



2. Electrical spec

**LC4023**

**40 Characters X 2 Lines**  
**1/16 DUTY 5x8Font**

**ELECTRICAL CHARACTERISTICS**

$T_a = 25^{\circ}\text{C}$   $V_{DD} = 5.0 \pm 0.25 \text{ v}$

Input "High" Voltage ( $V_{IH}$ ) 2.2 V min

Input "Low" Voltage ( $V_{IL}$ ) 0.6 V max

**APPLICABLE FOR -LNA**

	<u>TN</u>		<u>STN</u>	
	<u>TEMPERATURE</u>		<u>TEMPERATURE</u>	
	<u>NORMAL</u>	<u>WIDE</u>	<u>NORMAL</u>	<u>WIDE</u>
Supply Current, ( $I_{DD}$ )Typ., mA	3	3	3	N/A
Recommend LCD drive Voltage: ( $V_{DD}-V_O$ ) at $T_a = -20^{\circ}\text{C}$ , Volts	N/A	9.9	N/A	7.7
$T_a = 0^{\circ}\text{C}$	4.9	9.4	4.9	7.5
$T_a = 25^{\circ}\text{C}$	4.4	8.8	4.4	7.3
$T_a = 50^{\circ}\text{C}$	4.1	8.5	4.1	7.2
$T_a = 70^{\circ}\text{C}$	N/A	7.9	N/A	6.9

**ABSOLUTE MAXIMUM RATINGS**

	<u>NORMAL</u>		<u>WIDE</u>	
	<u>TEMPERATURE</u>		<u>TEMPERATURE</u>	
	<u>MIN</u>	<u>MAX</u>	<u>MIN</u>	<u>MAX</u>
Input Voltage ( $V_I$ ) V	0	$V_{DD}$	0	$V_{DD}$
Supply for Logic ( $V_{DD}-V_{SS}$ ) V	0	7	0	7
Supply for LCD ( $V_{DD}-V_O$ ) V	0	10	0	10
Operating Temperature $T_{OP}$ , $^{\circ}\text{C}$	0	+50	-20	+70
Storage Temperature $T_{ST}$ , $^{\circ}\text{C}$	-20	+70	-30	+80

**OPTION**

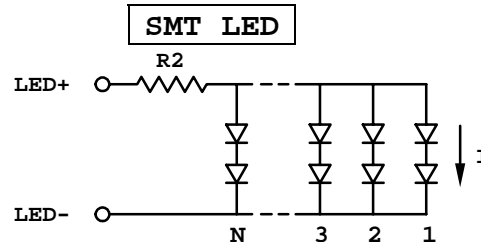
**BACKLIGHT**

- BEXX -- EL
- BLSXX -- LED SMT

**INPUT VOLTAGE & CURRENT**

100  $V_{RMS}$  (400-800) Hz; 4.3mA  
 + 5V DC; 250 mA  $R_2 = 3 \text{ Ohm } 1/2 \text{ W}$

\* $R_2$ : Suggest BL current limit resistor on customer board



$N = 25, I = 10 \text{ mA}$

----- Single +5V for wide temperature operation -----

**SINGLE +5V OPERATION** only

-- not available --

**TEMPERATURE COMPENSATION**

-- not available --