

CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X= ± 1 (± 0.039), X.X= ± 0.5 (± 0.020), X.XX= ± 0.25 (± 0.010), X.XXX= ± 0.127 (± 0.005). LEAD SIZE= ± 0.05 (± 0.002), LEAD LENGTH= ± 0.75 (± 0.030). MIN.= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION

REV.

PART NUMBER

LCR-U02002DSF-WH

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RELIABILITY NOTE

OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.

LUMEX
Creating LED and LCD Solutions Together™

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JN

PAGE: 1 OF 2

SCALE: N/A

20 x 2 CHARACTER LCD MODULE, STN GRAY,
-40°C TO +85°C OPERATING TEMPERATURE, W/ HEATER,
TRANSFLECTIVE, WHITE LED BACKLIGHT, 6:00 VIEW.

PIN CONFIGURATION

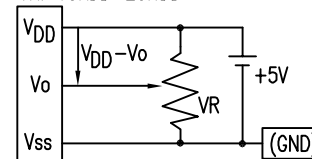
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY
2	V _{DD}	-	
3	V _O	-	
			GND (0V)
			5V
			FOR LCD DRIVE
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)
6	E	H,H->L	ENABLE
7~14	DB0~DB7	H/L	DATA BUS--SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	A	-	ANODE
16	K	-	CATHODE
17	HTR +	-	+12V
18	HTR -	-	GND (0V)

ELECTRICAL CHARACTERISTICS

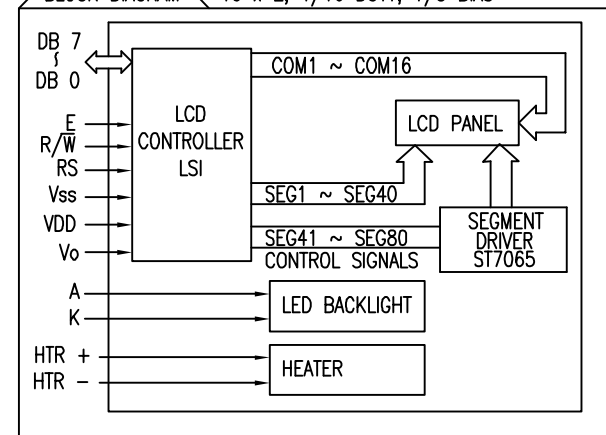
V_{DD}=4.7V to 5.3V, T_A=25°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	-	5.0	-	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	1.6	2.5	mA
INPUT VOLTAGE	HIGH	V _{IH}	-	2.2	-	V _{DD}
	LOW	V _{IL}	-	0	-	0.6
OUTPUT VOLTAGE	HIGH	V _{OH}	-	2.4	-	V
	LOW	V _{OL}	-	-	0.4	V
LED BACKLIGHT	VOLTAGE	V _f	I _f =15mA	-	6.6	7.2
	CURRENT	I _f	-	-	15	mA
	POWER CONSUMPTION	P _D	-	-	99	mW
	LUMINOUS	L	I _f =15mA	70	-	cd/m ²
	COLOR COORDINATE	X	WHITE	.240	-	.330
		Y		.240	-	.330
HEATER	VOLTAGE	V _{fH}	-	-	12	V
	RESISTANCE	-	-	-	11	OHM
	CURRENT	I _H	-	-	1.1	AMP
	POWER	P _H	-	-	13.1	W

V_{DD}-V_O: LCD DRIVING VOLTAGE
VR: 10KΩ~20KΩ



BLOCK DIAGRAM 16 x 2, 1/16 DUTY, 1/5 BIAS



ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	W/ HEATER	-40	+85	°C
STORAGE TEMPERATURE	T _{stg}	W/ HEATER	-40	+85	°C

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Mouser Electronics

Authorized Distributor

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