

KLM - 096CA - 16B

This module designed for light emitting display device. Organize with 16 × 32 matrix combination with 512 of DUAL(Red, Green) Chip LEDs, for indoor use.

FEATURES

- Active display size : 96mm × 192mm
- Dot size : $\varnothing 5$
- Dot pitch : 6mm
- Display color : RED, GREEN, AMBER(Mixed color)
- Duty rate : 1/16
- Dot matrix : 512(16 × 32)
- Weight : 110g(Typ.)

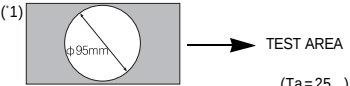
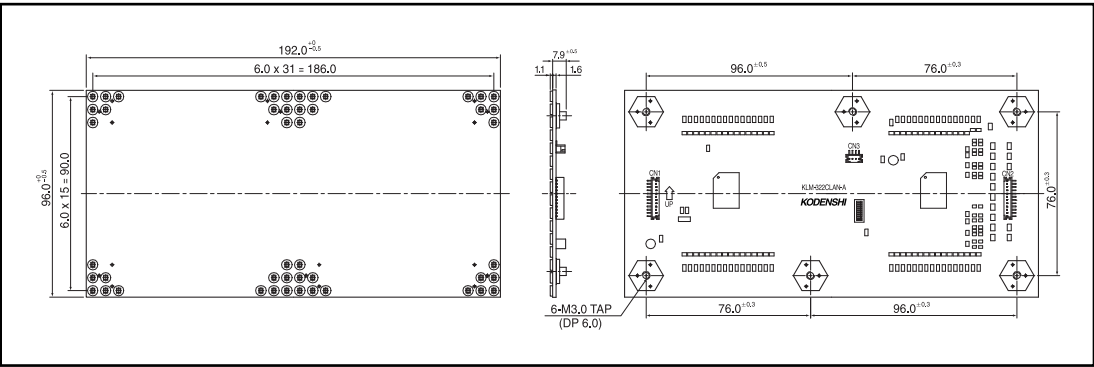
MAXIMUM RATINGS

(Ta=25)

ITEM	SYMBOL	RATING	UNIT	COND.
Power dissipation	P_D	25	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_{opr}	- 20 ~ + 65		
Storage Temp.	T_{stg}	- 20 ~ + 70		

DIMENSIONS

(Unit : mm)



OPTICAL CHARACTERISTICS

(Ta=25)

ITEM		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT.
Bright - ness(16×16)	GREEN	IV_g	$V_{DD} = 5V$	-	150	-	cd/m^2
	RED	IV_r		-	180	-	
	AMBER	IV_o		-	250	-	
Dot - Balance	GREEN	IVR_g	$V_{LED} = 5V$	-	-	2	-
	RED	IVR_r		-	-	2	
	AMBER	IVR_o		-	-	2	
Emission Wavelength	GREEN	λ_p		-	570	-	nm
	RED	λ_p		-	660	-	
Spectrum half - band	GREEN	λ_g		-	30	-	nm
	RED	λ_r		-	40	-	

LED Dot Matrix

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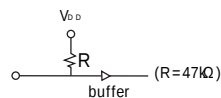
ELECTRICAL CHARACTERISTICS (VOLTAGE CURRENT CHARACTERISTICS)

(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}	$V_{DD}=5V$	-	70.0	100.0	mA
Supply current(LED)	GREEN	Lighting all '1'	-	-	2.4	A
	RED		-	-	2.2	
	ABVER		-	-	3.6	
Logic - input voltage LOW	V_{IL}	$V_{LED}=5V$	-	-	1.5	V
Logic - input voltage HIGH	V_{IH}	$V_{DD}=5V$	3.5	-	-	V

*2. $V_{DD}=5V$, $V_{LED}=5V$ *Temperature condition of guarantee range for operating : - 20~+65

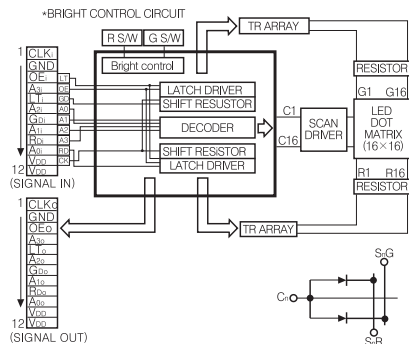
*PULL UP



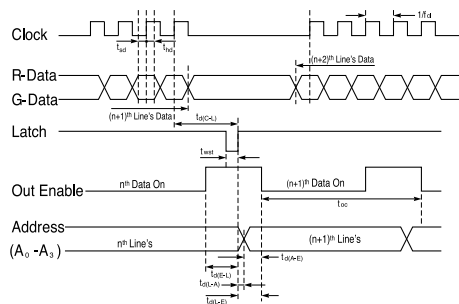
ELECTRICAL CHARACTERISTICS (CONNECTOR SPECIFICATION)

CLASSIFICATION		NAME	STANDARD	LENGH	COMPANY	REMARK
POWER CONN.		WAFER	B 4B - PH - SM3 - TB	-	KST	JST C/N
INPUT SIGNAL CONN.		WAFER	B 12B - PH - SM3 - TB	-	KST	JST C/N
OUTPUT SIGNAL CONN.		WAFER	B 12B - PH - SM3 - TB	-	KST	JST C/N
ASS Y	POWER	HARNESS	PHR - 4 - 200S	Option	KST	JST C/N
		HARNESS	PHR - 4 - 200R	Option	KST	JST C/N
	SIGNAL	HARNESS	PHR - 12 - 100	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	$t_{cl(L)}$	25	-	-	ns
4	LATCH PULSE WIDTH	t_{wst}	25	-	-	ns
5	ENABLE - LATCH TIME	$t_{cl(E-L)}$	0	-	-	ns
6	DATA SETUP TIME	t_{sd}	6	-	-	ns
7	DATA HOLD TIME	t_{hd}	6	-	-	ns
8	ADDRESS - ENABLE TIME	$t_{cl(A-E)}$	25	-	-	ns
9	LATCH - ADDRESS TIME	$t_{cl(L-A)}$	0	-	-	ns
10	LATCH - ENABLE TIME	$t_{cl(L-E)}$	0	-	-	ns
11	ENABLE CYCLE	t_{ec}	-	-	1	ms