
                    └──────────────────────┘
```

```
                    ┌──────────────────────┐
I ref ─────────────→│  SEGEMENT& CURRENT   │
                    │  CONTROL DRIVER      │
                    └──────────────────────┘

                    ┌──────────────────────┐
                    │  16BIT DATA LATCH    │
                    └──────────────────────┘
```

LATCH ─────────────────────────────────→ LATCH

```
                    ┌──────────────────────┐
R,G,B DATA ────────→│ 16BIT SHIFT REGISTER │──────→ R,G,B DATA
                    └──────────────────────┘
```

CLOCK ─────────────────────────────────→ CLOCK

	제품명	발행일	REV
SEOUL Semiconductor	SSD-D6464CFM	04.09.15	2
			SHEETS 6/7

12. 취급및 설치시 주의사항 (SAFETY)

- 입력 범위 이상의 전원이나 역전압이 LED MODULE에 유입될시는 내부회로
   가 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 있읍니다.
- High humidity and leak can damage LED module.
- DISPLAY PANEL의 수가 많을경우 및 배기시설이 양호하지 않을 경우에는
   LED 발열에의한 MODULE의 손상과 오동작이 발생될수 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 충격및 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 주십시요.
- Treat or keep under the condtion of static electricity-proof packing.
- Twiste cable 또는 Shield wire는 고주파 잡음으로 부터 module을 보호
   하여 안정된 동작을 할수 있으므로 필히 사용 하십시요.
- It is recommended to use twist cable or shielded wire to protect the module
   from high-freqiency nosie and to secure stable operation.

	제품명	발행일	REV
SEOUL Semiconductor	SSD-D6464CFM	04.09.15	2
			SHEETS 7/7