



PROMATE ELECTRONIC CO., LTD.

Product Specification

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Http://www.lcdfriends.com

Model No.: PMLCM140RM-MB


Description: 4.0" TFT-LCD Module

Document No.: 50-0005-0002

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Promate Electronic Co., Ltd

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Tel:886-2-2659-0303 FAX: 886-2-2658-0988

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A. General Description:

The model "PMLCM140RM-MB" is designed to replace the traditional CRT display via the TFT LCD panels. The model provides the easy selection of the standard composite video input or the specific R/G/B signals input. Besides, it is ergonomically designed to fit easily into confined space or can be wall mounted.

B. Applications:

The product is designed and manufactured for following application:

1. Videophone system
2. Door phone system
3. Portable TV
4. Security

Do not use the product for the following equipment that demands extremely high performance in terms of functionality, reliability or accuracy:

1. Aerospace equipment
2. Communication equipment for truck lines
3. Medical equipment related to life support, etc.

The other application that demands high reliability and functionality should first contact our sales representative.



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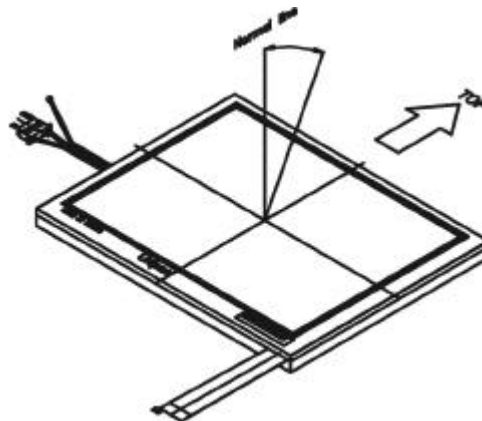
C. LCD module general specification

C-1. LCD specification

| Items | Specification | | | | Remark |
|--------------------------------|-------------------------|-------|------|------|--------|
| Display resolution (dot) | 480*234 | | | | |
| Active area (mm) | 82.1(W)*61.8(H) | | | | |
| Screen size (inch) | 4.05(Diagonal) | | | | |
| Dot pitch (mm) | 0.171(W)*0.264(H) | | | | |
| Color Configuration | R.G..B. Delta | | | | |
| Overall dimension (Panel only) | 96.0(W)*76.0(H)*6.5(D) | | | | |
| Back light technology | CCFL*1 | | | | |
| Brightness (Luminance) | 250 nit | | | | Note 1 |
| Front surface | Anti-glare hard coating | | | | |
| View Angle | Top | CR 10 | 10° | | Note 2 |
| | Bottom | | 30° | | |
| | Left | | 45° | | |
| | Right | | 45° | | |
| CR (Contrast Ratio) | 150 | | | | Note 3 |
| White chromaticity | | Min | Typ. | Max. | |
| | x | 0.25 | 0.30 | 0.35 | |
| | y | 0.30 | 0.35 | 0.40 | |
| Response time | Rise | - | 25ms | 50ms | Note 4 |
| | Fall | - | 30ms | 60ms | |
| Operating Temperature | 0°C~60°C | | | | |
| Storage Temperature | -25°C ~ 80°C | | | | |

Note 1. Measured at the center area of the panel when all the input terminals of LCD panel are electrically opened.

Note 2. Definition of “Viewing Angle”



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Note 3. Definition of “Contrast Ratio”:

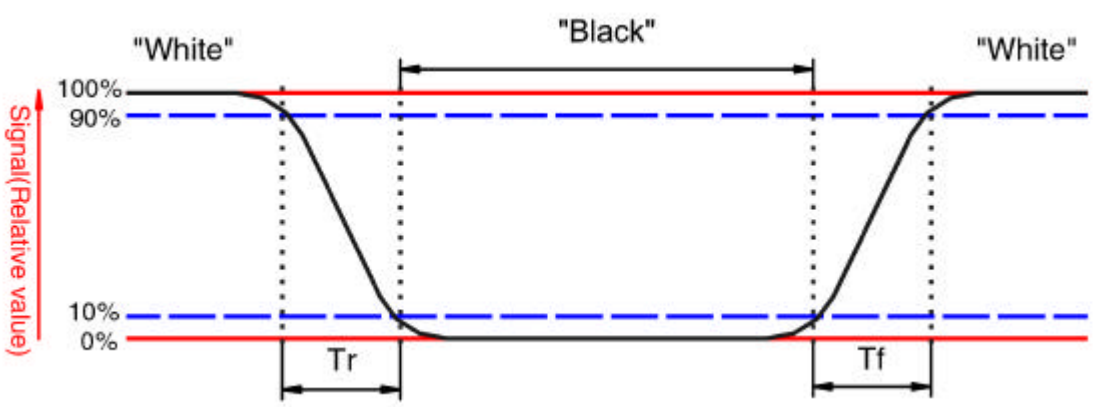
Contrast ratio is calculated with the following formula.

$$\text{Contrast ratio (CR)} = \frac{\text{Photodetector output when LCD is at "White" state}}{\text{Photodetector output when LCD is at "Black" state}}$$

Note 4. Definition of “Response Time” :

The output signals of photodetector are measured when the input signals are changed from “black” to “white” (falling time) and from “white” to “black” (rising time), respectively.

The response time is defined as the time interval between the 10% and 90% of amplitudes. Refer to figure as below.





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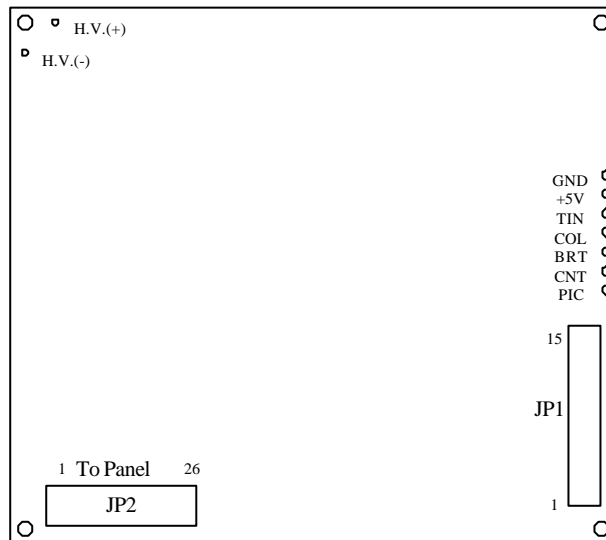
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C-2. Driving board Specification

| Item | Specification | Remark |
|------------------------|---|--------|
| Decoding TV system | NTSC/PAL auto-switching | |
| Video Input | 1Vp-p, 75 | |
| Video Interface | Standard Composite Video, Analog R/G/B | |
| Video Direct Selection | Up/Down scanning, Left/Right scanning | |
| Image adjustment | An extension interface is reserved for Image adjustment | Note 1 |
| DC Voltage Input | 12V±2V | |
| Power Consumption | 2.88Watt | |
| Operating Temperature | 0°C ~ 60°C | |
| Storage Temperature | -25°C ~ 80°C | |

Note 1:

7 through holes are reserved adjacent to JP1 for image specialty adjustment. (See outline drawing below).



The control row is defined as:

| Symbol | I/O | Description |
|--------|-----|-----------------------------------|
| GND | - | Ground for ext. control |
| +5V | O | +5V power supply for ext. control |
| TIN | I | Tint |
| COL | I | Hue |
| BRT | I | Brightness |
| CNT | I | Contrast |
| PIC | I | Sharpness |



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The recommended input value for image adjustment is:

| Symbol | Condition | Adjusted Voltage | | | Remark |
|--------|-----------|------------------|---------|-------|----------------------------------|
| | | Min. | Typical | Max | |
| TIN | Vcc=5V | 3V | 3.3V | 4V | TIN can only be operated in NTSC |
| COL | | 2.6V | 3.2V | 4V | |
| BRT | | 2.05V | 2.11V | 2.16V | |
| CNT | | 2.13V | 3.03V | 3.13V | |
| PIC | | 1.0V | 1.5V | 3.6V | |

D. Reliability test items:

| No. | Test items | Conditions | Remark |
|-----|-------------------------------|--|-----------------------------|
| 1 | High temperature storage | Ta = 80°C 240H | |
| 2 | Low temperature storage | Ta = -25°C 240H | |
| 3 | High temperature operation | Ta = 60°C 240H | |
| 4 | Low temperature operation | Ta = 0°C 240H | |
| 5 | High temperature and humidity | Ta = 60°C 95%RH 240H | Operation |
| 6 | Heat shock | -25°C ~ +80°C/50 cycles 2H/cycle | Non-operation |
| 7 | Electrostatic discharge | ±200V, 200pF(0),once for each terminal | Non-operation |
| 8 | Vibration | Frequency range: 10~55Hz Stroke: 1.5mm Sweep: 10Hz~55Hz 2 hours for each direction of X, Y, Z (6 hours for total) | JIS C7021, A-10 condition A |
| 9 | Mechanical shock | 100G 6ms, ±X, ±Y, ±Z 3 times for each direction | JIS C7021, A-10 condition C |
| 10 | Vibration (with carton) | Random vibration: 0.015G ² /Hz from 5 ~ 200Hz -6dB/Octave from 200~500Hz | ICE 68-34 |
| 11 | Drop (with carton) | Height: 80cm 1 corner, 3 edges, 6 surfaces | |

Note: Ta: Ambient temperature



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E. Interface description

The connector of the user-controlled interface on the Driving board is Molex 53398-1590 or equivalent. Related housing is Molex 51021-1500 or equivalent.

Pin assignment is as follow:

| Pin No. | Pin Assignment | I/O | Pin Description | Remark |
|---------|----------------|-----|---|--------|
| 1 | /Hsync | O | Horizontal Sync. Output for specific Application. | |
| 2 | /Vsync | O | Vertical Sync. Output for specific Application. | |
| 3 | NPC | I/O | NTSC/PAL mode selection. | Note 1 |
| 4 | SW | I | Composite/Analog RGB Signal Selection. | Note 2 |
| 5 | CVS | I | Composite Video Signal Input. | |
| 6 | Bin | I | Separated Blue Video Signal Input | |
| 7 | Rin | I | Separated Red Video Signal Input | |
| 8 | Gin | I | Separated Green Video Signal Input | |
| 9 | GND | - | Ground | |
| 10 | GNDS | - | Ground | |
| 11 | Vin | I | 12 Voltage DC Input | |
| 12 | GNDS | - | Ground | |
| 13 | COL | I | Color terminal adjustment | |
| 14 | LR | I | Left/Right scan selection | Note 3 |
| 15 | UD | I | Up/Down scan selection | Note 4 |

Note 1: Default is auto detect for NTSC and PAL system. (Controlled by internal UPS015). High for mode and Low for PAL mode.

Note 2: Default is Composite Signal (Low); High is for separated Analog RGB signals.

Note 3: Default is reversed scanning (High) and low is for normal scanning (L R)

Please do force this pin to ground for normal scan, from left to right.

Note 4: Default is reversed scanning (High) and low is for normal scanning (U D)

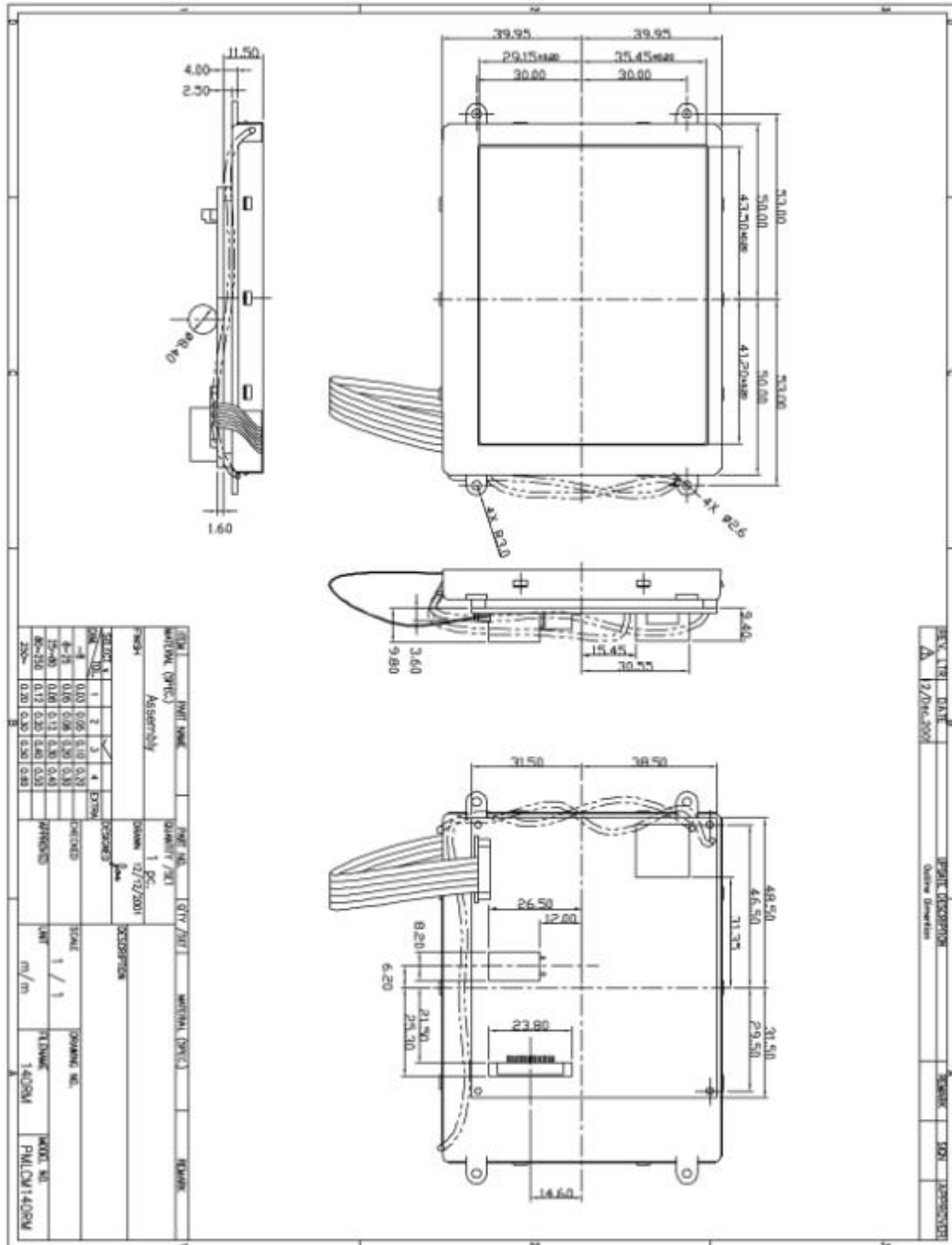
Please do force this pin to ground for normal scan, from up to down.



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Appendix A-1: Mechanical drawing



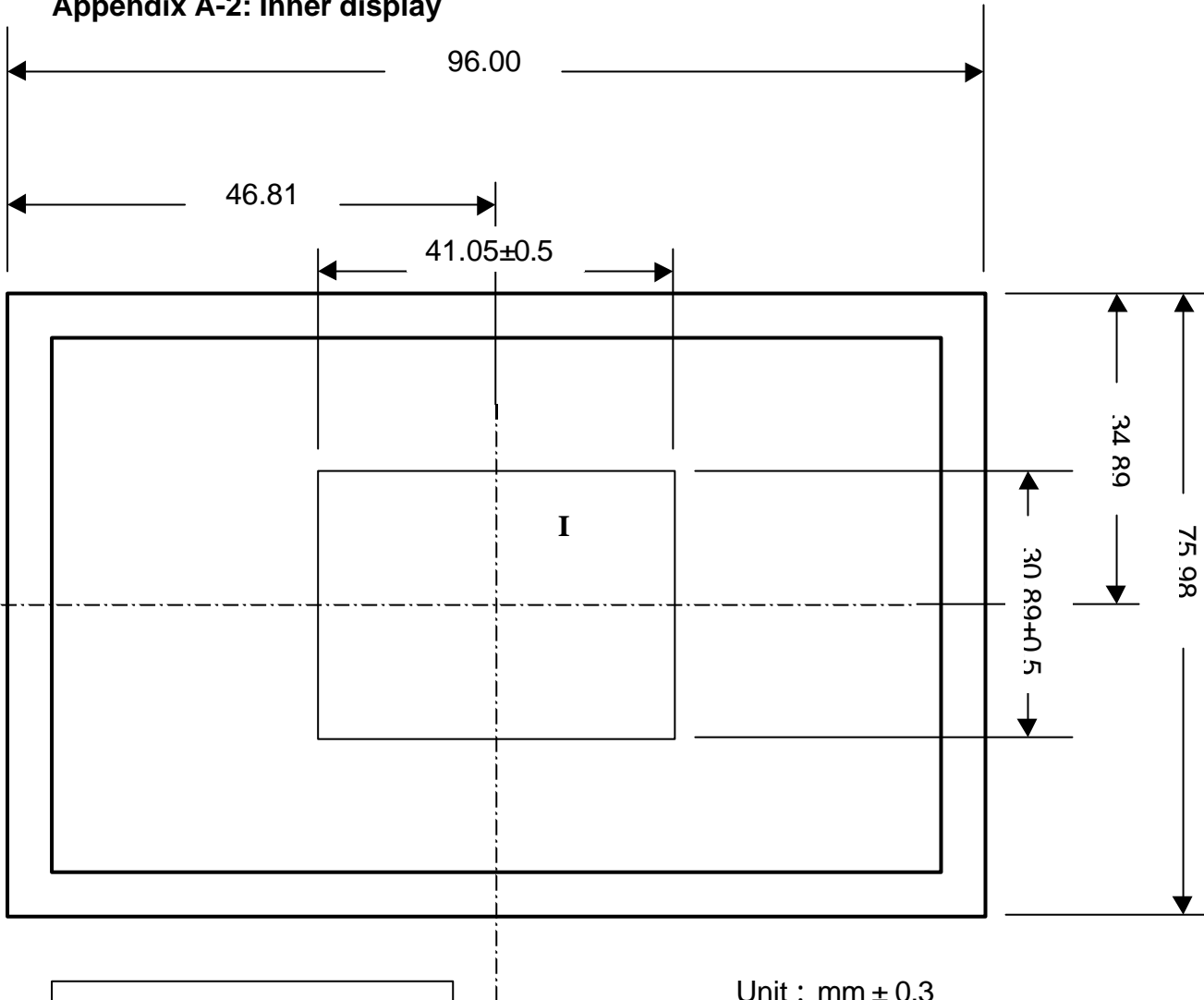
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Appendix A-2: Inner display



Unit : mm ± 0.3

| |
|---|
| DATE OF ISSUE: 20.12.2001 REV. : 1.1 |
|---|

I : Inner display area

SPECIAL REQUEST BY MITSUBISHI
THIS DRAWING IS TRANSFERRED FROM
UNIPAC OPTOELECTRONICS CORPORATION , THE
INCOMING INSPECTION STANDARD FOR 4" A-GRADE TFT-
LCD MODULES , SPEC NO. 523-211-008 (APPENDIX B)

INSPECTION AREA FOR DOT DEFECT. THE DEFINITION OF DISPLAY AREA

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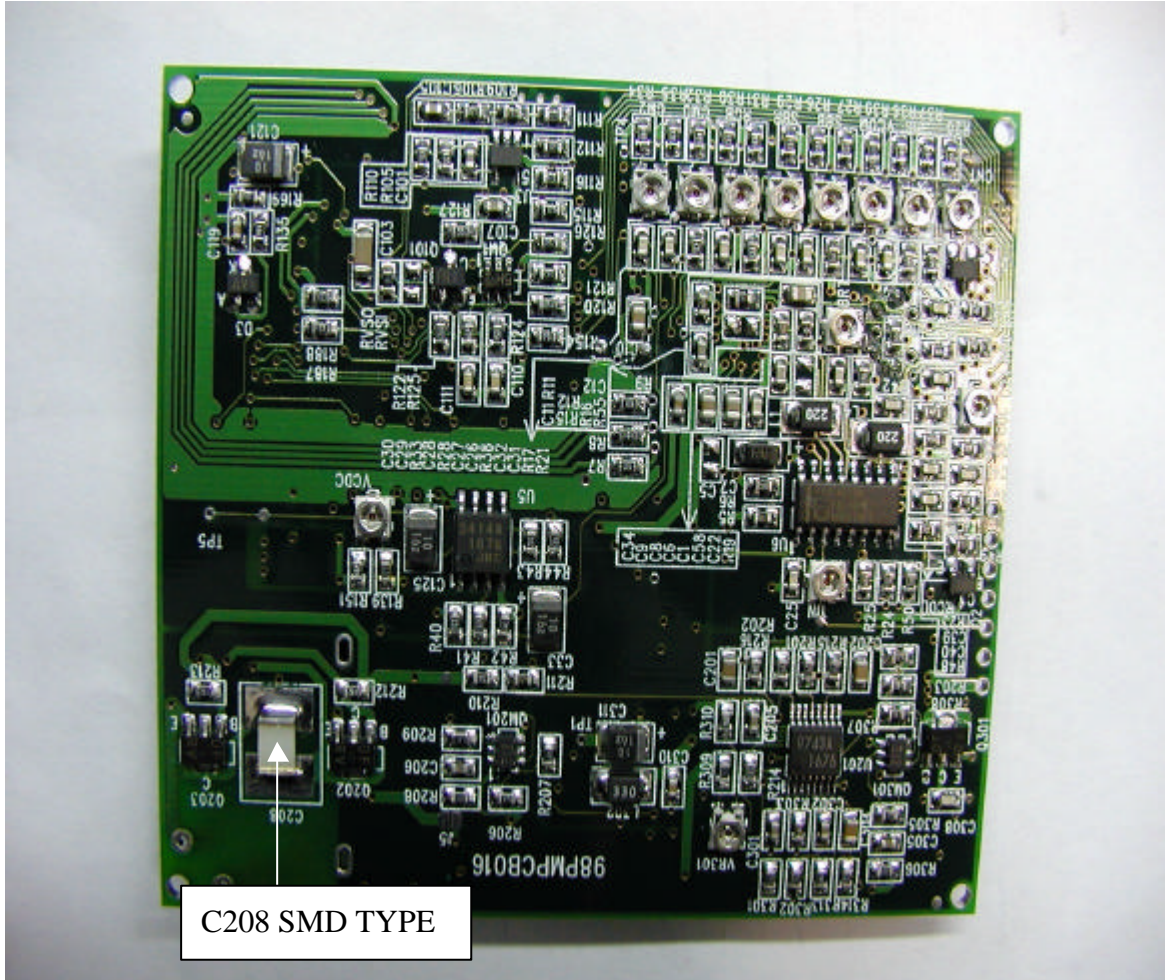


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Appendix A-3: Special request items from MITSUBISHI

A-3-1: Picture A C208



Special request by MITSUBISHI for SMD type C208

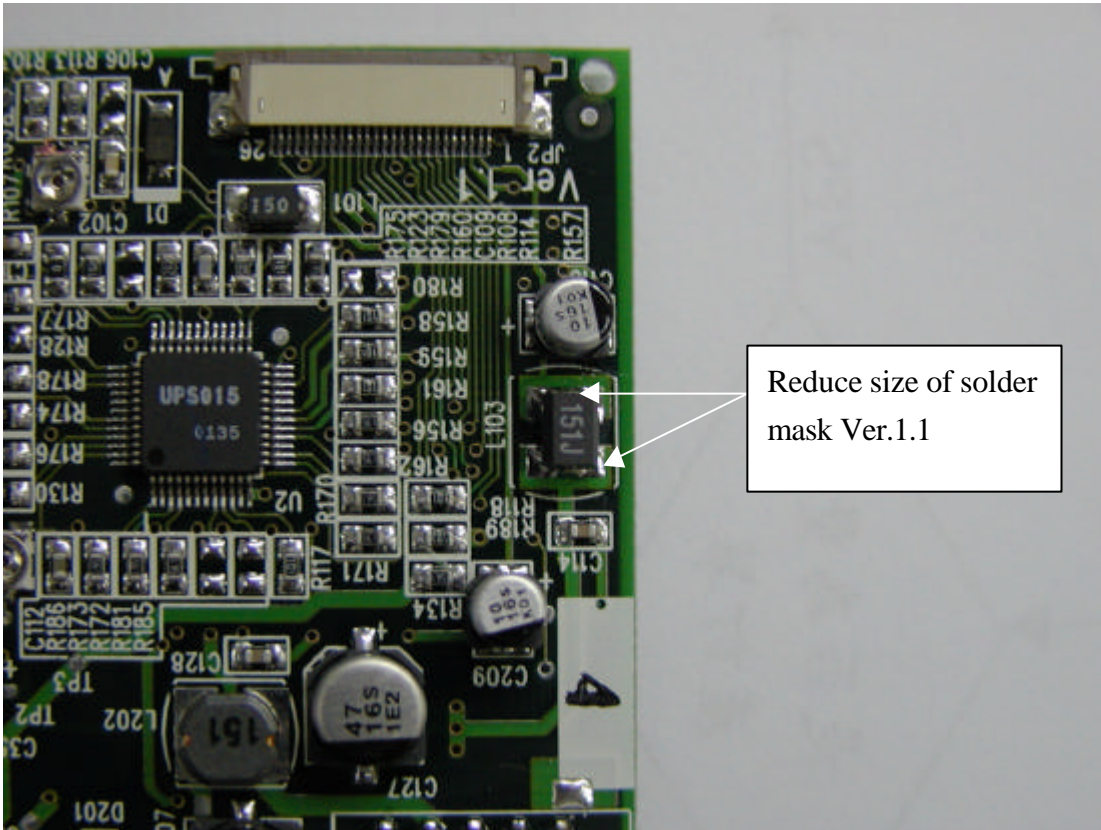
PICTURE A



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A-3-2 Picture B Solder Mask



Special request from MITSUBISHI for solder mask reduce

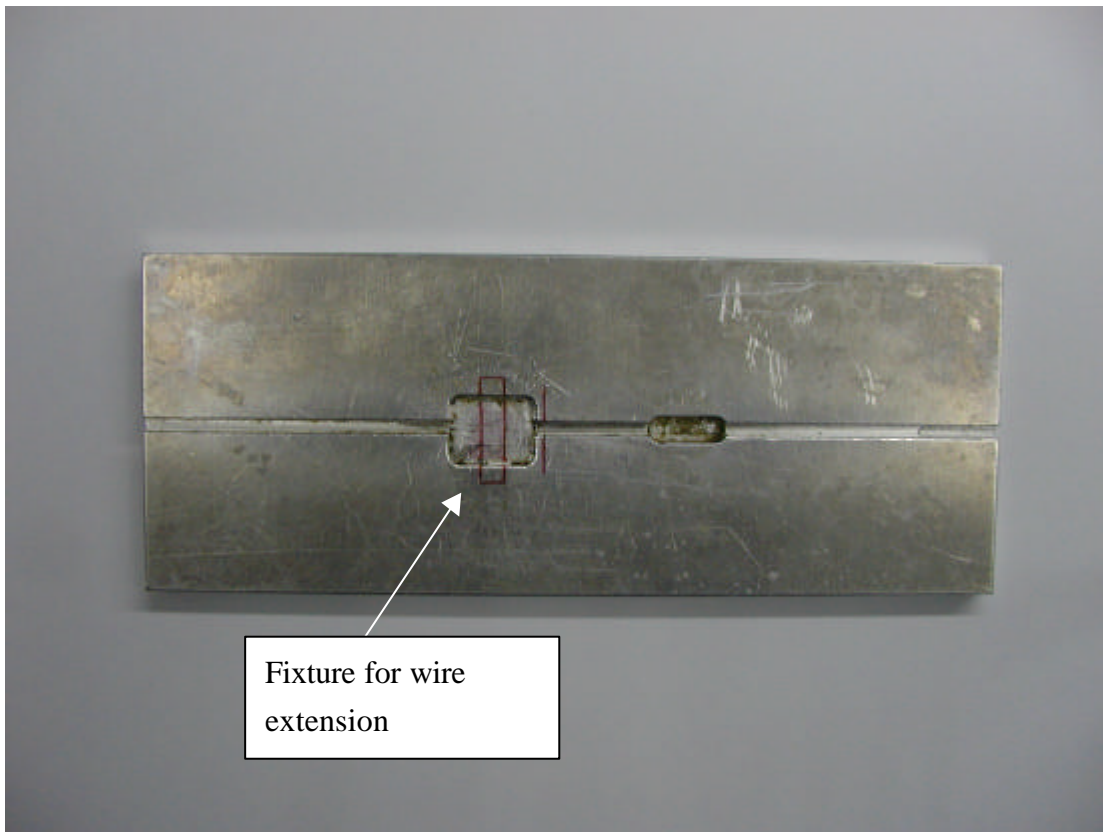
PICTURE B



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A-3-3-1: Picture C-1 Fixture for wire extension



Fixture for wire extension

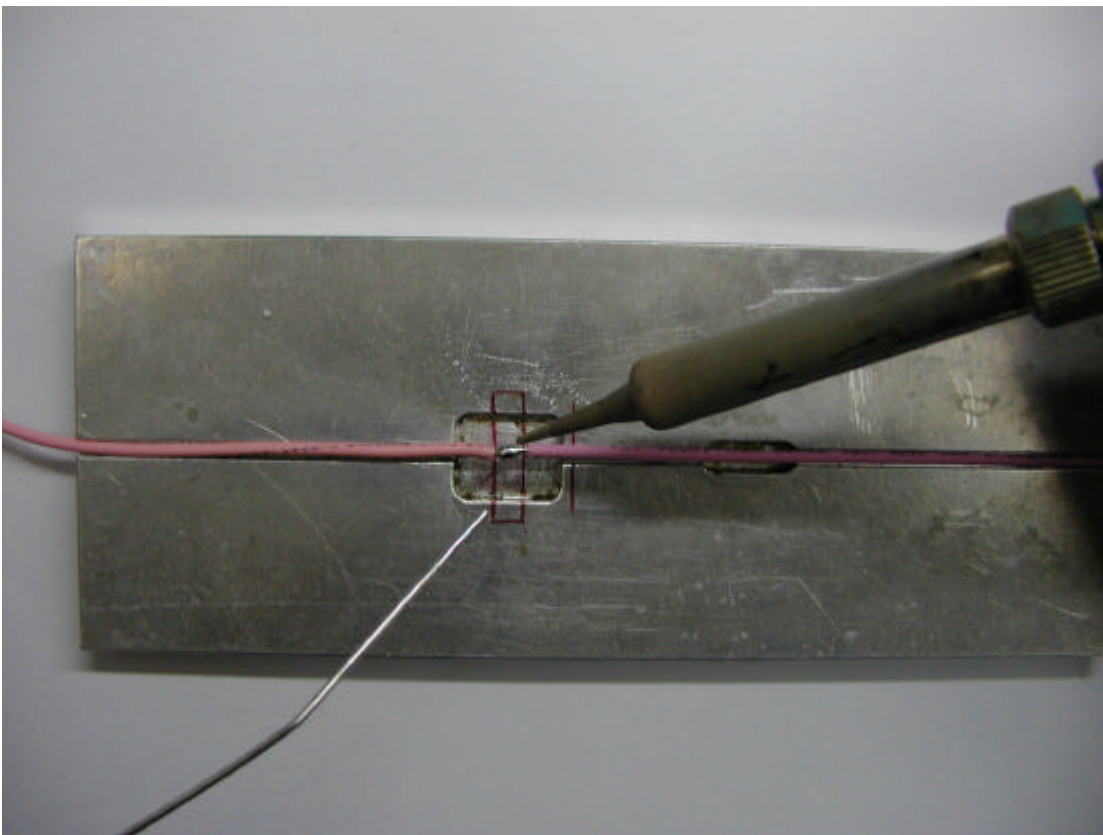
PICTURE C-1



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A-3-3-2: Picture C-2 Apply solder to the extension wire joint



Apply solder to the extension wire joint

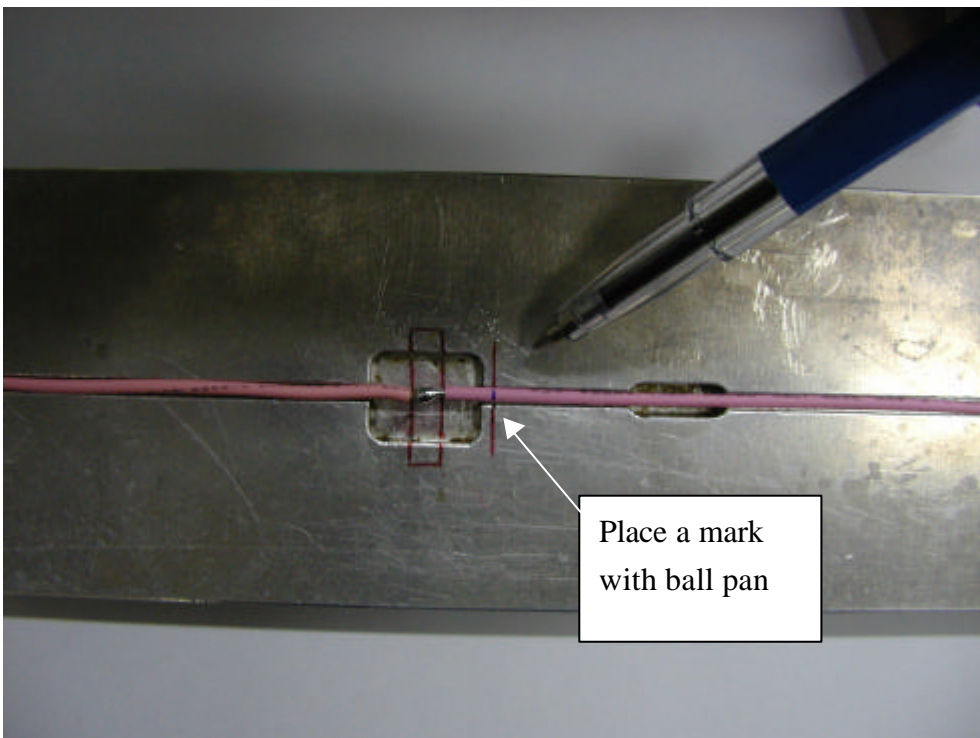
PICTURE C-2



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A-3-3-3: Picture C-3 Mark on the wire for silicon sleeve



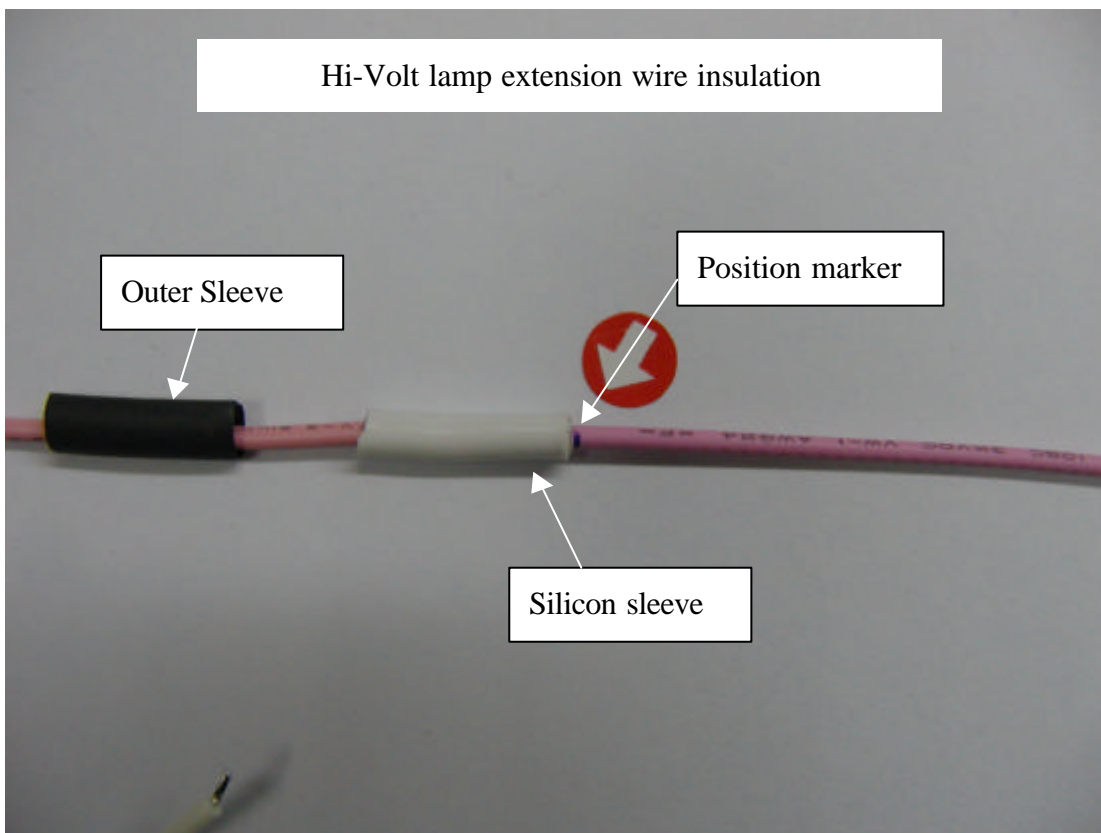
PICTURE C-3



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A-3-3-4: Picture C-4 Silicon Sleeve



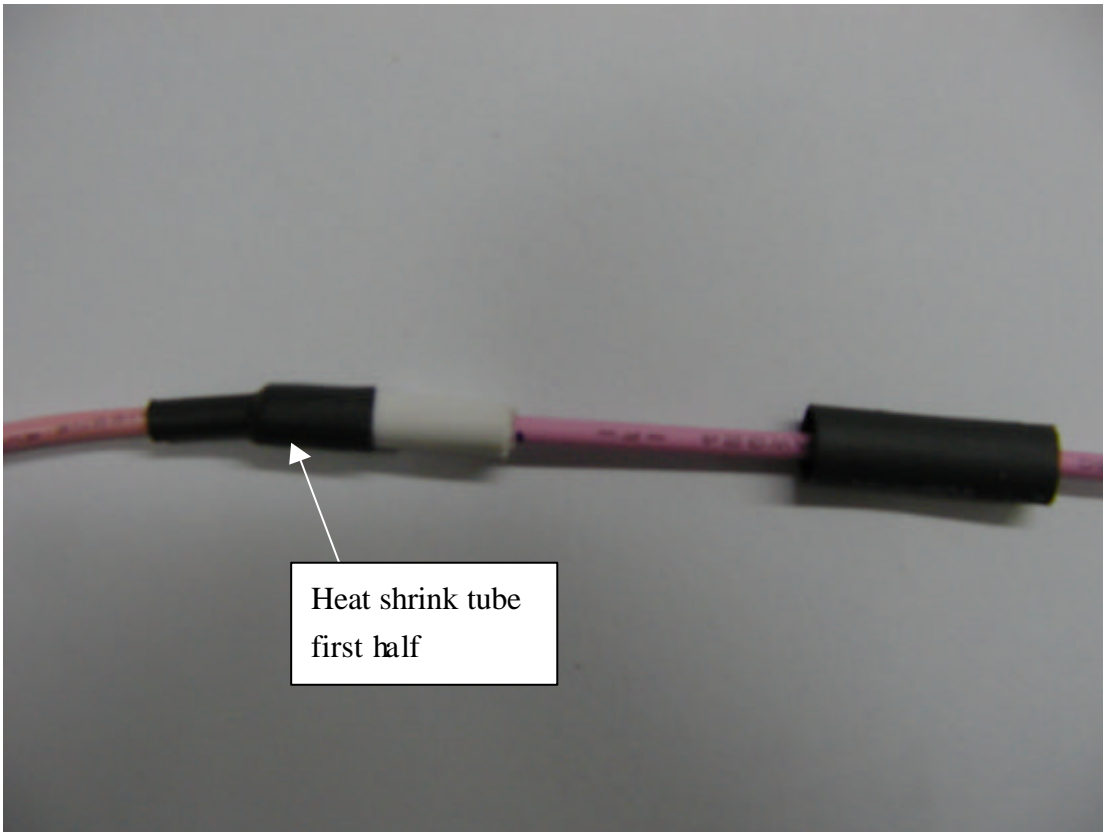
PICTURE C-4



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A-3-3-5:Picture C-5



Extension wire insulation

PICTURE C-5

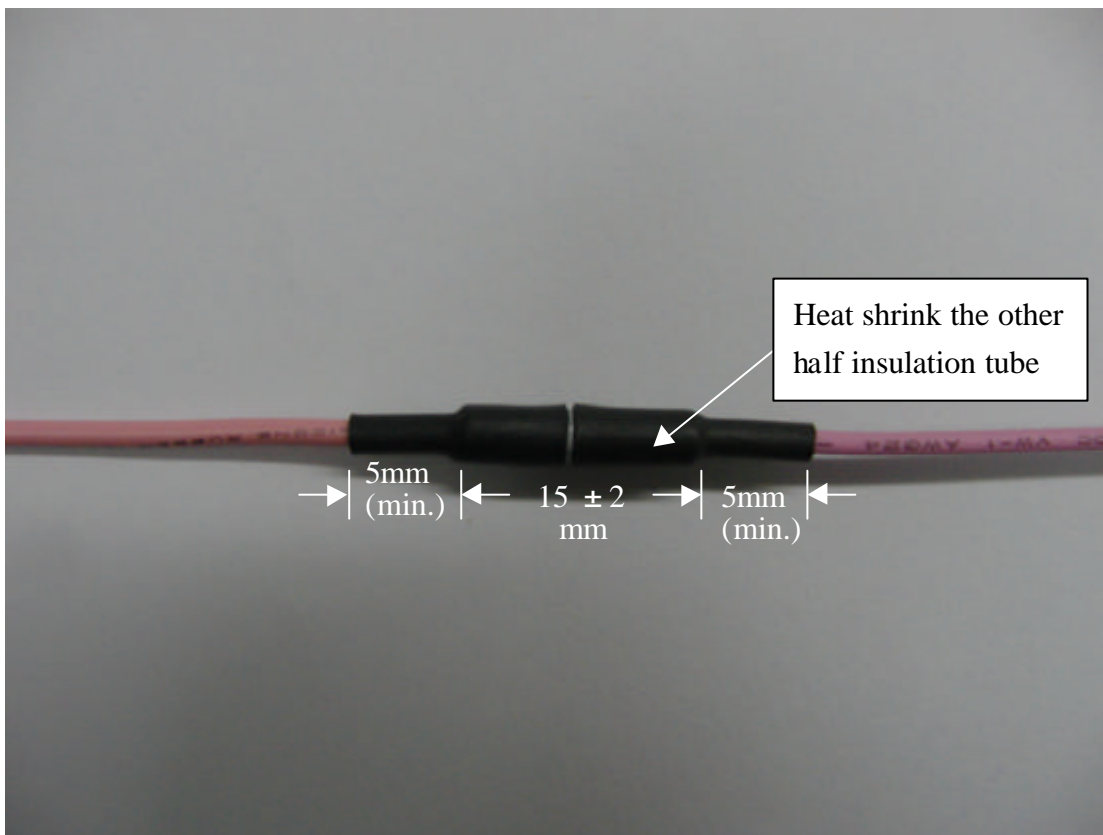
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A-3-3-6:Picture C-6



Insulation for extension wire

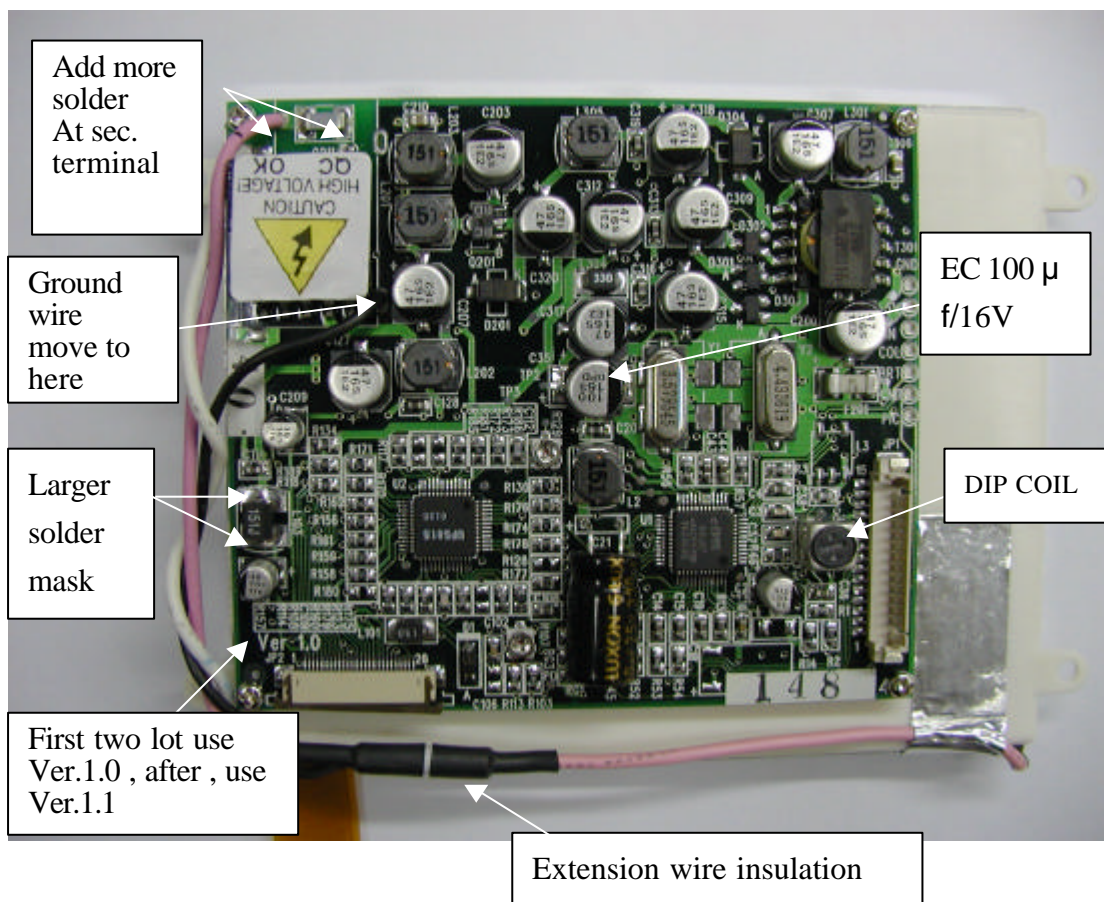
PICTURE C-6



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A-3-4:Picture D



Special request by MITSUBISHI

PICTURE D

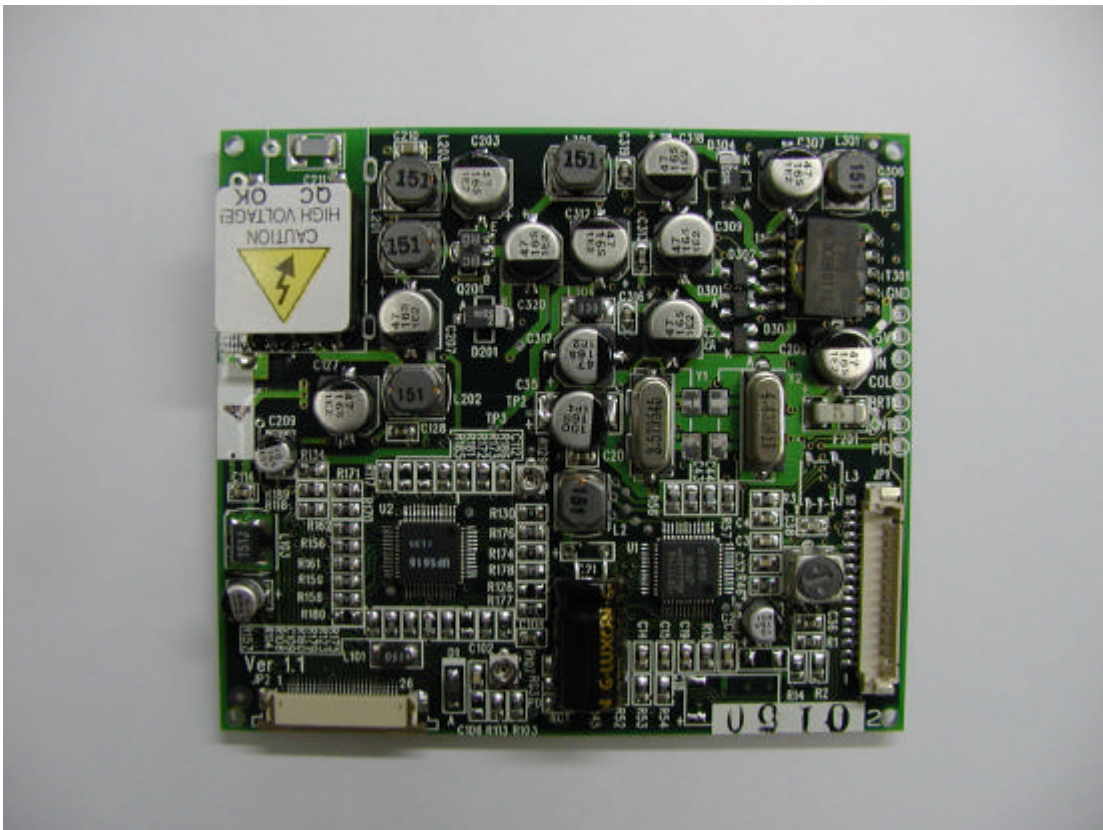
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A-3-5:Picture E



Ver.1.1 new PCB assembly for the 3rd shipment and after

PICTURE E



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APPENDIX B

UNIPAC OPTOELECTRONICS CORPORATION

Spec. No. 523-211-008

Version : 1

Total pages : 4

Date : 1996.04.17

INCOMING INSPECTION STANDARD FOR 4" A-GRADE TFT-LCD MODULES

MODEL NAME: _____

The content of this technical information
is subject to change without notice.
Please contact Unipac or its agent for
further information.

| Approved by | Checked by | Prepared by |
|-----------------------------------|--|------------------------------------|
| <i>F. C. Su</i> <i>P-18-96</i> | <i>Bryan</i> <i>Tseng</i> <i>9/9 '96</i> | <i>Jooy Chou</i> <i>9/6 '96</i> |

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SPEC NO.:523-211-008

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1.Scope:

The incoming inspection standards shall be applied to TFT-LCD Modules (hereinafter called "Modules") that supplied by Unipac Optoelectronics Corporation (hereinafter called "seller").

2.Incoming inspection:

The buyer(customer) shall inspect the modules within twenty calendar days of the delivery date (the "inspection period") at its own cost. The results of the inspection (acceptance or rejection) shall be recorded in writing, and a copy of this writing will be promptly sent to the seller.

The buyer may, under commercially reasonable reject procedures, reject an entire lot in the delivery involved if, within the inspection period, such samples of modules within such lot show an unacceptable number of defects in accordance with this incoming inspection standards, provided however that the buyer must notify the seller in writing of any such rejection promptly, and not later than within three business days of the end of the inspection period.

Should the buyer fail to notify the seller within the inspection period, the buyer's right to reject the modules shall be lapsed and the modules shall be deemed to have been accepted by the buyer.

3.Inspection sampling method:

Unless otherwise agree in writing, the method of incoming inspection shall be based on MIL-STD-105E.

3-1. Lot size: Quantity per shipment lot per model.

3-2. Sampling type: Normal inspection, single sampling.

3-3. Sampling level: Level II.

3-4. Acceptable quality level (AQL):

3-4-1. Major defect: AQL=1.0%.

3-4-2. Minor defect: AQL=2.5%.

4.Inspection instruments:

4-1. A single 20W fluorescent lamp.

4-2. Pattern generator: Philips PM5518 or equivalent model.

4-3. Video board:Unipac video board or equivalent. The output of the signal should comply with the specification provided by Unipac.

4-4. Luminance colorimeter: Topcon BM-7 or equivalent model.

5.Inspection environment conditions:

5-1.Room temperature: 20 to 25 °C .

5-2.Humidity: 65 ± 5% R.H.



5-3.The viewing line should be perpendicular to the surface of the module.

6.Classification of defects:

Defects are classified as the major defects and minor defects according to the degree of defectiveness defined herein.

6-1.Major defects:

A Major defect is a defect that is likely to result in failure, or to reduce the usability of the product for its intended purpose.

6-1-1.Abnormal operation: modules cannot display normally.

6-1-2.Line defect.

6-1-3.There is serious distortion or sharp burr on mechanical housing.

6-1-4.Glass breakage.

6-2.Minor defects:

A minor defect is a defect that is not likely to reduce the usability of the product for its intended purpose.

6-2-1.Dot defect:

A.Inspection conditions:

a.Inspection distance : 35 ± 5 cm

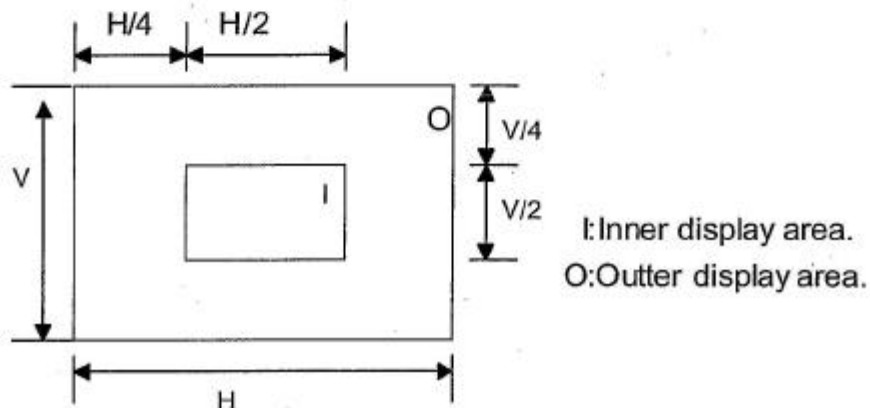
b.Inspection illumination : 100 to 150 Lux

c.Module's panel temperature : $30 \pm 5^\circ\text{C}$

d.Module's panel luminance : 100 nt or more

e.Inspection pattern:Full white,full black,red,green and blue screens

B.The definition of display area:





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SPEC NO.:523-211-008

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C.Criteria:(acceptable)

| Item | Zone | | Total |
|---|----------|----------|----------|
| | I | O | |
| Black dot defect | ≤ 2 | ≤ 3 | ≤ 5 |
| Bright dot defect (5 % ND filter) (red,green,blue,white) | ≤ 0 | ≤ 2 | ≤ 2 |
| Total | ≤ 2 | ≤ 5 | ≤ 7 |

Note 1.Dot defect is defined as the defective area of the dot is larger than 50% of the dot area and it is visible through the 5% N.D.filter.

2.The distance between black dot defects or black and bright dot defects should be more than 5 mm apart.

3.The distance between bright dot defects should be more than 15mm apart.

6-2-2.Scratches,dent and extraneous substances:

A.Inspection conditions:

a.Luminance : Use a single 20W fluorescent lamp for illumination.

b.Distance : 35cm or more.

B.Criteria:

| Item | | Acceptable criteria | |
|--------------------------|-------------------------------------|------------------------------------|------------|
| Scratch on the polarizer | $L \leq 0.5, W \leq 0.5$ | Ignore | |
| | $W \leq 0.1$ | Ignore | |
| | $0.5 < L \leq 10, 0.1 < W \leq 0.5$ | $N \leq 4$ | |
| | $10 < L, 0.1 < W$ | None | |
| | $0.5 < W$ | None | |
| Dent on the polarizer | $D \leq 0.25$ | Ignore | |
| | $0.25 < D \leq 0.5$ | $N \leq 4$ | |
| | $0.5 < D$ | None | |
| Extraneous substances | Black spots | $D \leq 0.25$ | Ignore |
| | | $0.25 < D \leq 0.5$ | $N \leq 3$ |
| | | $0.5 < D$ | None |
| | Naps | $L \leq 0.5, W \leq 0.5$ | Ignore |
| | | $W \leq 0.1$ | Ignore |
| | | $0.5 < L \leq 3, 0.1 < W \leq 0.5$ | $N \leq 3$ |
| | | $3 < L, 0.1 < W$ | None |
| | | $0.5 < W$ | None |

Note:The extraneous substance is defined as it is appears when the module is power on.



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SPEC NO.:523-211-008
PAGE :4/4

6-2-3. Display non-uniformity:

A. Inspection condition

- a. Inspection distance : 35 ± 5 cm.
- b. Inspection illumination : 100 to 150 Lux.
- c. Module's panel temperature : $30 \pm 5^{\circ}\text{C}$.
- d. Module's panel luminance : 100 nt or more.

B. Criteria:(acceptable)

The non-uniformity should not be visible through 1% N.D. filter.

6-2-4. Afterimage:

After displaying a pattern for 5 seconds then switch to a different Pattern, the previous pattern should disappear within 10 seconds.

7. Inspection judgement:

- 7-1. The judgement of the shipped lot(acceptance or rejection) shall follow the sampling plan of MIL-STD-105E, single sampling, normal inspection, level II .
- 7-2. If the number of defects is equal to or less than the applicable acceptance level, the lot shall be accepted.
- 7-3. If the number of defects is more than the applicable acceptance level, the lot shall be rejected and the buyer should inform the seller of the result of incoming inspection in writing.



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Appendix C: Bill of Material

Part I. BOM of PMLCM140RM-MB

| Items | Description | Unit | Quantity | Remark |
|---------------|--|------|----------|--------|
| 99PMCAD40R-MB | PMCAD40R for Mitsubishi | PC | 1 | Note 1 |
| 70B1008070 | BAZEL 99*78.9*7mm SUS304 T=0.3 | PC | 1 | |
| 72C2426B80 | PLASTIC CASE 992*792*84mm | PC | 1 | |
| 74XN025050 | SCREW NICKO PLATED P2*5T2-NI 20 ϕ *5.0mm l | PC | 4 | |
| 76BE150141 | ANTI-STATIC BAG I 5cm*14cm | PC | 1 | |
| 76BE951151 | EPE SHEET L=95 W=115 T=1mm | PC | 1 | |
| 76PO151601 | WARING STICKER 16*15mm | PC | 1 | |
| 76T7401200 | AL. STICKER GCTA-12 40*12mm | PC | 1 | |
| 86U1500010 | GLASS FIBER SILICON TUBE 105°C 600V 1.5 ϕ WHITE | PC | 1 | |
| 86U3015500 | HEAT SHUMP TUBE 3 ϕ *1.5cm*0.25mm TYP | PC | 2 | |
| 93OUP040D01 | LCD PANEL OUP040D01 | PC | 1 | |
| 94W1011401 | RUBBER WIRE UL:3239#24*105 \pm 5 mm PINK | PC | 1 | |
| 94W7090400 | RUBBER WIRE UL:1007#24*90 \pm 5 mm BLACK | PC | 1 | |

Note 1. Please refer to Part II for the detail.

Part II. BOM of 99PMCAD40R-MB

| Items | Description | Unit | Quantity | Remark |
|------------|-------------------------------|------|----------|---|
| 30R61802FG | RES 0603 18K \pm 1% 1/16W | PC | 1 | R13 |
| 30R63482FG | RES 0603 34.8K \pm 1% 1/16W | PC | 1 | R210 |
| 30T6000JGT | RES 0603 0 \pm 5% 1/16W | PC | 12 | RV1 RG1 RG2 RG3 RG5 RG6 R14 R55 R130 R174 RVSO |
| 30T6101JGT | RES 0603 100 \pm 5% 1/16W | PC | 10 | R7 R8 R9 R114 R117 R118 R135 R158 R159 R161 |
| 30T6102JGT | RES 0603 1K \pm 5% 1/16W | PC | 7 | R10 R123 R151 R216 R308 R212 R213 |
| 30T6103JGT | RES 0603 10K \pm 5% 1/16W | PC | 35 | R18-R45 R51 R110 R122 R127 R176 R177 R178 R187 R188 R189 RNP |
| 30T6104JGT | RES 0603 100K \pm 5% 1/16W | PC | 1 | R169 |
| 30T6105JGT | RES 0603 1M \pm 5% 1/16W | PC | 3 | R3 R105 R108 |
| 30T6106JGT | RES 0603 10M \pm 5% 1/16W | PC | 1 | R46 |
| 30T6121JGT | RES 0603 120 \pm 5% 1/16W | PC | 1 | R209 |
| 30T6152JGT | RES 0603 1.5K \pm 5% 1/16W | PC | 2 | R49 R57 |
| 30T6153JGT | RES 0603 15K \pm 5% 1/16W | PC | 4 | R120 R124 R154 R310 |
| 30T6183JGT | RES 0603 18K \pm 5% 1/16W | PC | 2 | R214 R313 |
| 30T6203JGT | RES 0603 20K \pm 5% 1/16W | PC | 2 | R42 R43 |
| 30T6204JGT | RES 0603 200K \pm 5% 1/16W | PC | 1 | R125 |
| 30T6223JGT | RES 0603 22K \pm 5% 1/16W | PC | 1 | R139 |
| 30T6224JGT | RES 0603 220K \pm 5% 1/16W | PC | 1 | R203 |
| 30T6242JGT | RES 0603 2.4K \pm 5% 1/16W | PC | 2 | R113 R160 |
| 30T6243JGT | RES 0603 24K \pm 5% 1/16W | PC | 1 | R109 |
| 30T6273JGT | RES 0603 27K \pm 5% 1/16W | PC | 1 | R17 |

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| | | | | |
|------------|--------------------------------|----|----|---|
| 30T6302JGT | RES 0603 3K ±5% 1/16W | PC | 2 | R56 R126 |
| 30T6303JGT | RES 0603 30K ±5% 1/16W | PC | 1 | R303 |
| 30T6331JGT | RES 0603 330 ±5% 1/16W | PC | 1 | R50 |
| 30T6333JGT | RES 0603 33K ±5% 1/16W | PC | 6 | R39 R208 R215 R305 R306 R314 |
| 30T6334JGT | RES 0603 330K ±5% 1/16W | PC | 1 | R16 |
| 30T6390JGT | RES 0603 39 ±5% 1/16W | PC | 2 | R1 R2 |
| 30T6393JGT | RES 0603 39K ±5% 1/16W | PC | 6 | R38 R121 R201 R202 R301 R302 |
| 30T6471JGT | RES 0603 470 ±5% 1/16W | PC | 2 | R206 R207 |
| 30T6472JGT | RES 0603 4.7K ±5% 1/16W | PC | 3 | R103 R115 R116 |
| 30T6473JGT | RES 0603 47K ±5% 1/16W | PC | 1 | R111 |
| 30T6474JGT | RES 0603 470K ±5% 1/16W | PC | 1 | R11 |
| 30T6513JGT | RES 0603 51K ±5% 1/16W | PC | 1 | R309 |
| 30T6561JGT | RES 0603 560 ±5% 1/16W | PC | 12 | R12 R134 R156 R157 R162 R170 R171 R172 R173 R186 R307 RCOL |
| 30T6562JGT | RES 0603 5.6K ±5% 1/16W | PC | 3 | R6 R47 R48 |
| 30T6683JGT | RES 0603 68K ±5% 1/16W | PC | 1 | R112 |
| 30T6750JGT | RES 0603 75 ±5% 1/16W | PC | 3 | R52 R53 R54 |
| 30T6822JGT | RES 0603 8.2K ±5% 1/16W | PC | 2 | R5 R211 |
| 30T6823JGT | RES 0603 82K ±5% 1/16W | PC | 1 | R106 |
| 30VS1031A0 | VR 10KV 0.15W 3mm EVM3YSX50B14 | PC | 3 | R107 R129 VCOM |
| 30VS5021A0 | VR 5KV 0.15W 3mm EVM3YSX 50B53 | PC | 1 | VR301 |
| 30VS5031A0 | VR 50KV 0.15W 3mm EVM3YSX50B54 | PC | 11 | GM2 VDCD TIN SBR SBB RGB PIC GM0 COL CNT BRT |
| 33B56A0004 | X'FMR BLC13H 56A-0004 DC/AC | PC | 1 | T201 |
| 33EWT32790 | XFMR ER11/5 WT3279R1 DC/DC | PC | 1 | T301 |
| 34D2306670 | COIL DRUM E5S-23uH±4%-03 DIP | PC | 1 | L3 |
| 35D1515560 | INDU CHOKE 150uH 10% SI65-151K | PC | 6 | L2 L201 L202 L203 L301 L305 |
| 35W1503320 | IND-CHIP 15uH 5%NL322522T-150J | PC | 1 | L101 |
| 35W151J450 | INDUC-CHIP 150uH 10%NLC453232T | PC | 1 | L103 |
| 35W2203320 | IND-CHIP 22uH 5%NL322522T-220J | PC | 2 | L1 L4 |
| 35W3303320 | IND-CHIP 33uH10%NL322522T-330K | PC | 2 | L302 L304 |
| 37Q358B310 | CRYSTAL 3.579545MHZ 30ppm 11. | PC | 1 | Y1 |
| 37Q443B310 | CRYSTAL 4.433619MHZ 30ppm 11.8 | PC | 1 | Y2 |
| 40A1000160 | E/CAP MAT-10uF/16V VS D4*5.4 | PC | 3 | C2 C113 C209 |
| 40A1010160 | E/CAP SMT100uF/16V VS D6.3*5.4 | PC | 1 | C35 |
| 40A4708160 | CAP ELEC 47uF 85 16V 6.3 | PC | 11 | C200 C203 C307 C312 C127 C207 C309 C315 C317 C318 C320 |
| 40E331A251 | Cap-E 330uF 105 25V D8*20 LZ | PC | 1 | C21 |
| | Cap-MPPS 0.047uF ±10% 100V | PC | 1 | C208 (Note 1) |
| 40M101JHN6 | CM 100pF ±5% 50V NPO 0603 | PC | 1 | C1 |
| 40M103KHX6 | CM 0.01uF ±10% 50V X7R 0603 | PC | 16 | C6 C22-C32 C37 C39 C40 C308 |
| 40M104ZEY6 | CM 0.1uF +80%-20% 25V Y5V 0603 | PC | 17 | C4 C13 C14 C15 C19 C20 C34 C105 C107 C108 C114 C119 C128 C310 C313 C316 C319 |
| 40M105ZEY8 | CM 1uF +80% -20% 25V Y5V 0805 | PC | 6 | C8 C9 C10 C12 C210 C306 |
| 40M180JHN6 | CM 18pF ±5% 50V NPO 0603 | PC | 2 | C43 C44 |
| 40M221KHX6 | CM 220pF ±10% 50V X7R 0603 | PC | 2 | C110 C111 |
| 40M222KHX6 | CM 2200pF ±10% 50V X7R 0603 | PC | 1 | C102 |
| 40M225ZCYC | CM 2.2uF +80%-20% 16V Y5V 1206 | PC | 1 | C103 |

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|------------|--------------------------------|----|---|--------------------------|
| 40M391JHN6 | CM 390pF ±5% 50V NPO 0603 | PC | 1 | C112 |
| 40M471JHN6 | CM 470pF ±5% 50V NPO 0603 | PC | 5 | C205 C206 C301 C302 C305 |
| 40M473KCX6 | CM 0.047uF ±10% 16V X7R 0603 | PC | 1 | C3 |
| 40M474ZCY8 | CM 0.47uF +80-20% 16V Y5V 0805 | PC | 3 | C201 C202 C304 |
| 40M560JHN6 | CM 56pF ±5% 50V NPO 0603 | PC | 2 | C38 C42 |
| 40M561JHN6 | CM 560pF ±5% 50V NPO 0603 | PC | 1 | C101 |
| 40M680JHN6 | CM 68pF ±5% 50V NPO 0603 | PC | 1 | C109 |
| 40M681JHN6 | CM 680pF ±5% 50V NPO 0603 | PC | 1 | C36 |
| 40M682KHX6 | CM 6800pF ±10% 50V X7R 0603 | PC | 1 | C16 |
| 40M820JHN6 | CM 82pF ±5% 50V NPO 0603 | PC | 1 | C41 |
| 40M821JHN6 | CM 820pF ±5% 50V NPO 0603 | PC | 1 | C11 |
| 40T106MCB0 | Cap-T 10uF ±20% 16V 3528 B-Cas | PC | 4 | C33 C121 C125 C311 |
| 40T474MGA0 | Cap Tan 0.47uF ±20% 35V 3216 | PC | 1 | C7 |
| 40V120KRNH | CV 12pF ±10% 3KV NPO 1808 | PC | 1 | C211 |
| 50BB1260P1 | Transistor 2SB1260 PNP SOT-89 | PC | 1 | Q201 |
| 50CA1037P0 | TRANS 2SA1037AKR PNP 3P SMT3 | PC | 2 | Q2 Q101 |
| 50DIMZ1AD0 | TR IMZ1A NPN+PNP 6PIN SMT6 | PC | 2 | QM201 QM301 |
| 50DN4501N0 | TR MODULE #XN4501 NPN 6PIN | PC | 1 | QM1 |
| 50PD1898N0 | TRANSISTOR 2SD1898T100R-T NPN | PC | 3 | Q301 Q202 Q203 |
| 50SC2412N0 | TRANSISTOR 2SC2412K SC-59 NPN | PC | 1 | Q1 |
| 52B160L4K0 | DIODE SCHOTTKY RB160L-40 PMDS | PC | 2 | D201 D304 |
| 52SAN212A0 | DIODE SWITCHING DAN212K SMD3 | PC | 4 | D302 D303 D3 D301 |
| 52VMA335L0 | Diode Variable MA335 SOD-323 | PC | 1 | D1 |
| 56AUPS15V0 | IC ASIC UPS015 48PIN | PC | 1 | U2 |
| 56LC4053P0 | IC LOGIC 74HC4053 16PIN | PC | 1 | U6 |
| 56M2107FD0 | IC OP AMP NJM2107F 5PIN MTP-5 | PC | 1 | U3 |
| 56M3414AK0 | IC OP AMP NJM3414AM 8PIN DMP8 | PC | 1 | U5 |
| 56PA9743P0 | IC PWM BA9743AFV SSOP-B16 | PC | 1 | U201 |
| 56V3Y29AV0 | IC VIDEO IR3Y29AM 48PIN | PC | 1 | U1 |
| 60F01125N0 | FUSE 1A 125V SLO-BLO SMD | PC | 1 | F201 |
| 84F2605000 | WAFER 26P P: 0.5mm 08-6210-026 | PC | 1 | JP2 |
| 84W15125S0 | WAFER 15PIN P:1.25 180° SMD | PC | 1 | JP1 |
| 98PMPCB015 | PCB PMPCB016 REV.1.1 | PC | 1 | PCB |

Note 1: This part is provided by Mitsubishi