

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



UNCONTROLLED DOCUMENT

*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 -0.00 MAX.= +0.00 -DECIMAL PRECISION

REV.

PART NUMBER

LCR-U01602DSF/A-WH

CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.

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™

290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
US WEB: www.lumex.com
TW WEB: www.lumex.com.tw

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

DRAWN BY:

CHECKED BY:

APPROVED BY:

DATE: 11.13.09

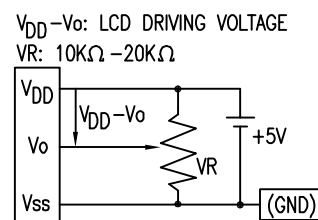
JN

PAGE: 1 OF 2

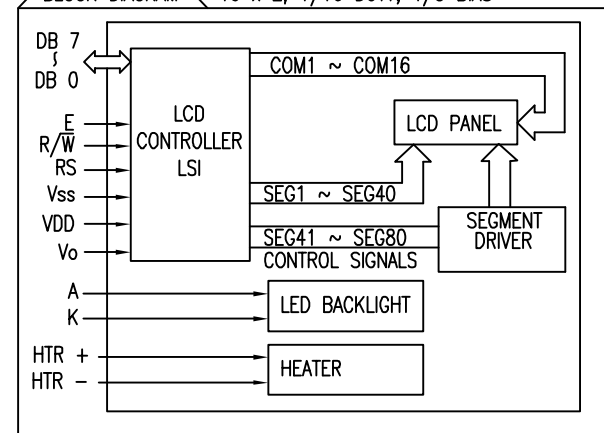
SCALE: N/A

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	ENABLE
7~14	DB0~DB7	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE.
15	A	—	ANODE LED BACKLIGHT
16	K	—	CATHODE LED BACKLIGHT
17	HTR +	—	+12V
18	HTR —	—	GND (0V)



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



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}	V	
	LOW	V _{IL}	—	0	—	0.6	V	
OUTPUT VOLTAGE	HIGH	V _{OH}	—	2.4	—	—	V	
	LOW	V _{OL}	—	—	—	0.4	V	
LED BACKLIGHT	VOLTAGE		V _f	I _f =15mA	—	6.2	6.8	V
	CURRENT		I _f	—	—	15	—	mA
	POWER CUNSUMPTION		P _D	—	—	90	—	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

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
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

*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 -0.00 MAX.= +0.00 -DECIMAL PRECISION

REV.

PART NUMBER

LCR-U01602DSF/A-WH

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

CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.

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™

290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
US WEB: www.lumex.com
TW WEB: www.lumex.com.tw

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 11.13.09
JN			PAGE: 2 OF 2
			SCALE: N/A

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Lumex:

[LCR-U01602DSF/AWH](#)