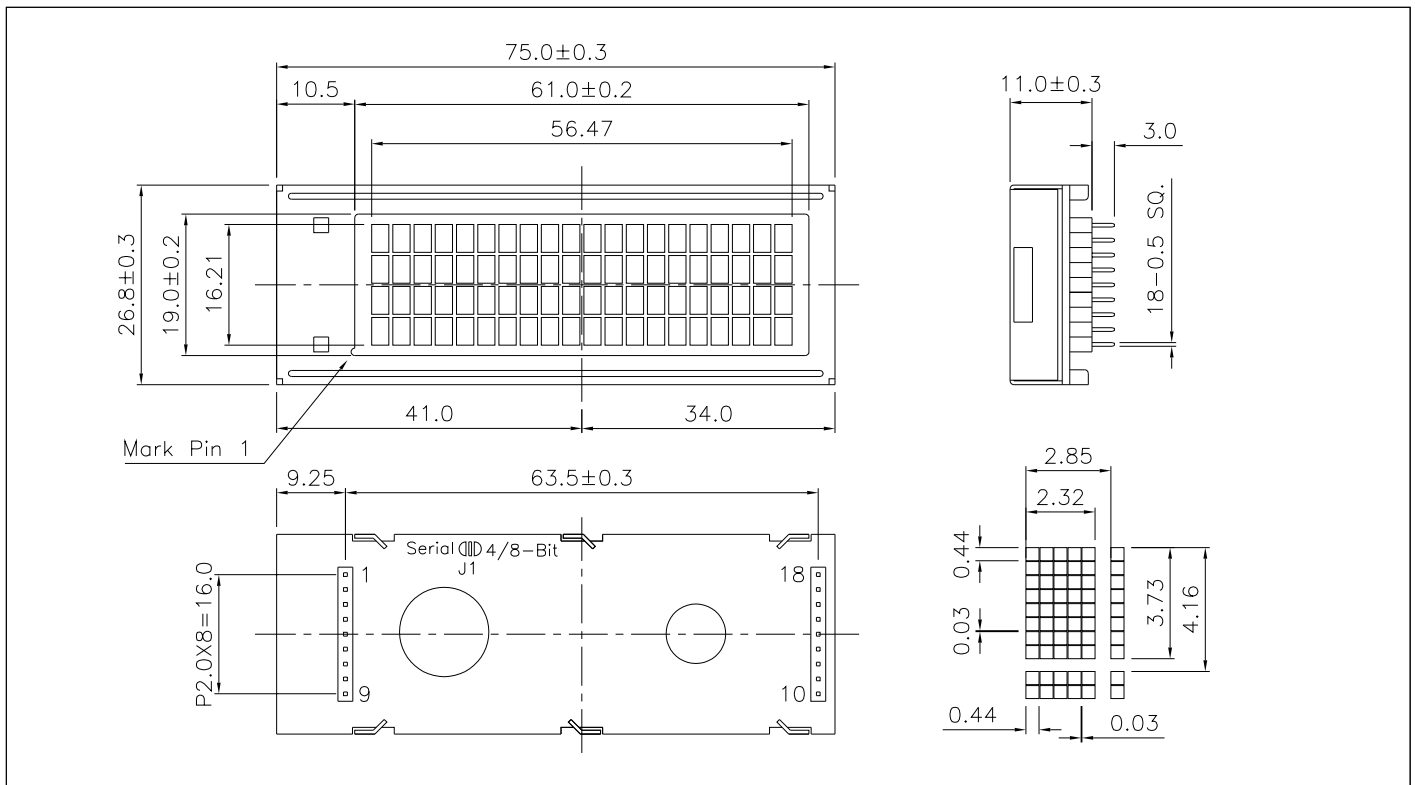


LC2043-DW 20 characters x 4 lines + white led backlight, 4/8-bit parallel or SPI, 3.3V to 5.5V



ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min.	Max.	Unit
Supply Voltage(Logic)	V _{DD} - V _{SS}	-0.3	7.0	V
Supply Voltage(LCD)	V _{DD} - V _o	-0.3	10.0	V
Input Voltage	V _i	-0.3	V _{DD} + 0.3	V
Operating Temp.	T _{opr}	-20	70	°C
Storage Temp.	T _{stg}	-30	80	°C

MECHANICAL DATA

Item	Nominal Dimensions	Unit
Module Size (W x H x T)	75.0 x 26.8 x 14.0	mm
Viewing Area (W x H)	61.0 x 19.0	mm
Character Size (W x H)	2.32 x 3.73	mm
Dot Size (W x H)	0.44 x 0.44	mm
Weight	Approx. 28	g

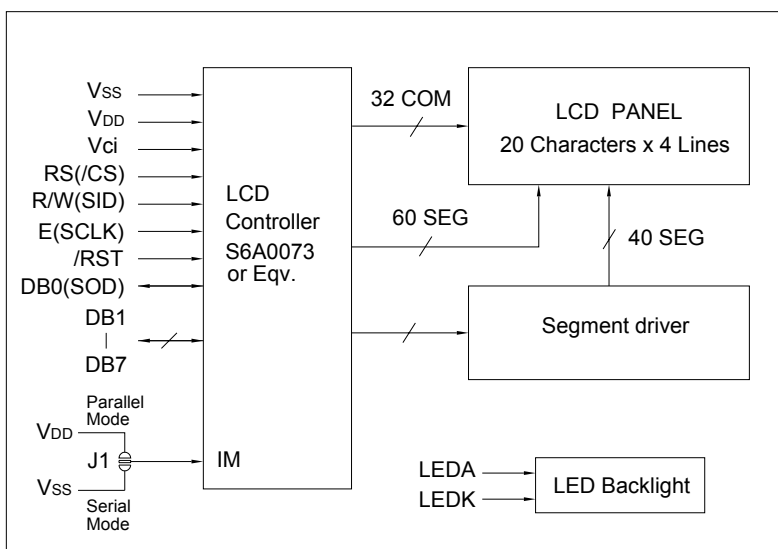
ELECTRICAL CHARACTERISTICS (V_{DD}=3.3V to 5.5V)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input High Voltage	V _{IH}	--	0.7V _{DD}	--	V _{DD}	V
Input Low Voltage	V _{IL}	--	-0.3	--	0.6	V
Output High Voltage	V _{OH}	I _{OH} = -0.1mA	0.75V _{DD}	--	V _{DD}	V
Output Low Voltage	V _{OL}	I _{OL} = 0.1mA	0	--	0.2V _{DD}	V
Supply Current	I _{DD}	V _{DD} = 5.0V	--	1.5	2.0	mA
LCD Driving Voltage	V _{DD} - V _s	T _a =25°C	--	8.0	--	V

PIN CONNECTIONS

Pin	Symbol	Level	Function
1	V _{SS}	0V	GND
2	V _{DD}	3.3-5.5V	Power supply for logic
3	V _{ci}	--	Input voltage for contrast adjusting
4	RS (/CS)	H/L	H: Data, L: Instruction code (Chip selection in serial mode)
5	R/W (SID)	H/L	H: Read, L: Write (Data input in serial mode)
6	E(SCLK)	H,H>L	Enable signal (Serial clock input)
7	DB0(SOD)	H/L	In 8-bit bus mode, used as low order bidirectional data bus. In 4-bit bus mode, used as both high and low order data bus.
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	In 8-bit bus mode, used as high order bidirectional data bus. In 4-bit bus mode, used as both high and low order data bus.
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	NC	--	No connection
16	/RST	L	Reset signal. Active "L"
17	LEDA	5V	Power supply for LED backlight
18	LEDK	0V	

BLOCK DIAGRAM



LED BACKLIGHT SPECIFICATIONS (T_a=25°C)

Item	Symbol	Typ.	Max.	Unit
Forward Voltage	V _f	2.9	3.0	V
Forward Current	I _f	30	--	mA
LED Color		White		