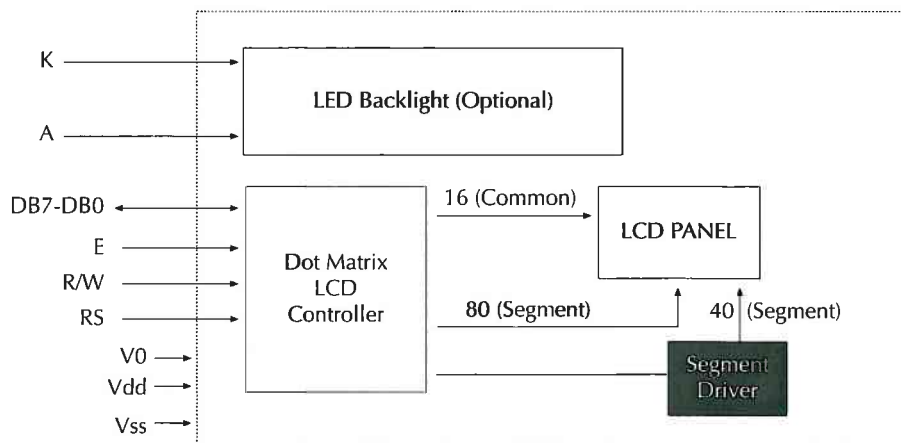


CCM-2020 SERIES

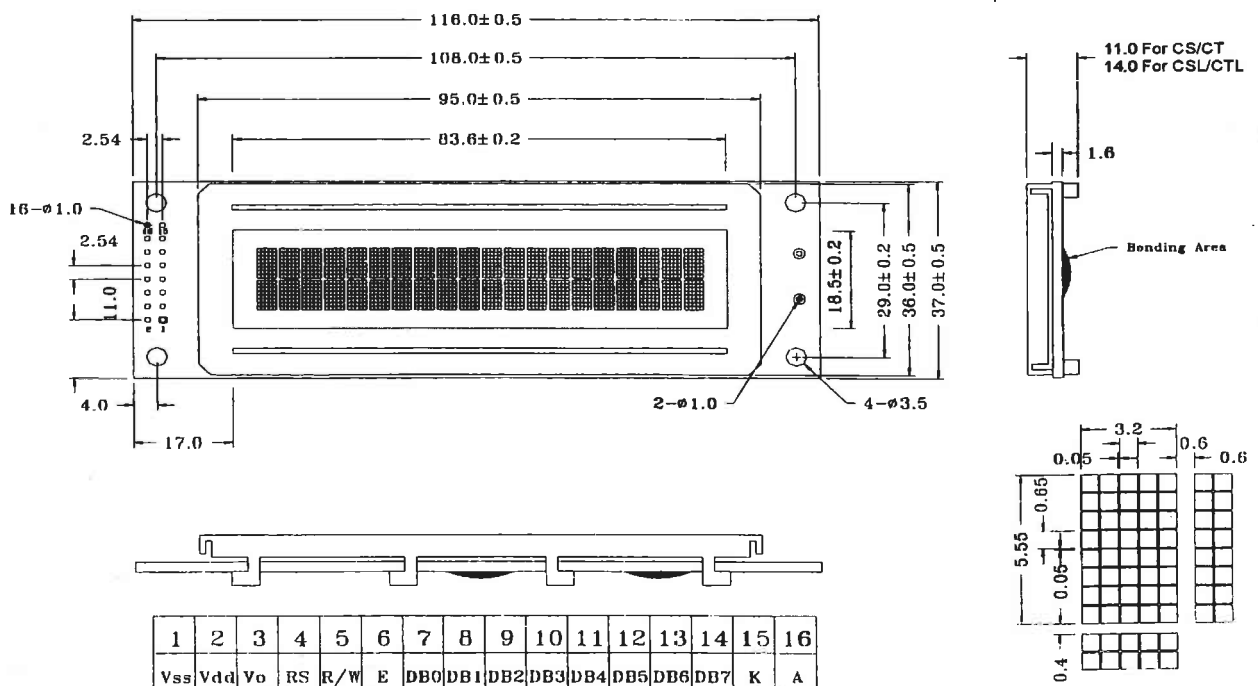
General Information

Item	Description	Unit
Module Dimension	116.0(L) x 37.0(W) x 11.0/14.0(H)	mm
Viewing Area	83.6(L) x 18.5(W)	mm
Character Size	3.20(L) x 5.55(W)	mm
Dot Size	0.60(L) x 0.65(W)	mm
Dot Pitch	0.65(L) x 0.70(W)	mm
Duty Cycle	1/16	

SYSTEM BLOCK DIAGRAM



ASSEMBLY DIAGRAM



ABSOLUTE MAXIMUM

Item	Symbol	Min.	Max.	Unit
Power Supply for Logic	Vdd	-0.3	+7.0	V
Power Supply for LCD Drive	Vlcd	Vdd-11.5	Vdd+0.3	V
Input Voltage	Vi	-0.3	Vdd+0.3	V
Operating Temperature	Ta	0	+50	°C
Storage Temperature	Tstg	-10	+60	°C

ELECTRICAL CHARACTERISTICS

(Ta=25°C; Vdd=5.0V±5%, otherwise specified)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Power Supply for Logic	Vdd	--	4.5	--	5.5	V
Operating Voltage for LCD	Vdd-V0	--	--	5.0	--	V
Input "high" voltage	Vih	--	2.2	--	Vdd	V
Input "low" voltage	Vil	--	-0.3	--	0.6	V
Output "high" voltage	Voh	-Ioh=0.2mA	2.4	--	--	V
Output "low" voltage	Vol	Iol=1.2mA	--	--	0.4	V
Power supply current	Idd	Vdd=5.0V	--	2.0	5.0	mA

PIN ASSIGNMENT

No.	Symbol	Level	Function	
1	Vss	--	0V	Power Supply
2	Vdd	--	+5V	
3	V0	--	for LCD	
4	RS	H/L	Register Select: H--Data, L--Instruction	
5	R/W	H/L	H--Read L--Write	
6	E	H,H-L	Enable Signal	
7	DB0	H/L	Data bus used in 8 bit transfer	
8	DB1	H/L		
9	DB2	H/L		
10	DB3	H/L		
11	DB4	H/L	Data bus for both 4 and 8 bit transfer	
12	DB5	H/L		
13	DB6	H/L		
14	DB7	H/L		
15	K	--	LED Backlight (-)	
16	A	--	LED Backlight (+)	