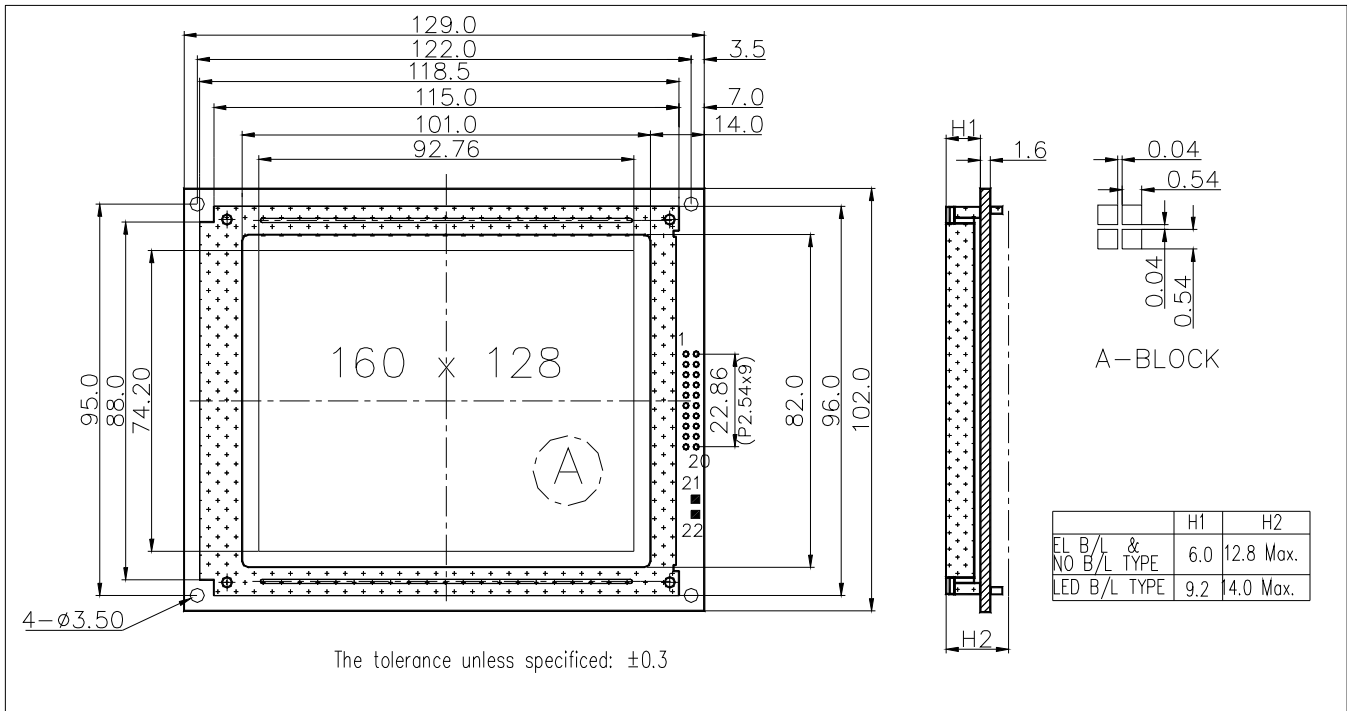
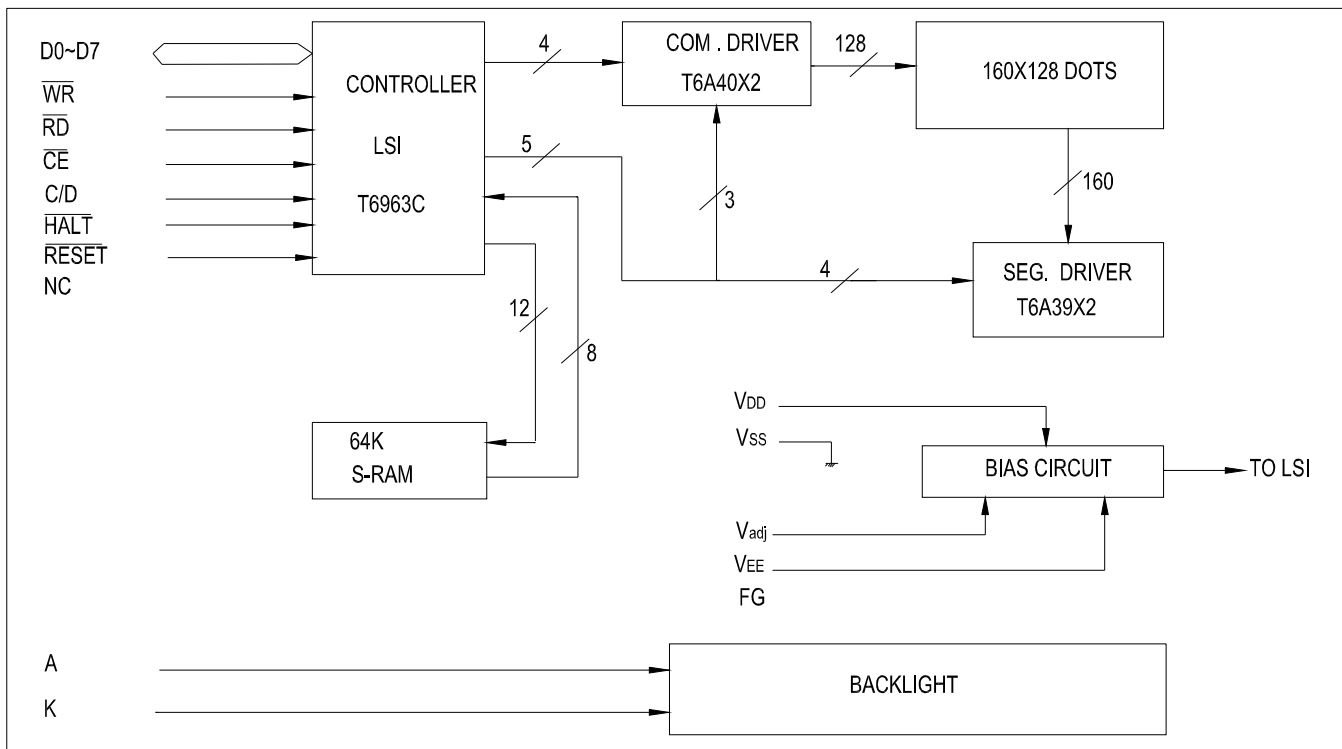


1.0 DIMENSIONAL DRAWING



2.0 BLOCK DIAGRAM



3.0 ELECTRICAL CHARACTERISTICS $T_a=25^\circ\text{C}$ $V_{DD}=5.0\text{V}\pm 0.25\text{V}$

Item	Symbol	Test Condition	Standard Value			
			Min.	Typ.	Max.	Unit
Power Supply Voltage	$V_{DD}-V_{SS}$	25°C	4.5	5.0	5.5	V
LCD Operation Voltage	V_{OP}		-	19.0	-	V
LCM Current Consumption	I_{DD}		-	-	30	mA
Backlight Forward Voltage	V_F		-	4.2	-	V

4.0 ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Test Condition	Standard Value		
			Min.	Max.	Unit
Supply Voltage (Logic)	$V_{DD}-V_{SS}$	25°C	-0.3	7.0	V
Supply Voltage (LCD)	$V_{DD}-V_O$		-	28	V
Input Voltage	V_{IN}		-0.3	$V_{DD}+0.3$	V
Operating Temp.	T_{OPR}	-	0	50	°C
Storage Temp.	T_{STG}	-	-20	60	°C

5.0 PIN ASSIGNMENT

PIN No.	Symbol	Description
1	FG	Frame Ground
2	Vss	Ground
3	V_{DD}	Power supply for logic circuit
4	Vo	Voltage level for LCD contrast adjustment
5	VEE	Power supply for driving
6	\overline{WR}	Command and data write signal
7	\overline{RD}	Data and status read signal
8	\overline{CE}	Chip enable signal
9	C/D	Write: H-Command write, L-Data write Read: H-Status read, L-Data read
10	\overline{HALT}	H-Normal, L-Stop the oscillation of clock
11	\overline{RESET}	Reset signal
12-19	DB0-DB7	Data bus
20	nc	No connection
21	LEDK	LED Back-light
22	LEDA	LED Back-light

Remark

1. LCD option: STN, FSTN .
2. Standard module.
3. Backlight option: LED backlight feature, other specs not available on catalog is under request.