

KLM - 064MA - 16A

This module designed for light emitting display device. Organize with 16 x 16 matrix combination with 256 of each Red, Green LED Chips, for indoor use.

FEATURES

- Active display size : 64mm x64mm
- Dot size : $\phi 3$
- Dot pitch : 4mm
- Display color : RED, GREEN, AMBER(Mixed color)
- Duty rate : 1/16
- Dot matrix : 256(16 x 16)
- Weight : 80g(Typ.)
- With a simple serial - inter face.

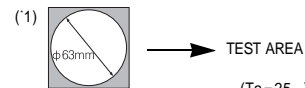
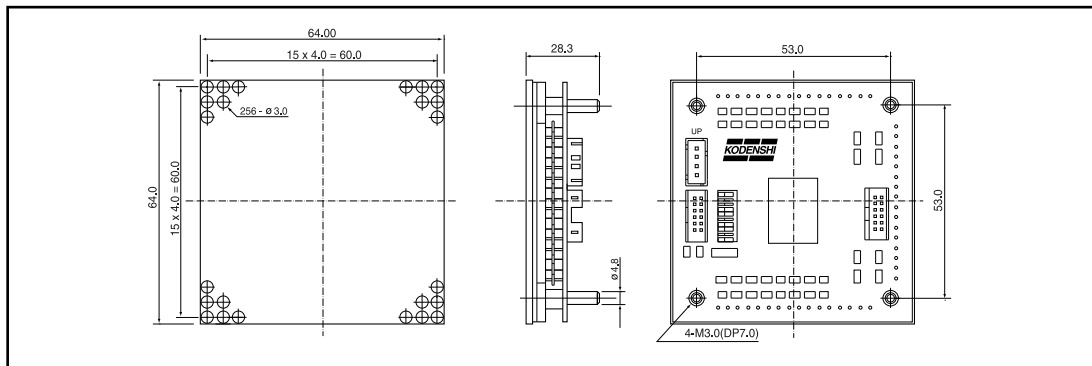
MAXIMUM RATINGS

(Ta=25)

| ITEM | SYMBOL | RATINGS | UNIT | COND. |
|-----------------------|------------------|-------------------------|------|-------|
| Power dissipation | P _o | 15 | W | |
| Supply voltage(DRIVE) | V _{DD} | 6 | V | |
| Supply voltage(LED) | V _{LED} | 6 | V | |
| Logic input power | V _{in} | - 0.5 ~ V _{DD} | V | |
| Junction Temp. | T _J | 115 | | |
| Operating Temp. | T _a | - 20 ~ +65 | | |
| Storage Temp. | T _g | - 20 ~ +70 | | |

DIMENSIONS

(Unit : mm)



OPTICAL CHARACTERISTICS

(Ta=25)

| ITEM | SYMBOL | CONDITION | MIN. | TYP. | MAX. | UNIT. |
|-----------------------|--------|-----------------------|------|------|------|-----------------------|
| Bright - ness(16x 16) | GREEN | V _{DD} = 5V | - | 120 | - | cd/m ² · 1 |
| | RED | | - | 100 | - | |
| | AMVER | | - | 180 | - | |
| Dot - Balance | GREEN | V _{LED} = 5V | - | - | 2 | - |
| | RED | | - | - | 2 | |
| | AMBER | | - | - | 2 | |
| Emission Wavelength | GREEN | | - | 569 | - | nm |
| | RED | | - | 630 | - | |
| | AMBER | | - | - | - | |
| Spectrum half - band | GREEN | | - | 25 | - | nm |
| | RED | | - | 40 | - | |

LED Dot Matrix

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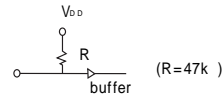
ELECTRICAL CHARACTERISTICS (VOLTAGE- CURRENT CHARACTERISTICS)

(Ta=25)

| ITEM | SYMBOL | CONDITION | MIN. | TYP. | MAX. | UNIT. | |
|-----------------------------|------------------|----------------------|-----------------------------|------|------|-------|---|
| Supply voltage(LOGIC) | V _{DD} | - | 4.75 | 5 | 5.25 | V | |
| Supply voltage(LED) | V _{LED} | - | 4.50 | 5 | 5.50 | V | |
| Supply current(LOGIC) | I _{DD} | V _{DD} =5V | - | 50.0 | 70.0 | mA | |
| Supply current(LED) | GREEN | I _{LEDg} | Lighting all ^{1,2} | - | - | 1.3 | A |
| | RED | I _{LEDr} | | - | - | 1.3 | |
| | AMBER | I _{LEDo} | | - | - | 2.0 | |
| Logic - input vol tage LOW | V _L | V _{LED} =5V | - | - | 1.5 | V | |
| Logic - input vol tage HIGH | V _H | V _{DD} =5V | 3.5 | - | - | V | |

². V_o=5V, V_{LED}=5V *Temperature condition of guarentee range for operating : - 20 - +65

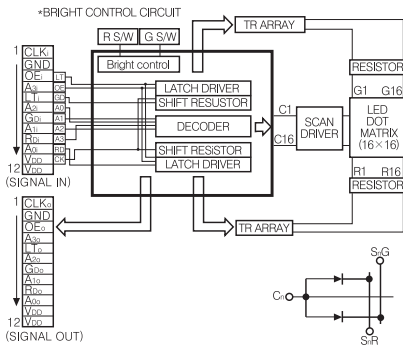
*PULL UP



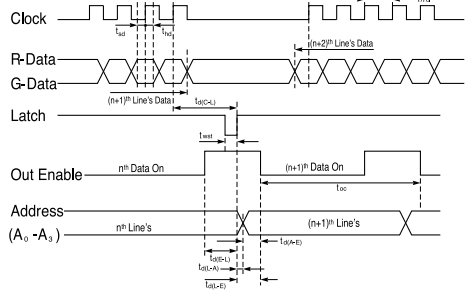
ELECTRICAL CHARACTERISTICS (CONNECTOR SPECIFICATION)

| CLASSIFICATION | NAME | STANDARD | LENGH | COMPANY | REMARK | |
|---------------------|--------|---------------|-----------------------------|---------|---------|---------|
| POWER CONN. | WAFER | B 4B - XH - A | - | KST | JST C/N | |
| INPUT SIGNAL CONN. | WAFER | B 12B - PHDSS | - | KST | JST C/N | |
| OUTPUT SIGNAL CONN. | WAFER | B 12B - PHDSS | - | KST | JST C/N | |
| ASS Y | POWER | HARNESS | XHP - 4P - 000R(RING TYPE) | Option | KST | JST C/N |
| | | HARNESS | XHP - 4P - 000(SOLDER TYPE) | Option | KST | JST C/N |
| | SIGNAL | HARNESS | HPDR - 12VS - 000 | Option | KST | JST C/N |

BLOCK DIAGRAM



TIMING CHART



RECOMMENDED TIMING CONDITION

| NO | ITEM | SYMBOL | MIN. | TYP. | MAX. | UNIT. |
|----|-----------------------|---------------------|------|------|------|-------|
| 1 | CLOCK FREQUENCY | f _{cl} | - | - | 40 | MHz |
| 2 | CLOCK CYCLE | 1/f _{cl} | 25 | - | - | ns |
| 3 | CLOCK - LATCH TIME | t _{d(C-L)} | 25 | - | - | ns |
| 4 | LATCH PULSE WIDTH | t _{twst} | 25 | - | - | ns |
| 5 | ENABLE - LATCH TIME | t _{d(E-L)} | 0 | - | - | ns |
| 6 | DATA SETUPTIME | t _{sd} | 6 | - | - | ns |
| 7 | DATA HOLD TIME | t _{hd} | 6 | - | - | ns |
| 8 | ADDRESS - ENABLE TIME | t _{d(A-E)} | 25 | - | - | ns |
| 9 | LATCH - ADDRESS TIME | t _{d(L-A)} | 0 | - | - | ns |
| 10 | LATCH - ENABLE TIME | t _{d(L-E)} | 0 | - | - | ns |
| 11 | ON TIME | t _{oc} | - | - | 1 | ms |