



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

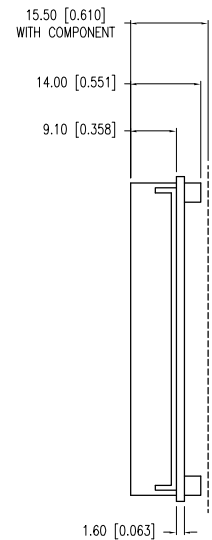
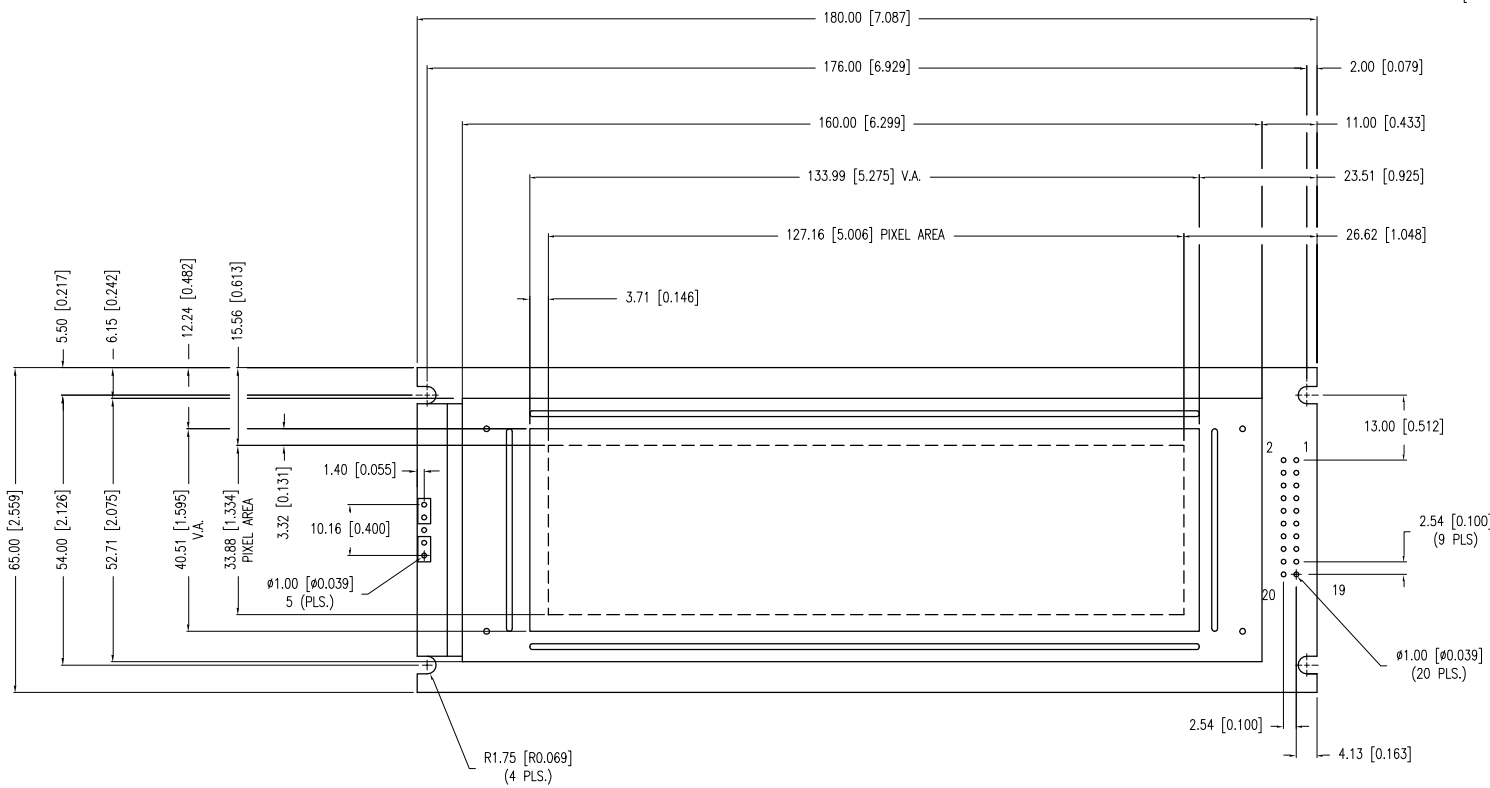
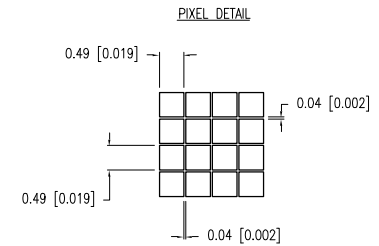
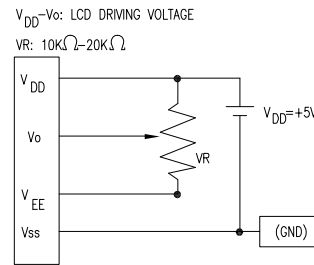
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



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), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±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 UNCONTROLLED DOCUMENT



290 E. HELEN ROAD  
PALATINE, IL 60067-6976  
PHONE: +1.847.359.2790  
FAX: +1.847.359.6538  
WEB: WWW.LUMEX.COM

240 x 64 DOT MATRIX GRAPHIC MOD., 1/64 DUTY, W/ NEGATIVE CHARGE PUMP, STN, TRANSFLECTIVE, LED BKL.T.

\*\*THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.\*\*  
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.

DATE:	06.01.10	DRAWN BY:	JH
PAGE:	1 OF 2	CHKD BY:	BC
SCALE:	N/A	APRVD BY:	KF
UNIT:	mm [INCH]		(R)

ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
POWER SUPPLY VOLTAGE FOR LOGIC	VDD	Ta=25°C	4.5	5.0	5.5	V
POWER SUPPLY CURRENT FOR LOGIC	IDD	VDD-VSS=5V	-	16.0	25.0	mA
INPUT VOLTAGE	VIH	HIGH LEVEL	2.2	-	VDD	V
INPUT VOLTAGE	VIL	LOW LEVEL	-	-	0.6	V
OUTPUT VOLTAGE	VOH	HIGH LEVEL	2.4	-	-	V
OUTPUT VOLTAGE	VOL	LOW LEVEL	-	-	0.4	V
POWER SUPPLY VOLTAGE FOR LCD DRIVE (0°C TO 50°C)	VDD-Vo	VDD=5V Ta=25°C	12.2	13.6	14.5	V
POWER SUPPLY VOLTAGE FOR LCD DRIVE (-20°C TO +70°C)	VDD-Vo	VDD=5V Ta=25°C	12.6	14.1	14.9	V
LED BACKLIGHT VOLTAGE	Vf	If= 690	-	4.2	4.6	V
LED BACKLIGHT INTENSITY	Iv	If= 690	120	180	-	cd/m <sup>2</sup>
LED POWER DISSIPATION	PAD	If= 990	-	-	5	W

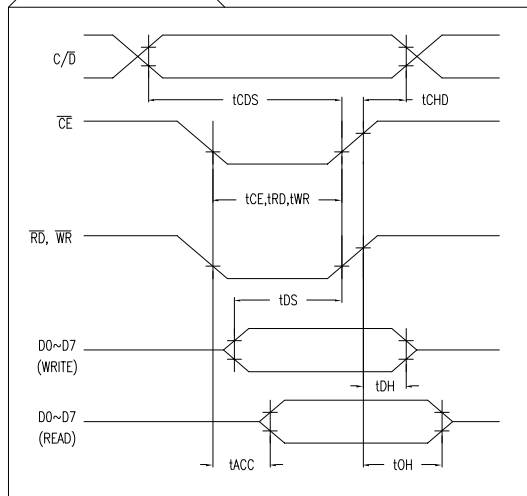
ELECTRIC MAXIMUM RATING

ITEM	SYMBOL	MIN	TYP	MAX	UNIT
POWER SUPPLY FOR LCD DRIVE	VDD-Vo	0	-	22.0	V
POWER SUPPLY FOR LOGIC	VDD-VSS	0	-	7.0	V
INPUT VOLTAGE	VI	VSS	-	VDD	V

TIMING CHARACTERISTICS

PARAMETER	SYMBOL	MIN	MAX	UNIT
C/D SETUP TIME	tCDS	100	-	ns
C/D HOLD TIME	tCDH	10	-	ns
CE, RD, WR PULSE WIDTH	tCE, tRD, tWR	80	-	ns
DATA SETUP TIME	tDS	80	-	ns
DATA HOLD TIME	tDH	40	-	ns
ACCESS TIME	tACC	-	150	ns
OUTPUT HOLD TIME	tOH	10	50	ns

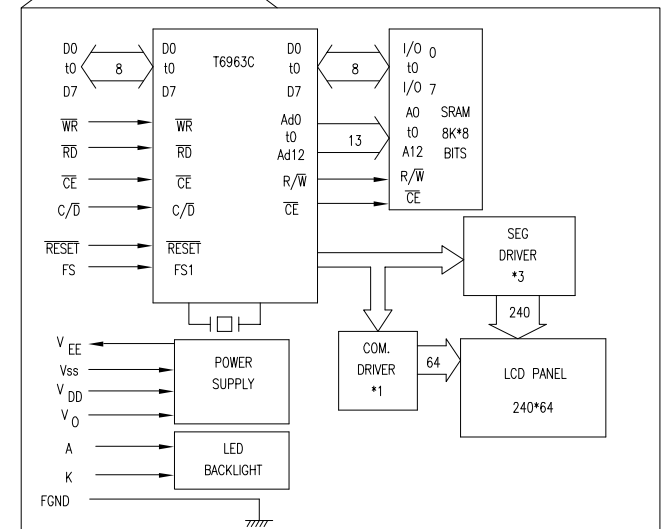
BUS TIMING



PIN CONFIGURATION

PIN #	SYMBOL	LEVEL	FUNCTION
1	FGND	-	FRAME GROUND (CONNECTED TO METAL BEZEL)
2	GND	0V	SIGNAL GROUND
3	VDD	+5V	POWER SUPPLY
4	Vo	-	CONTRAST ADJUSTMENT VOLTAGE
5	WR	L	DATA WRITE
6	RD	L	DATA READ
7	CE	L	CHIP ENABLE
8	C/D	H/L	WR="L", C/D="H": COMMAND WRITE C/D="L": DATA WRITE RD="L", C/D="H": COMMAND READ C/D="L": DATA READ
9	VEE	-15V	OUTPUT VOLTAGE FOR LCD DRIVING
10	RESET	L	CONTROL RESET (MODULE RESET)
11~18	D0~D7	H/L	DATA BUS
19	FS	H/L	FONT SELECT "H": 6 x 8 PIXEL/FONT "L": 8 x 8 PIXEL/FONT
20	N/C	-	NO CONNECTION

BLOCK DIAGRAM



\*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= <sup>+DECIMAL PRECISION</sup> -0.00, MAX= <sup>+0.00</sup> -DECIMAL PRECISION UNCONTROLLED DOCUMENT



290 E. HELEN ROAD  
PALATINE, IL 60067-6976  
PHONE: +1.847.359.2790  
FAX: +1.847.359.6538  
WEB: WWW.LUMEX.COM

240 x 64 DOT MATRIX GRAPHIC MOD., 1/64 DUTY, W/ NEGATIVE CHARGE PUMP, STN, TRANSPARENT, LED BKLT.

\*\*THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.\*\*

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.

DATE:	06.01.10	DRAWN BY:	JH
PAGE:	2 OF 2	CHKD BY:	BC
SCALE:	N/A	APRVD BY:	KF
UNIT:	mm [INCH]		