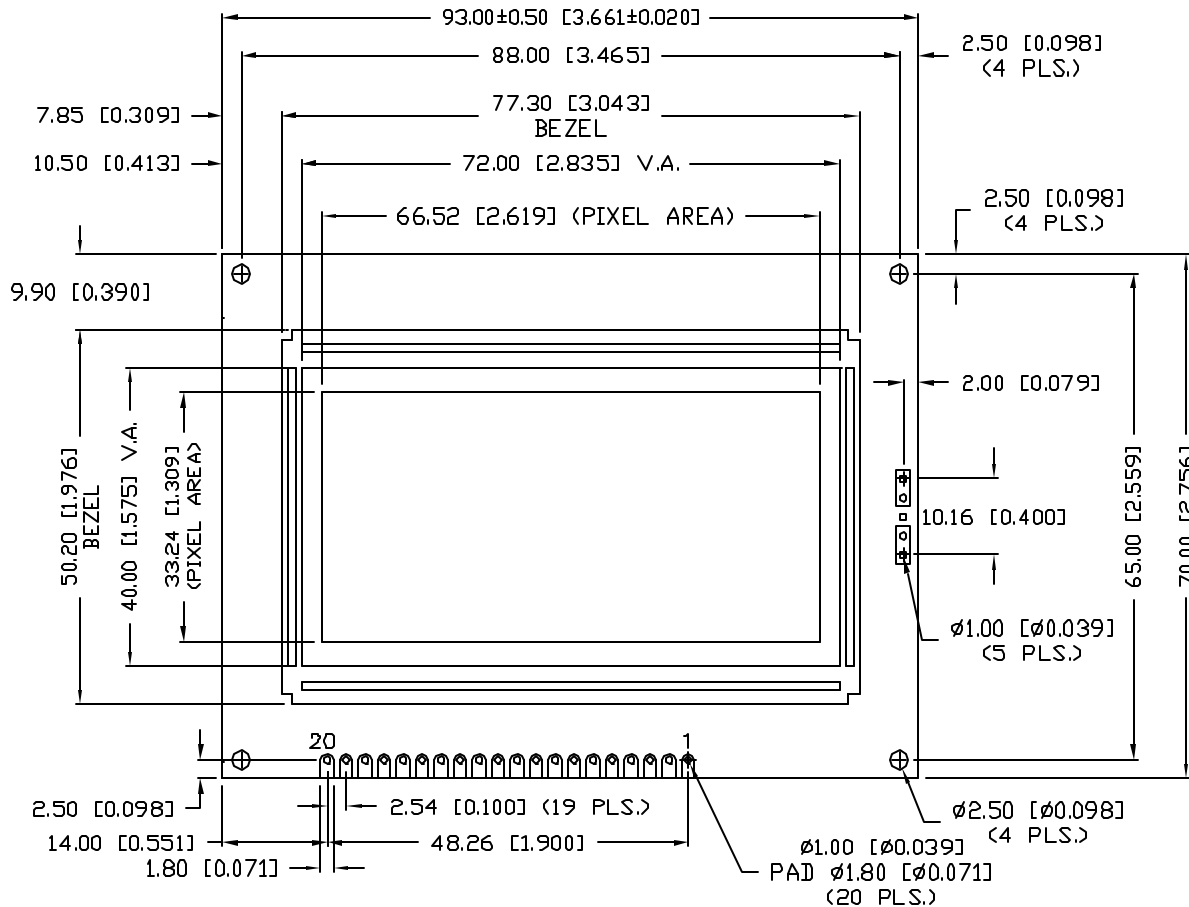
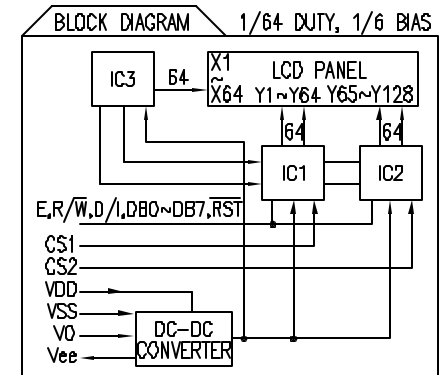
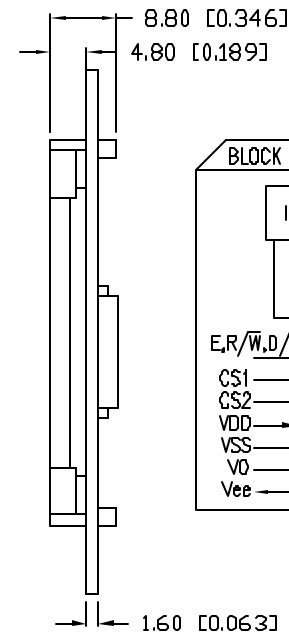
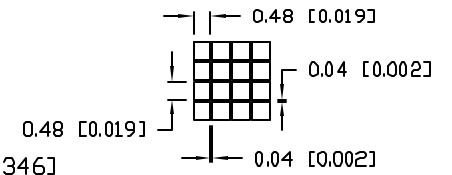


CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.



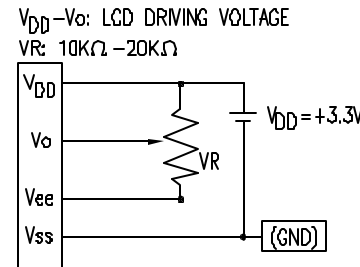
PIXEL DETAIL



*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

REV.	PART NUMBER LCM-S12864GLR	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 We strive to provide the best LCD for you.	290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw
128 x 64 DOT MATRIX GRAPHIC MODULE, 3.3V STN FLUID, 1/64 DUTY, 1/6 BIAS, WITH NEGATIVE CHARGE PUMP.			DRAWN BY: JIN	CHECKED BY:
			APPROVED BY:	DATE: 6.22.07 PAGE: 1 OF 1 SCALE: N/A

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V _{SS}	-	POWER SUPPLY	GND (0V)
2	V _{DD}	-		3.3V
3	V ₀	-		FOR LCD DRIVE
4	D/I	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	
15	CS1	H/L	CHIP SELECTION SIGNAL FOR IC1	
16	CS2	H/L	CHIP SELECTION SIGNAL FOR IC2	
17	RST	-	RESET SIGNAL (ACTIVE "LOW")	
18	V _{EE}	-	OUTPUT VOLTAGE FOR LCD DRIVING	
19	-	-	NO CONNECTION	
20	-	-	NO CONNECTION	



READ/WRITE TIMING FOR MPU INTERFACE				
PARAMETER	SYMBOL	MIN	MAX	UNIT
ADDRESS HOLD TIME	t _{AH}	10	-	ns
ADDRESS SETUP TIME	t _{AS}	140	-	ns
E CYCLE TIME	t _{CYC}	1000	-	ns
E HIGH LEVEL WIDTH	t _{WEH}	450	-	ns
E LOW LEVEL WIDTH	t _{WEL}	450	-	ns
DATA SETUP TIME	t _{DSW}	200	-	ns
DATA HOLD TIME (READ)	t _{DHR}	20	-	ns
DATA DELAY TIME	t _{DDR}	-	320	ns
DATA HOLD TIME (WRITE)	t _{DHW}	10	-	ns
E RISE TIME	t _R	-	25	ns
E FALL TIME	t _F	-	25	ns

ELECTRICAL CHARACTERISTICS		V _{DD} =2.7V to 4.5V, T _A =25°C		STANDARD VALUE			UNIT
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	2.7	3.3	4.5	V	
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =3.3V	-	2.0	3.5	mA	
SUPPLY CURRENT FOR LCD	V _{EE} -V _{SS}	-	-5.4	-6.6	-9.0	V	
INPUT VOLTAGE	HIGH	V _{IH}	-	-	V _{DD}	V	
	LOW	V _{IL}	-	0	0.6	V	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V ₀	-	8.1@40°C	8.5@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C

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REV.	PART NUMBER LCM-S12864GLR
128 x 64 DOT MATRIX GRAPHIC MODULE, 3.3V STN FLUID, 1/64 DUTY, 1/6 BIAS, WITH NEGATIVE CHARGE PUMP.	

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RELIABILITY NOTE
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