

/ INTERFACE PIN CONNECTION

PART NUMBER LCT-H480272M43W1T

VFB2 DIVIDER TO GND, IF 2a PWM IS NOT USED, PLEASE CONNECT VFB2 TO GND.
VFB2 DEFAULT THRESHOLD IS 1.0V.

VCOM THIS IS OUTPUT PIN FOR COMMON SIGNAL OF A TFT PANEL.

GND POWER GROUNG

REV.

| PIN | SYMBOL | FUNCTION | PIN |
|-------|---------|---|-------|
| 1 | NC | NO CONNECT. | 46 |
| 2 | NC | NO CONNECT. | 47 |
| 3 | GND | POWER GROUND. | 48 |
| 4 | VCOM | THIS OUTPUT PIN FOR COMMON SIGNAL OF A TFT PANEL. | 40 |
| 5 | CPWM | DUTY CYCLE CONTROL SIGNAL OF CABC FUNCTION OUTPUT. | 1 |
| 6 | SDO | DATA OUTPUT PIN IN SERIAL MODE. | 49 |
| 7 | SDI | DATA INPUT PIN IN SERIAL MODE. | |
| 8 | SCL | CLOCK PIN OF SERIAL INTERFACE. | 50 |
| 9 | CSB | CHIP SELECT PIN OF SERIAL INTERFACE. INTERNAL PULL HIGH. LEAVE IT OPEN WHEN NOT USED. | 30 |
| | | INPUT DATA FORMAT SELECT SIGNAL, INTERNALLY PULLED HIGH. | 51 |
| 10 | PS | A. PS=H: PARALLEL RGB | |
| | | B. PS=L: SERIAL RGB | 52 |
| | | CLOCK EDGE SELECTION SIGNAL FOR THE DATA SAMPLING. | 53~55 |
| 11 | CLK_TRG | INTERNALLY PULLED HIGH. | 56 |
| 11 | CLK_ING | A. CLK_TRG=H; DATA SAMPLING AT THE CLK FALLING EDGE. | 57 |
| | | B. CLK_TRG=L; DATA SAMPLING AT THE CLK RISING EDGE. | 58 |
| | | SHIFT DIRECTION SELECTION SIGNAL. | 59 |
| 12 | LR | A. LR=H: S1-S2S720 | 60 |
| | | B. LR=H: S720-S719S1 | |
| | | SCAN DIRECTION SELECTION SIGNAL. INTERNALLY PULLED HIGH. | |
| 13 | UD | A. UD=H: G1-G2G544 | |
| | | B. UD=L: G544-G543G1 | |
| 14 | DE | INPUT DATA ENABLE CONTROL. INTERNALLY PULLED HIGH. | |
| 15 | VS | VERTICAL SYNC INPUT WITH NEGATIVE POLARITY. INTERNALLY PULLED HIGH. | |
| 16 | HS | HORIZONTAL SYNC INPUT WITH NEGATIVE POLARITY. INTERNALLY PULLED HIGH. | |
| | | SCAN DIRECTION SELECTION SIGNAL. INTERNALLY PULLED HIGH. | |
| 17 | DISP | A. DISP=L, STANDBY MODE. | |
| | | B. DISP=H, NORMAL DISPLAY MODE. | |
| 18~25 | CLK | CONTROL SIGNAL FOR DATA LATCHING AND INTERNAL COUNTER OF THE TIMING | |
| | | CONTROLLER. | |
| | | DIGITAL DATA INPUT. INTERNALLY PULLED LOW. | |
| | | A. PS=H (PARALELL RGB INTERFACE):Dx7~Dx0 ARE USED. | |
| 42 | | A. PS=L (PARALELL RGB INTERFACE): ONLY D07~D00 ARE USED. | |
| 43 | RESETB | ACTIVE LOW GLOBAL RESET SIGNAL INPUT. INTERNALLY PULLED HIGH. | |
| 44 | P0L | POLARITY SIGNAL TO MONITOR VCOM SIGNAL. | |
| | | INPUT PIN TO ENABLE INTERNAL CHARGE PUMP CIRCUIT. INTERNALLY PULLED HIGH. |] |
| | | -CONNECT TO VDDIO TO ENABLE INTERNAL CHARGE PUMP VCL,VGH, | |
| 45 | PSHUT | VGL. VCIX2 AND VCOM. | |
| | | -CONNECT TO DVSS TO DISABLE INTERNAL CHARGE PUMP VCL,VGH, | |
| | | VGL. VCIX2 AND VCOM. | |

VGL. VCIX2 AND VCOM.

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PART NUMBER LCT-H480272M43W1T

REV.

4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

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SYMBOL

VC1

VFB1 DRV1

VDDIO VOLTAGE INPUT PIN FOR I/O LOGIC

3-NC NO CONNECTION.
A1 ANODE OF BACKLIGHT POWER SUPPLY.
A2 ANODE OF BACKLIGHT POWER SUPPLY.
K1 CATHODE OF BACKLIGHT POWER SUPPLY.
K2 CATHODE OF BACKLIGHT POWER SUPPLY.

RELABILITY NOTE

OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT

SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE.

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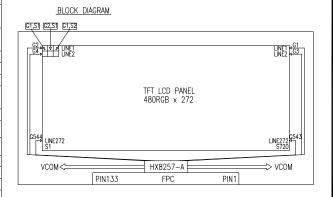
ELECTRICAL CHARACTERISTICS

| SYMBOL | CONDITION | CONDITION | MIN | TYP. | MAX | UNIT |
|----------|--|--|---------------|----------------|-------------|------|
| VDDIO | POWER SUPPLY PIN OF IO PINS | RECOMENNDED OPERATING VOLTAGE POSSIBLE OPERATING VOLTAGE | 1.8 | - | 3.6 | ٧ |
| VCI | BOOSTER REFERENCE SUPPLY VOLTAGE RANGE | RECOMENNDED OPERATING VOLTAGE POSSIBLE OPERATING VOLTAGE | ≥VDDIO &≥3 | - | 3.6 | ٧ |
| ISLEEP | SLEEP MODE CURRENT | - | - | 50 | | uA |
| IDP | OPERATING MODE CURRENT | VCI=3.3V | - | 13 | 15 | mΑ |
| VCL | NEGATIVE VCI OUTPUT VOLTAGE | NO PANEL LOADING | -VCI | - | -VCI+0.7 | ٧ |
| VCIX2 | VCIX2 PRIMARY BOOSTER EFFICIENCY(2) | NO PANEL LOADING,ITO FOR VCIX2, VCI | - | | - | - |
| VDC | VDC OUTPUT VOLTAGE | VDC[3:0]=1011 | 4.9 | 5 | 5.1 | ٧ |
| VGH | GATE DRIVER HIGH OUTPUT VOLTAGE BOOSTER | NO PANEL LOADING; 3X BOOSTER | 84 | 89.5 | - | % |
| VGH | EFFICIENCY(2) | NO PANEL LOADING; 3X BOOSTER | 80 | 88.5 | - | % |
| VGL | GATE DRIVER LOW OUTPUT VOLTAGE | VGL = −2 X VDC | -10 | -10 | -9 | ٧ |
| COMH | VCOM HIGH OUTPUT VOLTAGE (3) | - | -3% | COMC +COMPP | 3% | ٧ |
| COML | VCOM LOW OUTPUT VOLTAGE (3) | - | -3% | COMC -COMPP | 3% | ٧ |
| VLCD | VLCD OUTPUT VOLTAGE | VRH[5:0]=100100 | 4.41 | 4.51 | 4.61 | ٧ |
| VOH1 | LOGIC HIGH OUTPUT VOLTAGE | I OUT= −100uA | 0.9*VDDI0 | - | VDD | ٧ |
| VDD | SOURCE OUTPUT VOLTAGE DEVIATION | - | - | ± 20 | ± 30 | mV |
| VOS | SOURCE OUTPUT VOLTAGE DEVIATION | - | - | - | ± 30 | mV |
| VOL1 | LOGIC LOW OUTPUT VOLTAGE | I OUT= 100uA | 0 | - | 0.1*VDDIO | ٧ |
| VIH1 | LOGIC HIGH INPUT VOLTAGE | - | 0.9*VDDIO | - | VDDIO | ٧ |
| VIL1 | LOGIC LOW INPUT VOLTAGE | ı | 0 | - | 0.2*VDDIO | ٧ |
| IOH | LOGIC HIGH OUTPUT CURRENT SOURCE | V OUT= VDD -0.4V | 50 | - | - | uA |
| IOL | LOGIC HIGH OUTPUT CURRENT DRAIN | V OUT= 0.4V | - | - | -50 | uA |
| IOZ | LOGIC OUTPUT TRI-STATE CURRENT DRAIN SOURCE | - | -1 | - | 1 | uA |
| IIL/I IH | LOGIC INTPUT CURRENT | - | -1 | - | 1 | uA |
| | | | | | | |

PART NUMBER

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| ABSOLUTE MAXIMUM RATINGS | \ | | |
|--------------------------|---------|------|--------------|
| ITEM | SYMBOL | UNIT | VALUE |
| POWER SUPPLY VOLTAGE (1) | VDD | ٧ | -0.3 TO +0.8 |
| POWER SUPPLY VOLTAGE (2) | VDC | ٧ | -0.3 TO +0.8 |
| POWER SUPPLY VOLTAGE (3) | VGH-VGL | ٧ | -0.3 TO +45 |
| POWER SUPPLY VOLTAGE (4) | VDD-VCL | ٧ | -0.3 TO +10 |
| OPERATING TEMPERATURE | TOP | •c | -20~70 |
| STORAGE TEMPERATURE | TST | .c | -30~80 |

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PART NUMBER REV. LCT-H480272M43W1T

4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

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RELABILITY NOTE

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| TOUCH SCREEN PANEL SPECIFIC | CATIONS | ELECTE | RICAL CHARAS | STERISTICS | S |
|-----------------------------|---------|--------|--------------|------------|---------------------------|
| ITEM | MIN | TYP. | MAX | UNIT | NOTE |
| LINEARITY | -1.5 | - | 1.5 | mA | ANALOG X AND Y DIRECTIONS |
| TERMINAL | 100 | - | - | Ω | Y (FILM SIDE) |
| RESISTANCE | 100 | - | - | Ω | X (FILM SIDE) |
| INSULATION RESISTANCE | 25 | - | - | МΩ | DC25V |
| VOLTAGE | - | - | 7 | ٧ | DC |
| CHARTERING | - | - | 10 | ms | 100KΩ PULL−UP |
| TRANSPARENCY | - | 80 | - | % | NON-GLARE |

CAUCTION: DO NOT OPERATE IT WITH ANY THING EXCEPT A POLYACETAL PEN (TIP RO.8MM OR LESS) OR A FINGER, ESPECIALLY THOSE WITH HARD OR SHARP TIPS AS A BALL PEN OR A MECHANICAL PENCIL.

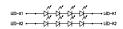
MECHANICAL & REABILITY CHARACTERISTICS

| / | | | | | |
|-------------------------------|--------|------|-----|------------|------|
| ITEM | MIN | TYP. | MAX | UNIT | NOTE |
| ACTIVATION FORCE | 80 | - | 100 | g | (A) |
| DURABILITY-SURFACE SCRATCHING | 100000 | - | - | CHARACTERS | (B) |
| DURABILITY-SURFACE PITTING | 000000 | - | - | TOUCHS | (C) |
| SURFACE HARDNESS | 3 | - | - | Н | |

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- (A) STYLUS PEN INPUT: R 0.8mm POLYACETAL OR FINGER
- (B) MEASURMENT FOR SURFACE AREA
- SCRATCH 100000 TIMES STRAIGHT LINE ON THE FILM WITHA A STYLUS CHANGE EVERY 20000 TIMES
 - FORCE: 250gf

 - SPEED: 60mm/SEC STYLUS: R 0.8 POLYACETAL TRIP
- (C) PIT 1000000 TIMES ON THE FILM WITH A R8.0 SILICON RUBBER
 - FORCE: 250gf
 - SPEED: 2 TIMES/SEC



| BACKLIGHT SPECIFICATIONS | LED BACKLIGHT ABSOL | LUTE MAXIMU | M RATINGS (| Ta=25°C) | |
|------------------------------|---------------------|-------------|-------------|----------|------|
| ITFM | SYMB0I | STA | NDARD VA | ALUE | UNIT |
| ITEM | SIMBUL | MIN | TYP. | MAX | UNII |
| ABSOLUTE MAX FORWARD CURRENT | Ifm(PER STRING) | - | - | 20 | mA |
| REVERSE VOLTAGE | Vr | 5 | - | - | ٧ |
| OPERATING TEMPERATURE RANGE | TOPR | -20 | - | 70 | ċ |
| STORAGE TEMPERATURE RANGE | TSTG | -30 | - | 80 | ċ |

| BACKLIGHT SPECIFICATIONS | LED BACKLIGH | T ELECTRO C | PTICAL CHAR | ACTERISTICS | | |
|--------------------------|--------------|-------------|-------------|-------------|-------|-----------------------------------|
| ITEM | SYMBOL | MIN | TYP. | MAX | UNIT | CONDITIONS |
| FORWARD VOLTAGE | Vf | - | 13.0 | - | ٧ | |
| FORWARD CURRENT | If | - | 30 | - | mΑ | T=25*C |
| CHROMATICITY COORDINATES | Х | 0.282 | - | 0.320 | ÷. | |
| | Y | 0.276 | - | 0.330 | ċ | |
| LUMINANCE | Lv | 2400 | 2600 | 3000 | cd/m² | Vr=10V |
| UNIFORMITY | Δ | 85% | - | - | % | MIN/MAX*100% |
| LUMINANCE (TILL | _ | 20000 | _ | _ | HOURS | If=15mA, Lv=2600cd/m ² |
| HALF LUMMINANCE) | - | - | 50000 | - | HOURS | If=10mA, Lv=2200cd/m ² |

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PART NUMBER LCT-H480272M43W1T

4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

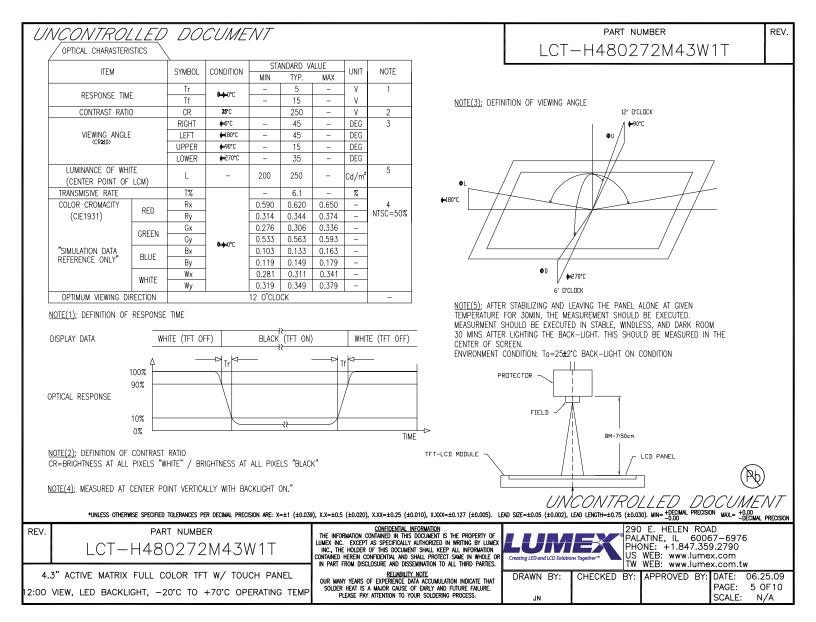
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PART NUMBER

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LCT-H480272M43W1T

STANDARD SPECIFICATION FOR REABILITY

STANDARD SPECIFICATION OF REABILITY TEST

| | AND SPECIFICATION OF | ND DICHT TEOT | | |
|----|---|---|---|----------------------------|
| N0 | 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 HIGH 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 25°C 70°C 30 MIN 1 CYCLE | -20°C/ 70°C 10 CYCLES | |
| | | MECHANICAL TEST | | |
| 7 | DROP TEST | | PACKED,100cm FREE FALL(6 SLIDES, 1 CORNER, 3 EDGES) | |

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.

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PART NUMBER REV. LCT-H480272M43W1T

4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

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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.

| | | - | | | |
|----------|-------|--|--|--|--|
| 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 DS0.15 DISREGARD 0.15<0≤0.20 3 0>0.20 0 | MINOR |
| 2 | DUST/ SCRATCHES/ BLACK STREAK (LINE TYPE) | ACCEPTABLE QUANTITY WIDTH, W(mm) LENGTH, L(mm) IN ACTIVE AREA W\$0.02 DISREGARD DISREGARD W\$0.03 L ≤ 1.0 DISREGARD W\$0.05 L ≤ 2.0 3 W>0.05 DISREGARD 0 | MINOR |
| 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 + SORTH 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. |

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UNCONTROLLED DOCUMENT

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4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

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PRECAUTIONS FOR USING LCD MODULE

ICT-H480272M43W1T

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HANDLING PRECAUTIONS

- 1, THE DISPLAY PANEL IS MADE OF GLASS AND POLARIZER. DO NOT SUBJECT IT TO MECHANICAL SHOCK BY DROPPING 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.

 - SOLDER: EUTECTIC SOLDER.

 3. IF THE DISPLAY SURFACE BECOMES CONTAMINATED, BREATHE ON THE SURFACE AND GENTLY WIPE IT WITH ABOVE IS A RECOMMENDED APPROACH. DUE TO DIFFERENT SOLDER COMPOSITION AND PROCESSING METHOD,
- 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
- 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, WARPING 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
- 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 5. WHEN TURNING THE POWER ON, INPUT EACH SIGNAL AFTER THE POSITIVE/NEGATIVE VOLTAGE BECOMES 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.
- 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.
- RING THE TERMINAL OF LCM, MAKE CERTAIN THE AC POWER SOURCE FOR THE SOLDERING

 LEAK.

 UNCONTROLLED DOCUMENT

 *UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: $X=\pm 1$ (±0.039), $X.X=\pm 0.5$ (±0.020), $X.XX=\pm 0.25$ (±0.010), $X.XXX=\pm 0.127$ (±0.005).

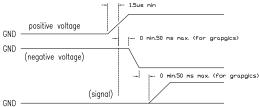
 LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= $\frac{10.000}{-0.000}$ MAX.= $\frac{1$ IRON DOES NOT LEAK.

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.
- 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.
- 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.
- STABLE (BELOW FIGURE IS A GENERAL ILLUSRATION WHERE TYPICAL VALUE DEPENDS ON INDIVIDUAL PRODUCT



PART NUMBER REV. LCT-H480272M43W1T

4.3" ACTIVE MATRIX FULL COLOR TFT W/ TOUCH PANEL 2:00 VIEW, LED BACKLIGHT, -20°C TO +70°C OPERATING TEMP

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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.

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

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PART NUMBER

LCT-H480272M43W1T

REV.

RoHS COMPLIANT PRODUCT

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

PACKAGING STANDARD

| PRODUCT NO. | LCT-H480272M43W1T | RELEASE DATE | 04/APR. 2007 |
|---|-----------------------|--------------|--------------|
| PRODUCT NAME. | TFT MODULE | PREPARE BY: | |
| QUANTITY/ EACH BOX | 96 PCS. | BOX MATERIAL | PAPER CARTON |
| OUTER CARTON BOX SIZE | 465mm x 405mm x 305mm | BOX TYPE | NEW |
| QUANTITY/ INER BOX QUANTITY/ OUTER BOX | - | WEIGHT | KG |

THERE ARE 6 PCS LCD PER EACH ANTI-STATIC PLASTIC PLATE. THERE ARE 8 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 O'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 SOLVENIS 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.

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