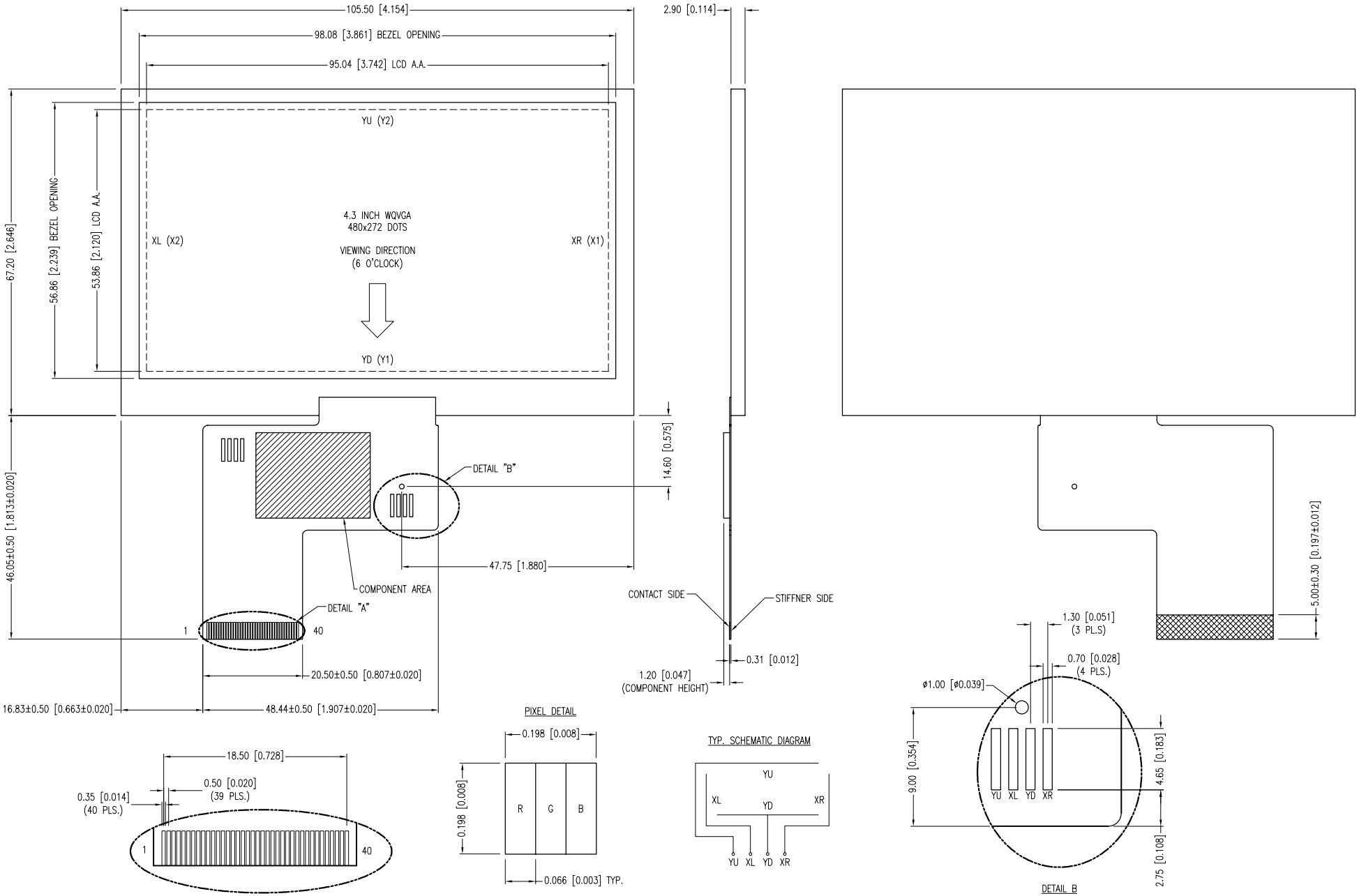


*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

LUMEX®
Creating LED and LCD Solutions Together™
290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
FAX: +1.847.359.6538
WEB: WWW.LUMEX.COM

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

DATE:	06.10.11	DRAWN BY:	AB
PAGE:	1 OF 10	CHKD BY:	YA
SCALE:	NTS	APRVD BY:	SS
UNIT:	mm [INCH]	Pb	

INPUT INTERFACE PIN ASSIGNMENT			
PIN #	SYMBOL	I/O	FUNCTION
1	VLED-	P	POWER FOR LED BACKLIGHT CATHODE
2	VLED+	P	POWER FOR LED BACKLIGHT ANDOE
3	GND	P	POWER GROUND
4	VDD	P	POWER VOLTAGE
5	R0	I	RED DATA (LSB)
6	R1	I	RED DATA
7	R2	I	RED DATA
8	R3	I	RED DATA
9	R4	I	RED DATA
10	R5	I	RED DATA
11	R6	I	RED DATA
12	R7	I	RED DATA (MSB)
13	G0	I	GREEN DATA (LSB)
14	G1	I	GREEN DATA
15	G2	I	GREEN DATA
16	G3	I	GREEN DATA
17	G4	I	GREEN DATA
18	G5	I	GREEN DATA
19	G6	I	GREEN DATA
20	G7	I	GREEN DATA (MSB)
21	B0	I	BLUE DATA (LSB)
22	B1	I	BLUE DATA
23	B2	I	BLUE DATA
24	B3	I	BLUE DATA
25	B4	I	BLUE DATA
26	B5	I	BLUE DATA
27	B6	I	BLUE DATA
28	B7	I	BLUE DATA (MSB)
29	GND	P	POWER GROUND
30	DCLK	I	PIXEL CLOCK
31	DISP	I	DISPLAY ON/OFF
32	HSYNC	I	HORIZONTAL SYNC SIGNAL
33	VSYNC	I	VERTICAL SYNC SIGNAL
34	DE	I	DATA ENABLE
35	NC	-	NO CONNECTION
36	GND	I/O	POWER GROUND
37	X_R	I/O	RIGHT ELECTRODE - DIFFERENTIAL ANALOG
38	Y_B	I/O	BOTTOM ELECTRODE - DIFFERENTIAL ANALOG
39	X_L	I/O	LEFT ELECTRODE - DIFFERENTIAL ANALOG
40	Y_T	I/O	TOP ELECTRODE - DIFFERENTIAL ANALOG

I/O:
I: INPUT
O: OUTPUT
P: POWER

GENERAL INFORMATION			
ITEM		SPECIFICATION	UNIT
LCD TYPE		TFT COLOR TRANSMISSIVE LCD	-
OUTLINE DIMENSION		105.5 x 67.2 x 2.9 (TYP.)	mm
ACTIVE DISPLAY AREA		95.04(H) x 53.856(V)	mm
NUMBER OF PIXELS		480 RGB (H) X 272(V)	PIXELS
PIXEL PITCH		0.198(H) x 0.198(V)	mm
PIXEL ARRANGEMENT		RGB VERTICAL STRIPE	-
DISPLAY MODE		NORMALLY WHITE	-
DRIVER IC		HX8257A	-
NO. OF COLORS		262K	-
INTERFACE		PARALLEL 24-BIT OR SERIAL 8-BIT RGB	-
OPERATING TEMPERATURE		-20°C TO 70°C	°C
STORAGE TEMPERATURE		-30°C TO 80°C	°C
SURFACE TREATMENT		ANTIGLARE, HARD COATING (3H)	-
WEIGHT		(50) (TYP.)	g
BACKLIGHT		LED EDGE LIT	
POWER CONSUMPTION	LOGIC SYSTEM	(0.09) (MAX.)	W
	B/L SYSTEM	(0.924) (MAX.)	W

*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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

LUMEX®
Creating LED and LCD Solutions Together™

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

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

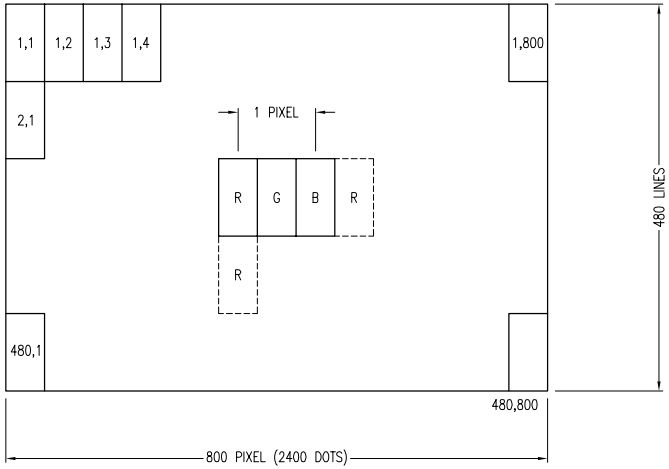
AC ELECTRICAL CHRACTERISTICS						
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
DCLK PERIOD TIME	TCLK	83.3	111.1	200	ns	PARALLEL 24-BIT RGB MODE
		33.3	37.0	41.7	ns	SERIAL 8-BIT RGB MODE
DCLK RISING TIME	TRCK	-	-	9	ns	
DCLK FALLING TIME	TFCK	-	-	9	ns	
DCLK PULSE DUTY	TCWH	40	50	60	%	
DE SETUP TIME	TDESU	12	-	-	ns	
DE HOLD TIME	TDEHD	12	-	-	ns	
HSNYC PULSE WIDTH	THWH	1	-	-	DCLK	
HSNYC SETUP TIME	THSU	12	-	-	ns	
HSNYC HOLD TIME	THHD	12	-	-	ns	
VSYNC PULSE WIDTH	TVWH	1	-	-	Th	
VSYNC SETUP TIME	TVSU	12	-	-	ns	
VSYNC HOLD TIME	TVHD	12	-	-	ns	
DATA SETUP TIME	TDSU	12	-	-	ns	
DATA HOLD TIME	TDHD	12	-	-	ns	

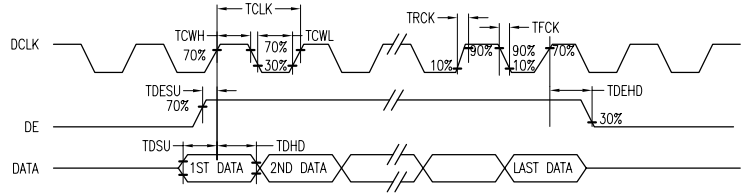
DC ELECTRICAL CHARACTERISTICS						
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
SUPPLY VOLTAGE	VDD	3.0	3.3	3.6	V	
INPUT SIGNAL VOLTAGE	ViH	0.7 VDD	-	VDD	V	NOTE (1)
	ViL	GND	-	0.3 VDD	V	NOTE (1)
CURRENT OF POWER SUPPLY	IDD	-	(TBD)	-	mA	VDD = 3.3V

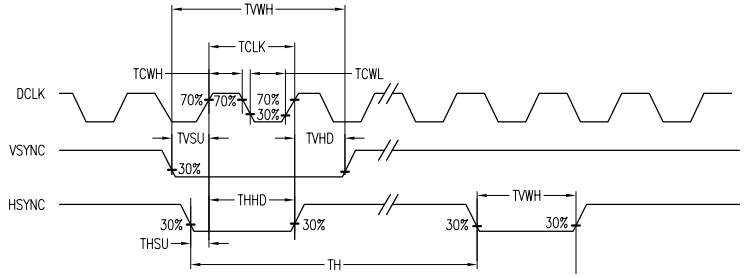
NOTE 1: HSYNC, VSNYC, DE, R/G/B DATA
NOTE 2: GND=0V

NOTE 1: LED LIFE TIME (Hr) CAN BE DEFINED AS THE TIME IN WHICH IT CONTINUES TO OPERATE UNDER THE CONDITION: Ta=25±3°C, TYPICAL IL VALUE INDICATED IN THE ABOVE TABLE UNTIL THE BRIGHTNESS BECOMES LESS THAN 50%.

NOTE 2: THE "LED LIFE TIME" IS DEFINED AS THE MODULE BRIGHTNESS DECREASED TO 50% ORIGINAL BRIGHTNESS AT Ta=25°C AND IL=40mA. THE LED LIFETIME COULD BE DECREASED IF OPERATING IL IS LARGER THAN 40mA. THE CONSTANT CURRENT DRIVING METHOD IS SUGGESTED.







*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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

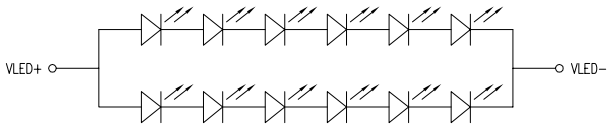
LUMEX®
Creating LED and LCD Solutions Together™
290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
FAX: +1.847.359.6538
WEB: WWW.LUMEX.COM

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

DATE: 06.10.11	DRAWN BY: AB
PAGE: 3 OF 10	CHKD BY: YA
SCALE: NTS	APRVD BY: SS
UNIT: mm [INCH]	Pb

BACKLIGHT UNIT						
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
LED CURRENT	IL	-	40	-	mA	(2)
LED VOLTAGE	VL	-	19.8	-	V	
LED LIFETIME	Hr	10000	-	-	HOUR	(1) (2)



LED LIGHT BAR CIRCUIT

ELECTRICAL ABSOLUTE RATING: BACKLIGHT UNIT					
ITEM	SYMBOL	TYP	MAX	UNIT	NOTE
LED CURRENT	IL	40	-	mA	(1) (2) (3)
LED VOLTAGE	VL	19.8	-	V	(1) (2) (3)

ELECTRICAL ABSOLUTE RATING: ENVIRONMENT ABSOLUTE RATING					
ITEM	SYMBOL	MIN	MAX	UNIT	NOTE
OPERATING TEMP.	TOPA	-20	70	°C	-
STORAGE TEMP.	TSTG	-30	80	°C	-

NOTES:

1: PERMANENT DAMAGE MAY OCCUR TO THE LCD MODULE IF USED BEYOND THIS SPECIFICATION. FUNCTIONAL OPERATION SHOULD NOT BE RESTRICTED TO THE CONDITIONS DESCRIBED UNDER NORMAL OPERATING CONDITIONS.
2: Ta=25±2°C
3: TEST CONDITION: LED CURRENT 40mA. THE LED LIFE TIME COULD BE DECREASED IF OPERATING IL IS LARGER THAN 40mA.

LUMEX® Creating LED and LCD Solutions Together™

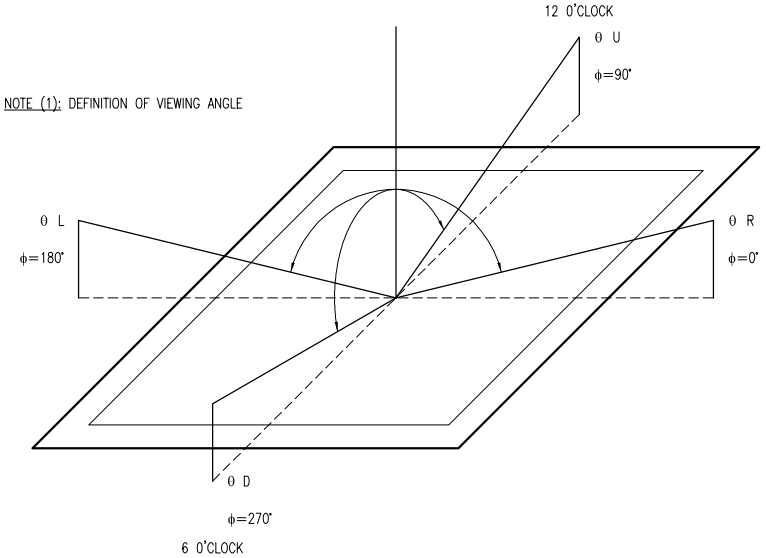
290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
FAX: +1.847.359.6538
WEB: WWW.LUMEX.COM

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

OPTICAL CHARACTERISTICS								
ITEM		SYMBOL	CONDITION	MIN	TYP	MAX	UNIT	NOTE
CONTRAST		CR	θ=0 NORMAL VIEWING ANGLE	480	600	–		(1) (2)
RESPONSE TIME	RISING	TR		–	2	4	msec	(1) (3)
	FALLING	TF		–	6	12		
WHITE LUMINANCE (CENTER)		YL		250	280	–	cd/m²	(1) (4) (7) (IL=20mA)
COLOR CHROMATICITY (CIE 1931)	WHITE	WX		0.260	0.31	0.36		(1) (4)
		WY		0.280	0.33	0.38		
VIEWING ANGLE	HORIZONTAL	θ L	CR>10	65	75	–		
		θ R		65	75	–		
	VERTICAL	θ U		50	60	–		
		θ D		60	70	–		
BRIGHTNESS UNIFORMITY		BUNI	θ=0	70	–	–	%	(5) (7)
OPTIMAL VIEW DIRECTION		6 O'CLOCK						(6)

NOTE (1): DEFINITION OF VIEWING ANGLE

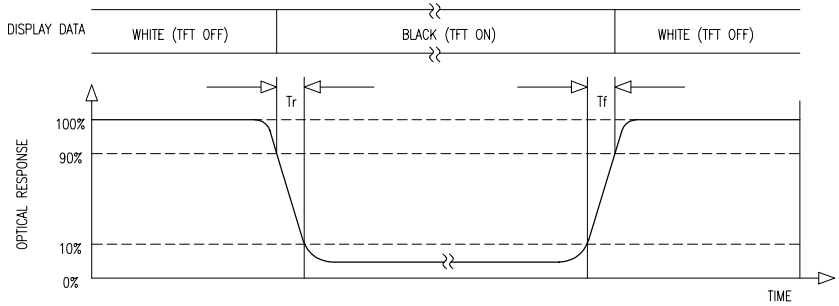


NOTE (2): DEFINITION OF CONTRAST RATIO (CR):

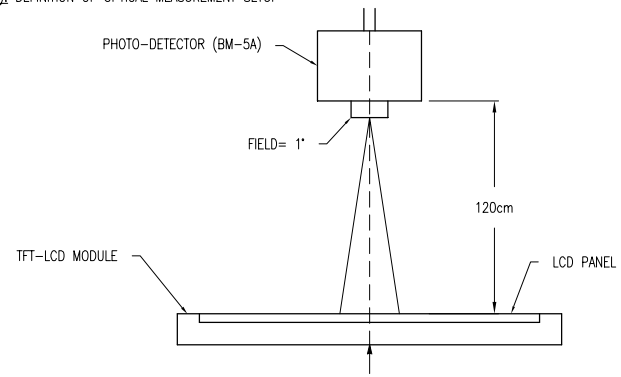
MEASURED AT THE CENTER POINT OF PANEL

$$CR = \frac{\text{LUMINANCE WITH ALL PIXELS WHITE}}{\text{LUMINANCE WITH ALL PIXELS BLACK}}$$

NOTE (3): DEFINITION OF RESPONSE TIME: SUM OF TR AND TF



NOTE (4): DEFINITION OF OPTICAL MEASUREMENT SETUP



NOTE (5): DEFINITION OF BRIGHTNESS UNIFORMITY:

$$\text{LUMINANCE UNIFORMITY} = \frac{\text{(MIN LUMINANCE OF 9 POINTS)}}{\text{(MAX LUMINANCE OF 9 POINTS)}} \times 100\%$$

NOTE (6): RUBBING DIRECTION. THE DIFFERENT RUBBING DIRECTION WILL CAUSE THE THE DIFFERENT OPTIMAL VIEW DIRECTION

NOTE (7): MEASURED AT THE BRIGHTNESS OF THE PANEL WHEN ALL TERMINALS OF LCD PANEL ARE ELECTRICALLY OPEN.

*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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

LUMEX® Creating LED and LCD Solutions Together™
290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
FAX: +1.847.359.6538
WEB: WWW.LUMEX.COM

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

DATE: 06.10.11	DRAWN BY: AB
PAGE: 5 OF 10	CHKD BY: YA
SCALE: NTS	APRVD BY: SS
UNIT: mm [INCH]	Pb

STANDARD SPECIFICATION FOR REABILITY

STANDARD SPECIFICATION OF REABILITY TEST

NO	TEST ITEM	CONTENT OF TEST	TEST CONDITION	APPLICABLE STANDARD
1	HIGH TEMPERATURE STORAGE	ENDURANCE TEST APPLYING THE HIGH STORAGE TEMPERATURE FOR A LONG TIME.	80+/-3°C 240HRS	- - - -
2	LOW TEMPERATURE STORAGE	ENDURANCE TEST APPLYING THE LOW STORAGE TEMPERATURE FOR A LONG TIME.	-30+/-3°C 240HRS	- - - -
3	HIGH TEMPERATURE OPERATION	ENDURANCE TEST APPLYING THE ELECTRIC STRESS (VOLTAGE & CURRENT) AND THE THERMAL STRESS TO THE ELEMENT FOR A LONG TIME.	70+/-3°C 240HRS	- - - -
4	LOW TEMPERATURE OPERATION	ENDURANCE TEST APPLYING THE ELECTRIC STRESS UNDER LOW TEMPERATURE FOR A LONG TIME.	-20+/-3°C 240HRS	- - - -
5	HIGH TEMPERATURE/ HUMIDITY OPERATION	ENDURANCE TEST APPLYING THE ELECTRIC STRESS (VOLTAGE & CURRENT) AND TEMPERATURE / HUMIDITY STRESS TO THE ELEMENT FOR A LONG TIME.	40°C, 90%RH 120HRS	MIL-202E-103B JIS-C5023
6	TEMPERATURE CYCLE	ENDURANCE TEST APPLYING THE LOW AND HIGH TEMPERATURE CYCLE. -20°C 30 MIN ⇌ 25°C 5 MIN ⇌ 70°C 30 MIN 1 CYCLE	-20°C/ 70°C 10 CYCLES	- - - -
MECHANICAL TEST				
7	DROP TEST	ENDURANCE TEST APPLYING THE DROP DURING TRANSPORTATION.	PACKED,100cm FREE FALL(6 SLIDES, 1 CORNER, 3 EDGES)	- - - -

REMARKS:

1. FOR OPERATION TEST, ABOVE SPECIFICATION IS APPLICABLE WHEN TEST PATTERN IS CHANGING DURING ENTIRE OPERATION TEST.
2. INSPECTIONS AFTER RELIABILITY TESTS ARE PERFORMED WHEN THE DISPLAY TEMPERATURE RESUMES BACK TO ROOM TEMPERATURE.
3. IT IS A NORMAL CHARACTERISTIC THAT SOME DISPLAY ABNORMALITY CAN BE SEEN DURING REABILITY TEST. IF THE DISPLAY ABNORMALITY CAN RESUME BACK TO NORMAL CONDITION AT ROOM TEMPERATURE WITHIN 24 HOURS, THERE IS NO PERMANENT DESTRUCTION OVER THE DISPLAY. THE DISPLAY STILL POSSESSES ITS FUNCTIONALITY AFTER REABILITY TESTS.

LUMEX® Creating LED and LCD Solutions Together™

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

QUALITY ASSURANCE

ACCEPTABLE QUALITY LEVEL (AQL)

EACH LOT SHOULD SATISFY THE QUALITY LEVEL DEFINED AS FOLLOWS:

A. INSPECTION METHOD: MIL-SDT-105E LEVEL II NORMAL ONE TIME SAMPLING.

B. AQL LEVEL.

CATEGORY	AQL	DEFINITION
MAJOR	0.25%	FUNCTIONAL DEFECTIVE AS PRODUCT.
MINOR	1.00%	SATIFY ALL FUNCTIONS AS PRODUCT BUT NOT SATISFY COSMETIC STANDARD.

COSMETIC SCREENING CRITERIA

NO	DEFECT	JUDGMENT CRITERIA			CATEGORY
1	SPOTS/DUST /BUBBLE (ROUND TYPE)	SIZE, D(mm)		ACCEPTABLE QUANTITY IN ACTIVE AREA	MINOR
		D≤0.15		DISREGARD	
		0.15<D≤0.20		3	
		D>0.20		0	
2	DUST/ SCRATCHES/ BLACK STREAK (LINE TYPE)	WIDTH, W(mm)	LENGTH, L(mm)	ACCEPTABLE QUANTITY IN ACTIVE AREA	MINOR
		W≤0.02	DISREGARD	DISREGARD	
		W≤0.03	L ≤ 1.0	DISREGARD	
		W≤0.05	L ≤ 2.0	3	
		W>0.05	DISREGARD	0	
3	ALLOWABLE DENSITY	ABOVE DEFECTS SHOULD BE SEPARATED MORE THAN 5mm EACH OTHER.			MINOR
4	RAINBOW	OBVIOUS UNVEN COLOR (RAINBOW) SHALL NOT BE NOTICEABLE.			MINOR
5	DISPLAY CONDITION	DIM DISPLAY ON THE PATTERNS, EXTRA PATTERN AND SHORT CIRCUIT ARE NOT ACCEPTABLE.			MAJOR
6	NO DISPLAY OR MISSING DISPLAY	THE PATTERNS OF DISPLAY SHALL LIGHT UP AS REQUIRED. NO DISPLAY OR MISSING DISPLAY ARE NOT ACCEPTABLE.			MAJOR

NOTE: D= (LONG LENGTH + SHORT LENGTH)/2

FAILURE JUDGMENT CRITERIA

AFTER REABILITY TEST ABOVE, TEST SAMPLE SHALL BE LET RUN TO ROOM TEMPERATURE AND HUMIDITY AT LEAST 4 HOURS BEFORE FINAL TESTS ARE CARRIED OUT.

CRITERION ITEM	FAILURE JUDGMENT CRITERIA
ELECTRICAL CHARACTERISTIC	ELECTRICAL SHORT AND OPEN.
MECHANICAL CHARACTERISTIC	OUT OF MECHANICAL SPECIFICATION.
OPTICAL CHARACTERISTIC	OUT OF APPERANCE STANDARD.

LUMEX® Creating LED and LCD Solutions Together™

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

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

PRECAUTIONS FOR USING LCD MODULE

HANDLING PRECAUTIONS

1, THE DISPLAY PANEL IS MADE OF GLASS AND POLARIZER. DO NOT SUBJECT IT TO MECHANICAL SHOCK BY DROPING OR IMPACT WHICH MAY CAUSE CHIPPING ESPECIALLY ON THE EDGES.
2. DO NOT TOUCH, PUSH OR RUB THE EXPOSED POLARIZERS WITH ANYTHING HARDER THAN AN HB PENCIL LEAD (GLASS,TWEEZERS, ETC.). THE POLARIZER COVERING THE DISPLAY SURFACE OF THE LCD MODULE IS SOFT AND EASILY SCRATCHED. HANDLE THIS POLARIZER CAERFULLY.
3. IF THE DISPLAY SURFACE BECOMES CONTAMINATED, BREATHE ON THE SURFACE AND GENTLY WIPE IT WITH A SOFT DRY CLOTH. IF IT IS HEAVILY CONTAMINATED, MOISTEN CLOTH WITH ISOPROPYL ALCOHOL OR ETHYL ALCOHOL. AVOID USING SOLVENTS LIKE ACETONE (KETENE), WATER, TOLUENE, ETHANOL TO CLEAN THE POLARIZER SURFACE.
4. PLEASE KEEP THE TEMPERATURE WITHIN SPECIFIED RANGE FOR USE AND STORAGE. POLARIZATION DEGRADATION, BUBBLE GENERATION OR POLARIZER PEEL-OFF MAY OCCUR WITH HIGH TEMPERATURE AND HIGH HUMIDITY.
5. DO NOT APPLY EXCESSIVE FORCE TO THE DISPLAY SURFACE OR THE ADJOINING AREAS SINCE THIS MAY CAUSE THE COLOR TONE TO VARY.
6. INSTALL THE LCD MODULE BY USING THE MOUNTING HOLES. WHEN MOUNTING THE LCD MODULE MAKE SURE IT IS FREE OF TWISTING, WRAPING AND DISTORTION.
7. EXERCISE CARE TO MINIMIZE CORROSION OF THE ELECTRODE. CORROSION OF THE ELECTRODES IS ACCELERATED BY WATER DROPLETS, MOISTURE CONDENSATION OR A CURRENT FLOW IN A HIGH-HUMIDITY ENVIRONMENT.
8. NC TERMINAL SHOULD BE OPEN. DO NOT CONNECT ANYTHING.
9. IF THE LOGIC CIRCUIT POWER IS OFF, DO NOT APPLY THE INPUT SIGNALS.
10. AVOID CONTACTING OIL AND FATS.
11. CONDENSATION ON THE SURFACE AND CONTACT WITH TERMINALS DUE TO COLD WILL DAMAGE, STAIN OR DIRTY THE POLARIZERS. AFTER PRODUCTS ARE TESTED AT LOW TEMPERATURE THEY MUST BE WARMED UP IN A CONTAINER BEFORE COMING IN CONTACT WITH ROOM TEMPERATURE AIR.
12. WIPE OFF SALIVA OR WATER DROPS IMMIDEATLY, CONTACT WITH WATER OVER A LONG PERIOD OF TIME MAY CAUSE DEFORMATION OR COLOR FADING.

ELECTRO-STATIC DISCHARGE CONTROL

1, SINCE THIS MODULE USES A CMOS LSI, THE SAME CAERFUL ATTENTION SHOULD BE PAID TO ELECTROSTATIC DISCHARGE AS FOR AN ORDINARY CMOS IC.
2. BE SURE TO GROUND THE BODY WHEN HANDLING THE LCD MODULES. TOOLS REQUIRED FOR ASSEMBLING, SUCH AS SOLDERING IRONS, MUST BE PROPERLY GROUNDED.
3. TO REDUCE THE AMOUNT OF STATIC ELECTRICITY GENERATED, DO NOT CONDUCT ASSEMBLING AND OTHER WORK UNDER DRY CONDITIONS. TO REDUCE THE GENERATION OF STATIC ELECTRICITY, BE CARFUL THAT THE AIR IN THE WORK IS NOT TOO DRIED. A RELATIVE HUMIDITY OF 50%-60% IS RECOMMENDED.
4. THE LCD MODULE IS COATED WITH A FILM TO PROTECT THE DISPLAY SURFACE. EXERCISE CARE WHEN PEELING OFF THIS PROTECTIVE FILM SINCE STATIC ELECTRICITY MAY BE GENERATED.
5. WHEN SOLDERING THE TERMINAL OF LCM, MAKE CERTAIN THE AC POWER SOURCE FOR THE SOLDERING IRON DOES NOT LEAK.

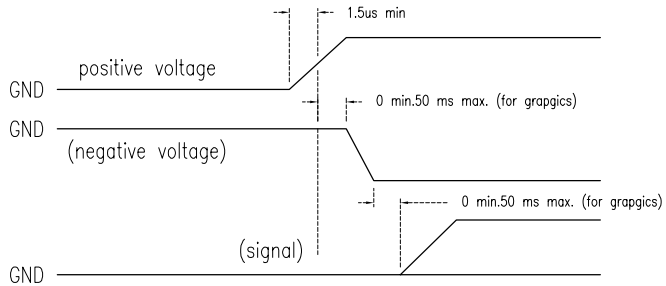
PRECAUTION OF SOLDERING TO THE LCM

1, OBSERVE THE FOLLOWING WHEN SOLDERING LEAD WIRE, CONNECTOR CABLE AND ETC. TO THE LCD MODULE.
- SOLDERING IRON TEMPERATURE: 300~350°C.
- SOLDERING TIME: ≤ 3 SEC.
- SOLDER: EUTECTIC SOLDER.

ABOVE IS A RECOMMENDED APPROACH. DUE TO DIFFERENT SOLDER COMPOSITION AND PROCESSING METHOD, IT IS RECOMMENDED THAT CUSTOMER TO STUDY AND FINE TUNING THEIR SOLDERING PROCESS PARAMETERS ACCORDINGLY.
2. IF SOLDERING FLUX IS USED, BE SURE TO REMOVE ANY REMANING FLUX AFTER FINISHING TO SOLDERING OPERATION. (THIS DOSE NOT APPLY IN THE CASE OF A NON-HALOGEN TYPE OF FLUX.) IT IS RECOMMENDED THAT YOU PROTECT THE LCD SURFACE WITH A COVER DURING SOLDERING TO PREVENT ANY DAMAGE DUE TO FLUX SPATTERS.

PRECAUTION FOR OPERATION

1. VIEWING ANGLE VARIES WITH THE CHANGE OF LIQUID CRYSTAL DRIVING VOLTAGE (Vo). ADJUST Vo TO SHOW THE BEST CONTRAST.
2. DRIVING THE LCD IN THE VOLTAGE ABOVE THE LIMIT SHORTERNS ITS LIFETIME.
3. RESPONSE TIME IS GREATLY DELAYED AT TEMPERATURE BELOW THE OPERATING TEMPERATURE RANGE. HOWEVER, IT WILL RECOVER WHEN IT RETURNS TO THE SPECIFIED TEMPERATURE RANGE.
4. IF THE DISPLAY AREA IS PUSHED HARD DURING OPERATION, THE DISPLAY WILL BECOME ABNORMAL. HOWEVER, IT WILL RETURN TO NORMAL IF IT IS TURNED OFF AND THEN BACK ON.
5. WHEN TURNING THE POWER ON, INPUT EACH SIGNAL AFTER THE POSITIVE/NEGATIVE VOLTAGE BECOMES STABLE (BELOW FIGURE IS A GENERAL ILLUSRATION WHERE TYPICAL VALUE DEPENDS ON INDIVIDUAL PRODUCT DESIGN).



*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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

LUMEX®
Creating LED and LCD Solutions Together™
290 E. HELEN ROAD
PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
FAX: +1.847.359.6538
WEB: WWW.LUMEX.COM

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

DATE:	06.10.11	DRAWN BY:	AB
PAGE:	8 OF 10	CHKD BY:	YA
SCALE:	NTS	APRVD BY:	SS
UNIT:	mm [INCH]	Pb	

RoHS COMPLIANT PRODUCT

1. CADMIUM AND CADMIUM COMPOUNDS	LESS THAN 100PPM
2. HEXAVALENT CHROMIUM COMPOUNDS	LESS THAN 1000PPM
3. LEAD AND LEAD COMPOUNDS	LESS THAN 1000PPM
4. MERCURY AND MERCURY COPMPOUNDS	LESS THAN 1000PPM
5. POLYBROMINATED BIPHENYLS (PBBs)	LESS THAN 1000PPM
6. POLYBROMINATED DIPHENYL ETHERS (PBDEs)	LESS THAN 1000PPM

PACKAGING STANDARD

PRODUCT NO.	LCT-H480272M43W-A	RELEASE DATE	TBD
PRODUCT NAME	TFT MODULE	PREPARE BY	
QTY. EACH BOX	210 PCS.	BOX MATERIAL	PAPER CARTON
OUTER CARTON BOX SIZE	408mm X 369mm X180mm	BOX TYPE	NEW
QTY. INNER BOX/OUTER BOX	-	WEIGHT	KG

THERE ARE 12 PCS LCD PER EACH ANTI-STATIC PLASTIC PLATE.
THERE ARE 7 LAYER PLASTIC PLATES PER EACH INNER CARTON BOX.
THERE ARE 2 INNER CARTON BOX PER EACH OUTER CARTON BOX.

STORAGE

1. WHEN STORING LCDS AS SPARES FOR SOME YEARS, THE FOLLOWING PRECAUCTIONS ARE NECESSARY.
2. STORE THEM IN A SEALED POLYETHYLENE BAG. IF PROPERLY SEALED, THERE IS NO NEED FOR DESICCANT.
3. STORE THEM IN A DARK PLACE. DO NOT EXPOSE TO SUNLIGHT OR FLUORESCENT LIGHT, KEEP THE TEMPERATURE BETWEEN 0°C AND 35°C.
4. ENVIRONMENTAL CONDITIONS:
5. DO NOT LEAVE THEM FOR MORE THAN 168HRS. AT 60°C.
6. SHOULD NOT BE LEFT FOR MORE THAN 48HRS. AT -20°C.

SAFETY

1. ITS RECOMMENDED TO CRUSH DAMAGED OR UNNECESSARY LCD INTO PIECES AND WASH THEM OFF WITH SOLVENTS SUCH AS ACETONE AND ETHANOL, WHICH SHOULD LATER BE BURNED.
2. IF ANY LIQUID LEAKS OUT OF DAMAGED GLASS CELL AND COMES IN CONTACT WITH THE HANDS, WASH OFF THOROUGHLY WITH SOAP AND WATER.

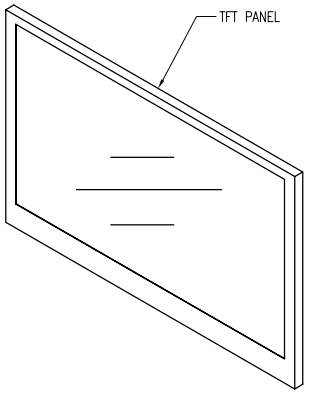
LUMEX®
Creating LED and LCD Solutions Together™

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

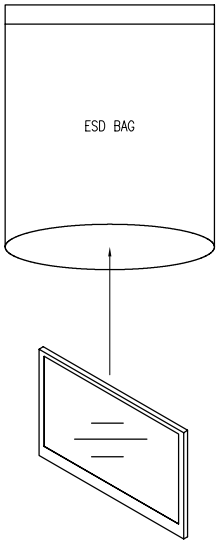
4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

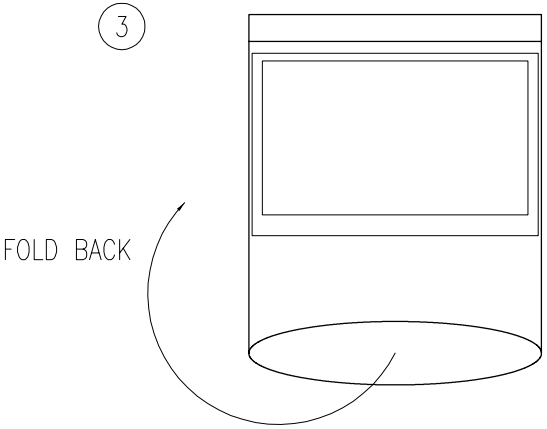
1



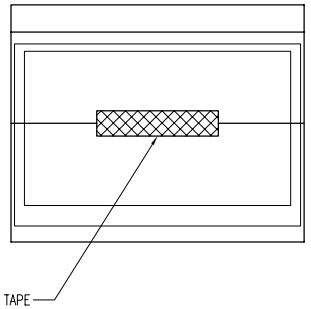
2



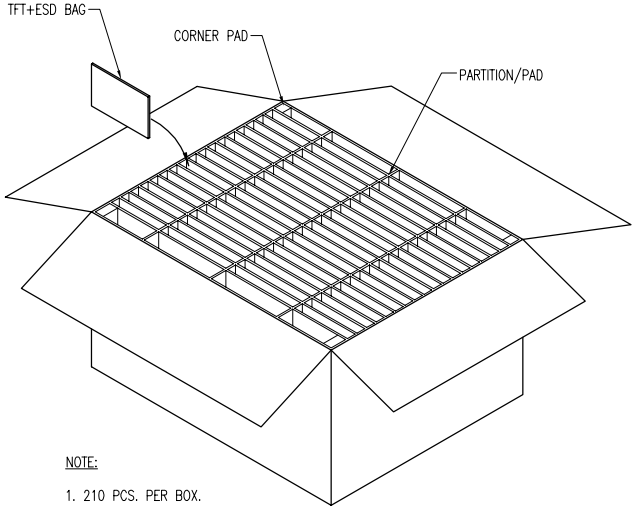
3



4



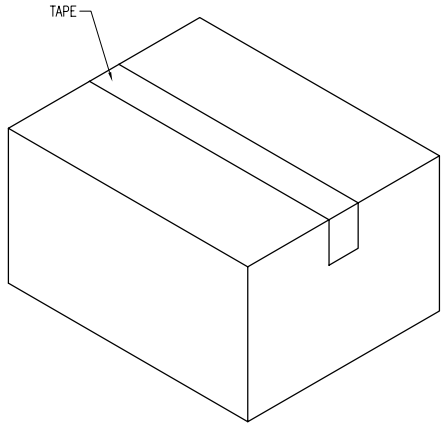
5



NOTE:

1. 210 PCS. PER BOX.

6



*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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

UNCONTROLLED DOCUMENT

LUMEX®
Creating LED and LCD Solutions Together™

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

4.3" ACTIVE MATRIX FULL COLOR TFT PANEL, 6:00 VIEW, LED BACKLIGHT, -20°C~+70°C OPERATING TEMPERATURE.

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

DATE:	06.10.11	DRAWN BY:	AB
PAGE:	10 OF 10	CHKD BY:	YA
SCALE:	NTS	APRVD BY:	SS
UNIT:	mm [INCH]		Pb