

**5x7** dots+  
cursor**DM1613**

(16 Characters × 1 Line) 1/16 Duty

SANYO SEMICONDUCTOR CORP

**Absolute maximum ratings**

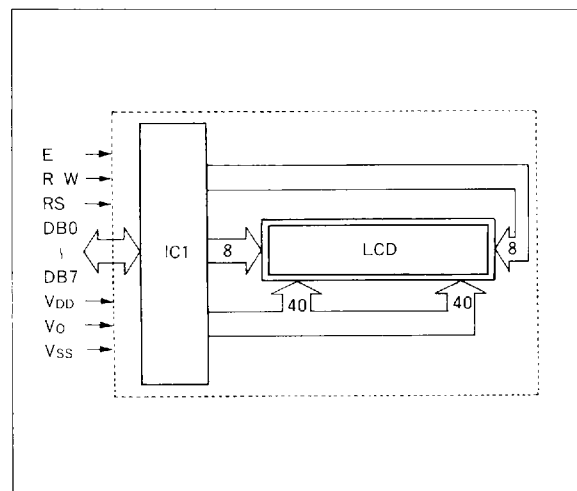
Parameter	Symbol	min.	max.	unit
Logic supply voltage	$V_{DD} - V_{SS}$	-0.3	7.0	V
LCD supply voltage	$V_{DD} - V_o$	-0.3	13.5	V
Input voltage	$V_I$	-0.3	$V_{DD} + 0.3$	V
Operating temperature	$T_{OPR}$	0	+50	°C
Storage temperature	$T_{stg}$	-20	+70	°C

**Electrical characteristics (Ta=25°C, V<sub>DD</sub>=5.0±0.25V)**

Parameter	Symbol	Condition	min.	typ.	max.	unit
Input high-level voltage	$V_{IH}$	—	2.2	—	$V_{DD}$	V
Input low-level voltage	$V_{IL}$	—	0	—	0.6	V
Output high-level voltage	$V_{OH}$	$-I_{OH} = 0.2mA$	2.4	—	$V_{DD}$	V
Output low-level voltage	$V_{OL}$	$I_{OL} = 1.2mA$	0	—	0.4	V
Supply current	$I_{DD}$	—	—	1.5	3.0	mA

**Pin function**

No	Symbol	Function
1	$V_{SS}$	Gnd pin, OV
2	$V_{DD}$	Positive power pin, +5V
3	$V_o$	LCD drive voltage input pin
4	RS	Data/instruction select input pin
5	R/W	Read/write select input pin
6	E	Enable input pin
7	DB 0	Data bus line (Lower 4bits)
8	DB 1	
9	DB 2	
10	DB 3	
11	DB 4	Data bus line (Upper 4 bits) *When interface data is 4 bits long, data is transferred using only 4 buses of DB4 to DB7.
12	DB 5	
13	DB 6	
14	DB 7	
15	NC	(LED K:cathode negative power pin)

**Block diagram****Module dimensions**

(unit : mm)

