

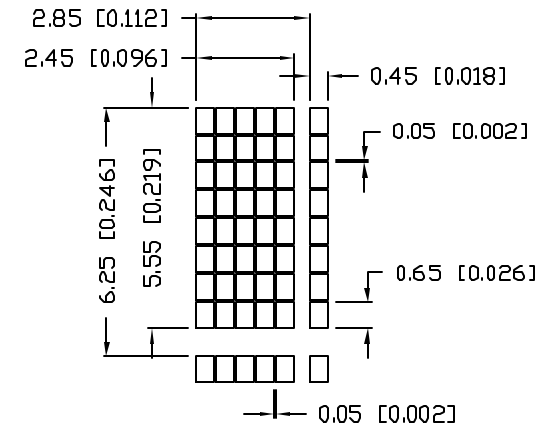
SA/BC

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY
2	V _{DD}	-	
3	V _O	-	
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	READ WRITE ENABLE
7~14	DB0~DB7	H/L	DATA BUS-SOFTWARE SELECTABLE 4 OR 8 BIT MODE.

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

CHARACTER DETAIL



ELECTRICAL CHARACTERISTICS

V_{DD}=4.5V to 5.5V, T_A=-30°C TO +85°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
OPERATING VOLTAGE	V _{DD}	-	4.5	-	5.5	V
INPUT VOLTAGE 1	HIGH	V _{IH1}	-	2.2	-	V _{DD}
	LOW	V _{IL1}	-	-0.3	-	0.6
INPUT VOLTAGE 2	HIGH	V _{IH2}	-	V _{DD} -1.0	-	V _{DD}
	LOW	V _{IL2}	-	-0.2	-	1.0
OUTPUT VOLTAGE	HIGH	V _{OH}	I _{OH} =0.205mA	2.4	-	V
	LOW	V _{OL}	I _{OL} =1.2mA	-	-	0.4
INPUT LEAKAGE CURRENT	I _{LKG}	V _{IN} =0 OR V _{DD}	-	-	1.0	μA
INPUT LOW CURRENT	I _{IL}	V _{DD} =5V	-50	-125	-250	μA
EXTERNAL CLOCK FREQUENCY	f _{EC}	-	125	250	350	kHz
EXTERNAL CLOCK DUTY	duty	-	45	50	55	%
EXTERNAL CLOCK RISE TIME	t _R	-	-	-	0.2	μs
EXTERNAL CLOCK FALL TIME	t _F	-	-	-	0.2	μs
INTERNAL CLOCK FREQUENCY	f _{osc1}	R _f =91kΩ ±2%	190	270	255	kHz
LCD DRIVING VOLTAGE	V _{LCD}	1/5 BIAS	4.6	-	10.0	V

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD}	T _a =25°C	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{LCD}	-	V _{DD} -15	V _{DD} +0.3	V
INPUT VOLTAGE	V _I	T _a =25°C	-0.3	V _{DD} +0.3	V
OPERATING TEMPERATURE	T _{opr}	-	0	50	°C
STORAGE TEMPERATURE	T _{stg}	-	-20	70	°C

*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.=+0.00 DECIMAL PRECISION MAX.=+0.00 DECIMAL PRECISION

REV.

PART NUMBER

LCM-S01602DSR-2K

16 x 2 LCD MODULE, STN GRAY, REFLECTIVE,
12:00 VIEW, 1/16 DUTY, 1/5 BIAS.

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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
INCORPORATED

290 E. HELLEN ROAD
PALATINE, ILLINOIS 60067
PHONE: (847) 359-2790
WEB: <http://www.lumex.com>

DRAWN BY:

CHECKED BY:

APPROVED BY:

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SCALE: N/A