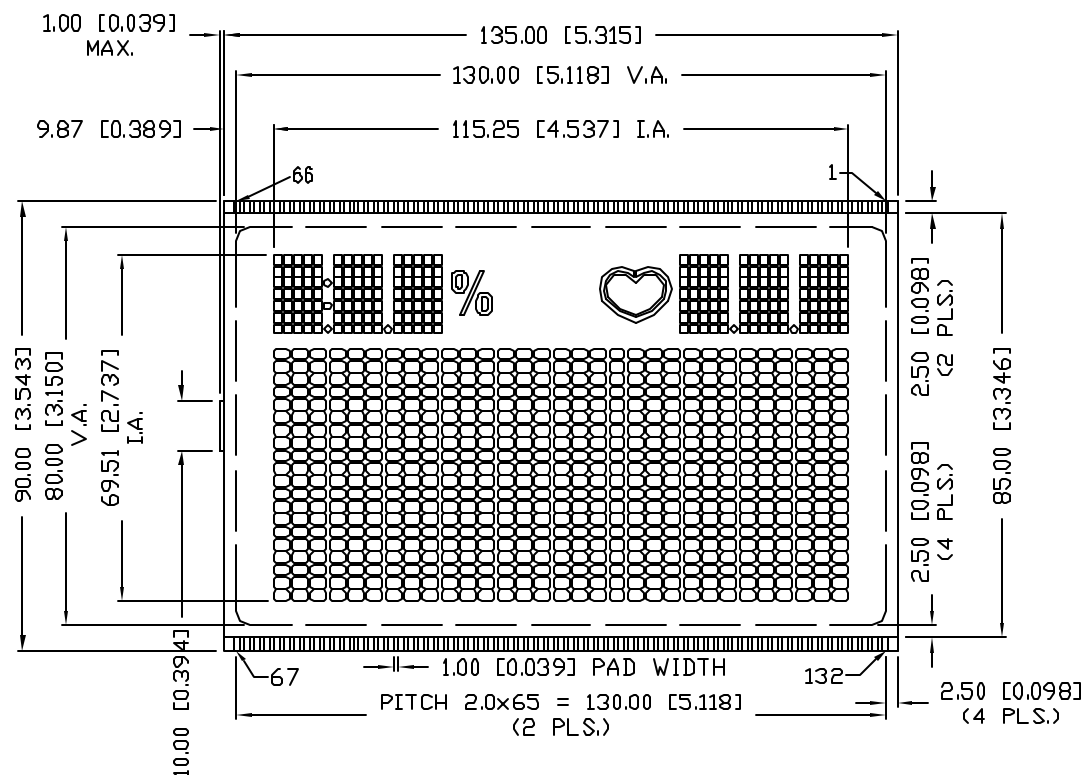


UNCONTROLLED DOCUMENT

PART NUMBER  
LCD-S3120M4OSN-DREV.  
A

| REV. | E.C.N. NUMBER AND REVISION COMMENTS | DATE     |
|------|-------------------------------------|----------|
| A    | E.C.N. #11148.                      | 02.09.07 |



| CHARACTERISTICS    |                     |
|--------------------|---------------------|
| FLUID TYPE:        | STN                 |
| BACKGROUND COLOR:  | BLUE                |
| VIEWING DIRECTION: | 6:00                |
| DISPLAY MODE:      | TRANSMISSIVE        |
| OPERATING VOLTAGE: | 8.0V A.C.           |
| OPERATING TEMP.    | 0°C TO 50°C         |
| STORAGE TEMP.      | -20°C TO 70°C       |
| DRIVING METHODE:   | 1/16 DUTY, 1/5 BIAS |
| CONNECTION TYPE:   | ELASTOMER           |

1.10 [0.043]  
1.10 [0.043]  
2.80 [0.110]  
MAX.

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REV.  
APART NUMBER  
LCD-S3120M4OSN-D

6 CHAR, 5x7 DOT MATRIX & 31x20 GRAPHIC ARRAY,  
LCD PANEL, STN BLUE, TRANSMISSIVE, 6:00 VIEW,  
VOP=8.0V, 1/16 DUTY, 1/5 BIAS; 0°C~50°C OPERATING TEMP.

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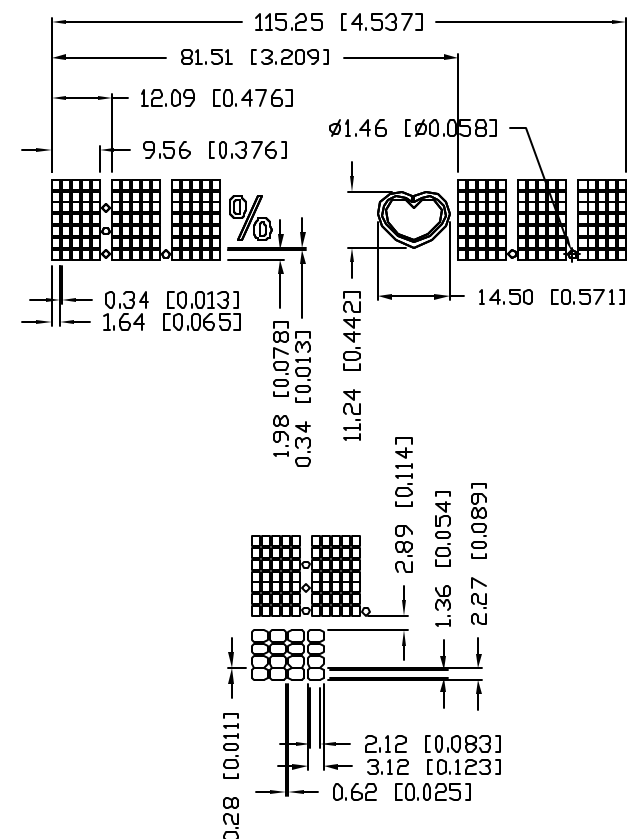
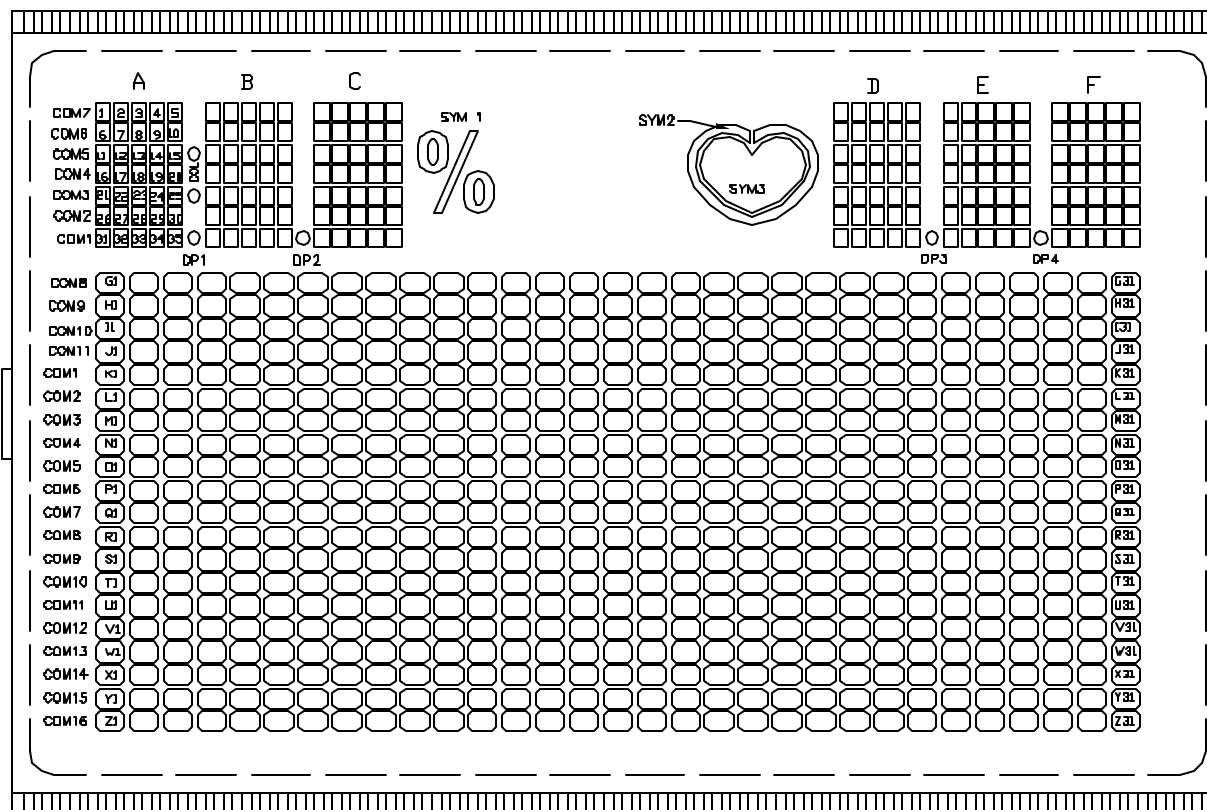


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|-----------------|-------------|--------------|---------------|
| DRAWN BY:<br>JC | CHECKED BY: | APPROVED BY: | DATE: 1.13.05 |
|                 |             |              | PAGE: 1 OF 7  |
|                 |             |              | SCALE: N/A    |



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PAGE: 2 OF 7

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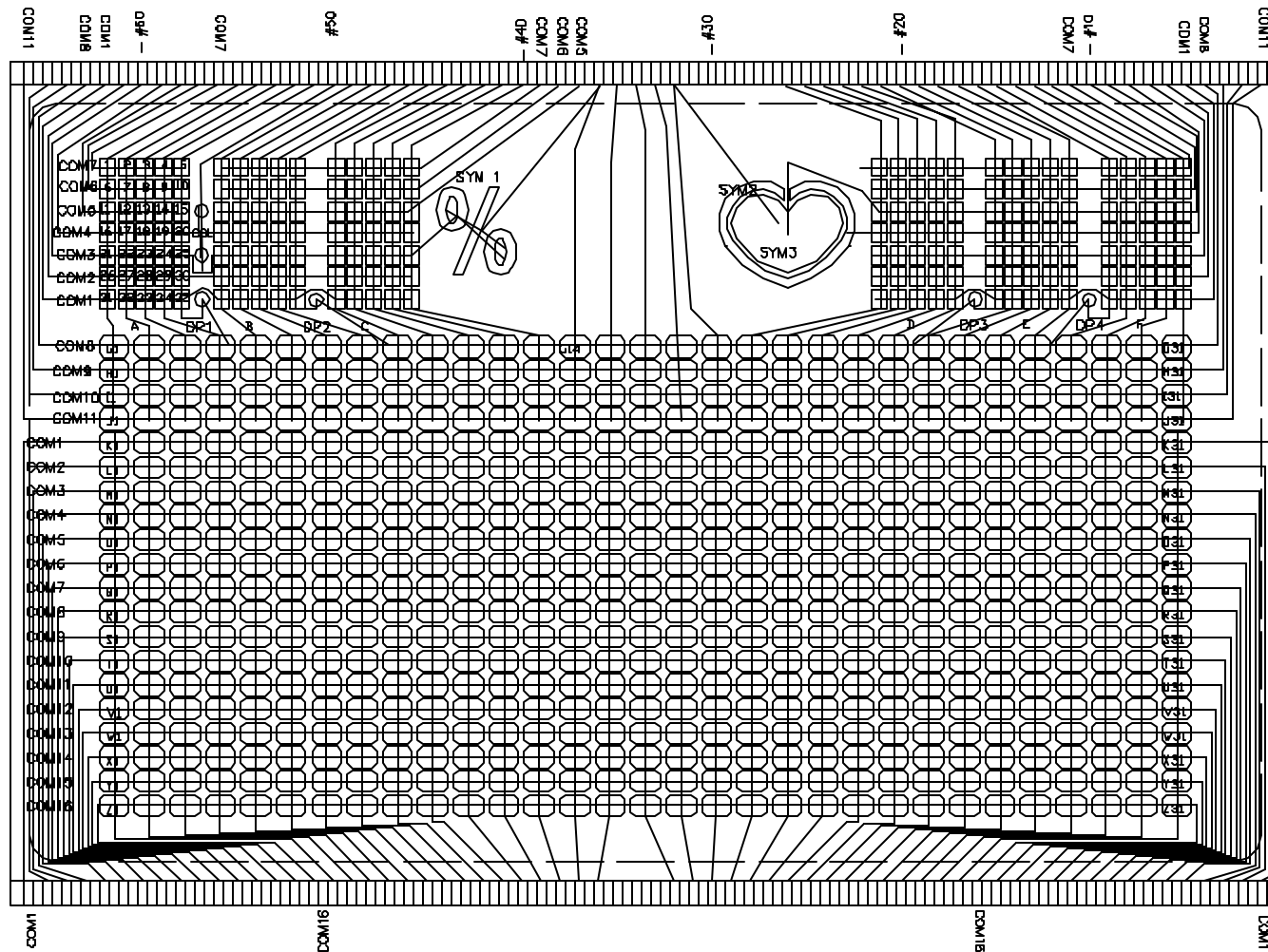
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LCD-S3120M4OSN-D

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REV. E.C.N. NUMBER AND REVISION COMMENTS

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SEE PAGE #1

| PIN# | COM1 | COM2 | COM3 | COM4 | COM5 | COM6 | COM7 | COM8 | COM9 | COM10 | COM11 | COM12 | COM13 | COM14 | COM15 | COM16 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | COM11 | -     | -     | -     | -     | -     |
| 2    | -    | -    | -    | -    | -    | -    | -    | -    | -    | COM10 | -     | -     | -     | -     | -     | -     |
| 3    | -    | -    | -    | -    | -    | -    | -    | -    | COM9 | -     | -     | -     | -     | -     | -     | -     |
| 4    | -    | -    | -    | -    | -    | -    | -    | COM8 | -    | -     | -     | -     | -     | -     | -     | -     |
| 5    | COM1 | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 6    | -    | COM2 | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 7    | -    | -    | COM3 | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 8    | -    | -    | -    | COM4 | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 9    | -    | -    | -    | -    | COM5 | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 10   | -    | -    | -    | -    | -    | COM6 | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 11   | -    | -    | -    | -    | -    | -    | COM7 | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 12   | F35  | F30  | F25  | F20  | F15  | F10  | F5   | G31  | H31  | I31   | J31   | -     | -     | -     | -     | -     |
| 13   | F34  | F29  | F24  | F19  | F14  | F9   | F4   | G30  | H30  | I30   | J30   | -     | -     | -     | -     | -     |
| 14   | F33  | F28  | F23  | F18  | F13  | F8   | F3   | G29  | H29  | I29   | J29   | -     | -     | -     | -     | -     |
| 15   | F32  | F27  | F22  | F17  | F12  | F7   | F2   | G28  | H28  | I28   | J28   | -     | -     | -     | -     | -     |
| 16   | F31  | F26  | F21  | F16  | F11  | F6   | F1   | DP4  | -    | -     | -     | -     | -     | -     | -     | -     |
| 17   | E35  | E30  | E25  | E20  | E15  | E10  | E5   | G27  | H27  | I27   | J27   | -     | -     | -     | -     | -     |
| 18   | E34  | E29  | E24  | E19  | E14  | E9   | E4   | G26  | H26  | I26   | J26   | -     | -     | -     | -     | -     |
| 19   | E33  | E28  | E23  | E18  | E13  | E8   | E3   | G25  | H25  | I25   | J25   | -     | -     | -     | -     | -     |
| 20   | E32  | E27  | E22  | E17  | E12  | E7   | E2   | G24  | H24  | I24   | J24   | -     | -     | -     | -     | -     |
| 21   | E31  | E26  | E21  | E16  | E11  | E6   | E1   | DP3  | -    | -     | -     | -     | -     | -     | -     | -     |
| 22   | D35  | D30  | D25  | D20  | D15  | D10  | D5   | G23  | H23  | I23   | J23   | -     | -     | -     | -     | -     |
| 23   | D34  | D29  | D24  | D19  | D14  | D9   | D4   | G22  | H22  | I22   | J22   | -     | -     | -     | -     | -     |
| 24   | D33  | D28  | D23  | D18  | D13  | D8   | D3   | G21  | H21  | I21   | J21   | -     | -     | -     | -     | -     |
| 25   | D32  | D27  | D22  | D17  | D12  | D7   | D2   | G20  | H20  | I20   | J20   | -     | -     | -     | -     | -     |
| 26   | D31  | D26  | D21  | D16  | D11  | D6   | D1   | G19  | H19  | I19   | J19   | -     | -     | -     | -     | -     |
| 27   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 28   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 29   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 30   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 31   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 32   | -    | -    | -    | SYM2 | SYM3 | -    | -    | Q18  | H18  | I18   | J18   | -     | -     | -     | -     | -     |

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|    |      |      |      |      |      |      |      |      |       |       |      |   |   |   |   |   |
|----|------|------|------|------|------|------|------|------|-------|-------|------|---|---|---|---|---|
| 33 | -    | -    | -    | -    | -    | -    | -    | G17  | H17   | I 17  | J 17 | - | - | - | - | - |
| 34 | -    | -    | -    | -    | -    | -    | -    | G18  | H18   | I 18  | J 18 | - | - | - | - | - |
| 35 | -    | -    | -    | -    | -    | -    | -    | G15  | H15   | I 15  | J 15 | - | - | - | - | - |
| 36 | -    | -    | SYM1 | -    | -    | -    | -    | G14  | H14   | I 14  | J 14 | - | - | - | - | - |
| 37 | -    | -    | -    | -    | COM5 | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 38 | -    | -    | -    | -    | -    | COM6 | -    | -    | -     | -     | -    | - | - | - | - | - |
| 39 | -    | -    | -    | -    | -    | -    | COM7 | -    | -     | -     | -    | - | - | - | - | - |
| 40 | C35  | C30  | C25  | C20  | C15  | C10  | C5   | G13  | H13   | I 13  | J 13 | - | - | - | - | - |
| 41 | C34  | C29  | C24  | C19  | C14  | C9   | C4   | G12  | H12   | I 12  | J 12 | - | - | - | - | - |
| 42 | C33  | C28  | C23  | C18  | C13  | C8   | C3   | G11  | H11   | I 11  | J 11 | - | - | - | - | - |
| 43 | C32  | C27  | C22  | C17  | C12  | C7   | C2   | G10  | H10   | I 10  | J 10 | - | - | - | - | - |
| 44 | C31  | C26  | C21  | C16  | C11  | C6   | C1   | G9   | H9    | I 9   | J 9  | - | - | - | - | - |
| 45 | B35  | B30  | B25  | B20  | B15  | B10  | B5   | DP2  | -     | -     | -    | - | - | - | - | - |
| 46 | B34  | B29  | B24  | B19  | B14  | B9   | B4   | G8   | H8    | I 8   | J 8  | - | - | - | - | - |
| 47 | B33  | B28  | B23  | B18  | B13  | B8   | B3   | G7   | H7    | I 7   | J 7  | - | - | - | - | - |
| 48 | B32  | B27  | B22  | B17  | B12  | B7   | B2   | G6   | H6    | I 6   | J 6  | - | - | - | - | - |
| 49 | B31  | B26  | B21  | B16  | B11  | B6   | B1   | G5   | H5    | I 5   | J 5  | - | - | - | - | - |
| 50 | -    | -    | -    | COL  | -    | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 51 | A35  | A30  | A25  | A20  | A15  | A10  | A5   | DP1  | -     | -     | -    | - | - | - | - | - |
| 52 | A34  | A29  | A24  | A19  | A14  | A9   | A4   | G4   | H4    | I 4   | J 4  | - | - | - | - | - |
| 53 | A33  | A28  | A23  | A18  | A13  | A8   | A3   | G3   | H3    | I 3   | J 3  | - | - | - | - | - |
| 54 | A32  | A27  | A22  | A17  | A12  | A7   | A2   | G2   | H2    | I 2   | J 2  | - | - | - | - | - |
| 55 | A31  | A26  | A21  | A16  | A11  | A6   | A1   | G1   | H1    | I 1   | J 1  | - | - | - | - | - |
| 56 | -    | -    | -    | -    | -    | -    | COM7 | -    | -     | -     | -    | - | - | - | - | - |
| 57 | -    | -    | -    | -    | -    | COM6 | -    | -    | -     | -     | -    | - | - | - | - | - |
| 58 | -    | -    | -    | -    | COM5 | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 59 | -    | -    | -    | COM4 | -    | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 60 | -    | -    | COM3 | -    | -    | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 61 | -    | COM2 | -    | -    | -    | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 62 | COM1 | -    | -    | -    | -    | -    | -    | -    | -     | -     | -    | - | - | - | - | - |
| 63 | -    | -    | -    | -    | -    | -    | COM8 | -    | -     | -     | -    | - | - | - | - | - |
| 64 | -    | -    | -    | -    | -    | -    | -    | COM9 | -     | -     | -    | - | - | - | - | - |
| 65 | -    | -    | -    | -    | -    | -    | -    | -    | COM10 | -     | -    | - | - | - | - | - |
| 66 | -    | -    | -    | -    | -    | -    | -    | -    | -     | COM11 | -    | - | - | - | - | - |

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| PIN# | COM1 | COM2 | COM3 | COM4 | COM5 | COM6 | COM7 | COM8 | COM9 | COM10 | COM11 | COM12 | COM13 | COM14 | COM15 | COM16 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 67   | COM1 | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 68   | -    | COM2 | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 69   | -    | -    | COM3 | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 70   | -    | -    | -    | COM4 | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 71   | -    | -    | -    | -    | COM5 | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 72   | -    | -    | -    | -    | -    | COM6 | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 73   | -    | -    | -    | -    | -    | -    | COM7 | -    | -    | -     | -     | -     | -     | -     | -     | -     |
| 74   | -    | -    | -    | -    | -    | -    | -    | COM8 | -    | -     | -     | -     | -     | -     | -     | -     |
| 75   | -    | -    | -    | -    | -    | -    | -    | -    | COM9 | -     | -     | -     | -     | -     | -     | -     |
| 76   | -    | -    | -    | -    | -    | -    | -    | -    | -    | COM10 | -     | -     | -     | -     | -     | -     |
| 77   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | COM11 | -     | -     | -     | -     | -     |
| 78   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | COM12 | -     | -     | -     | -     |
| 79   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | COM13 | -     | -     | -     |
| 80   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | COM14 | -     | -     |
| 81   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | COM15 | -     |
| 82   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | COM16 |
| 83   | K1   | L1   | M1   | N1   | O1   | P1   | Q1   | R1   | S1   | T1    | U1    | V1    | W1    | X1    | Y1    | Z1    |
| 84   | K2   | L2   | M2   | N2   | O2   | P2   | Q2   | R2   | S2   | T2    | U2    | V2    | W2    | X2    | Y2    | Z2    |
| 85   | K3   | L3   | M3   | N3   | O3   | P3   | Q3   | R3   | S3   | T3    | U3    | V3    | W3    | X3    | Y3    | Z3    |
| 86   | K4   | L4   | M4   | N4   | O4   | P4   | Q4   | R4   | S4   | T4    | U4    | V4    | W4    | X4    | Y4    | Z4    |
| 87   | K5   | L5   | M5   | N5   | O5   | P5   | Q5   | R5   | S5   | T5    | U5    | V5    | W5    | X5    | Y5    | Z5    |
| 88   | K6   | L6   | M6   | N6   | O6   | P6   | Q6   | R6   | S6   | T6    | U6    | V6    | W6    | X6    | Y6    | Z6    |
| 89   | K7   | L7   | M7   | N7   | O7   | P7   | Q7   | R7   | S7   | T7    | U7    | V7    | W7    | X7    | Y7    | Z7    |
| 90   | K8   | L8   | M8   | N8   | O8   | P8   | Q8   | R8   | S8   | T8    | U8    | V8    | W8    | X8    | Y8    | Z8    |
| 91   | K9   | L9   | M9   | N9   | O9   | P9   | Q9   | R9   | S9   | T9    | U9    | V9    | W9    | X9    | Y9    | Z9    |
| 92   | K10  | L10  | M10  | N10  | O10  | P10  | Q10  | R10  | S10  | T10   | U10   | V10   | W10   | X10   | Y10   | Z10   |
| 93   | K11  | L11  | M11  | N11  | O11  | P11  | Q11  | R11  | S11  | T11   | U11   | V11   | W11   | X11   | Y11   | Z11   |
| 94   | K12  | L12  | M12  | N12  | O12  | P12  | Q12  | R12  | S12  | T12   | U12   | V12   | W12   | X12   | Y12   | Z12   |
| 95   | K13  | L13  | M13  | N13  | O13  | P13  | Q13  | R13  | S13  | T13   | U13   | V13   | W13   | X13   | Y13   | Z13   |
| 96   | K14  | L14  | M14  | N14  | O14  | P14  | Q14  | R14  | S14  | T14   | U14   | V14   | W14   | X14   | Y14   | Z14   |
| 97   | K15  | L15  | M15  | N15  | O15  | P15  | Q15  | R15  | S15  | T15   | U15   | V15   | W15   | X15   | Y15   | Z15   |
| 98   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -     | -     | -     | -     | -     | -     |

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\*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.

A

PART NUMBER

LCD-S3120M4OSN-D

6 CHAR, 5x7 DOT MATRIX & 31x20 GRAPHIC ARRAY,  
LCD PANEL, STN BLUE, TRANSMISSIVE, 6:00 VIEW,  
V0p=8.0V, 1/16 DUTY, 1/5 BIAS; 0°C~50°C OPERATING TEMP.

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## 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.



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DATE: 1.13.05

PAGE: 6 OF 7

SCALE: N/A

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REV. E.C.N. NUMBER AND REVISION COMMENTS

DATE

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SEE PAGE #1

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| 99  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| 100 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -     |
| 101 | K16 | L16 | M16 | N16 | O16 | P16 | Q16 | R16 | S16 | T16 | U16 | V16 | W16 | X16 | Y16 | Z16   |
| 102 | K17 | L17 | M17 | N17 | O17 | P17 | Q17 | R17 | S17 | T17 | U17 | V17 | W17 | X17 | Y17 | Z17   |
| 103 | K18 | L18 | M18 | N18 | O18 | P18 | Q18 | R18 | S18 | T18 | U18 | V18 | W18 | X18 | Y18 | Z18   |
| 104 | K19 | L19 | M19 | N19 | O19 | P19 | Q19 | R19 | S19 | T19 | U19 | V19 | W19 | X19 | Y19 | Z19   |
| 105 | K20 | L20 | M20 | N20 | O20 | P20 | Q20 | R20 | S20 | T20 | U20 | V20 | W20 | X20 | Y20 | Z20   |
| 106 | K21 | L21 | M21 | N21 | O21 | P21 | Q21 | R21 | S21 | T21 | U21 | V21 | W21 | X21 | Y21 | Z21   |
| 107 | K22 | L22 | M22 | N22 | O22 | P22 | Q22 | R22 | S22 | T22 | U22 | V22 | W22 | X22 | Y22 | Z22   |
| 108 | K23 | L23 | M23 | N23 | O23 | P23 | Q23 | R23 | S23 | T23 | U23 | V23 | W23 | X23 | Y23 | Z23   |
| 109 | K24 | L24 | M24 | N24 | O24 | P24 | Q24 | R24 | S24 | T24 | U24 | V24 | W24 | X24 | Y24 | Z24   |
| 110 | K25 | L25 | M25 | N25 | O25 | P25 | Q25 | R25 | S25 | T25 | U25 | V25 | W25 | X25 | Y25 | Z25   |
| 111 | K26 | L26 | M26 | N26 | O26 | P26 | Q26 | R26 | S26 | T26 | U26 | V26 | W26 | X26 | Y26 | Z26   |
| 112 | K27 | L27 | M27 | N27 | O27 | P27 | Q27 | R27 | S27 | T27 | U27 | V27 | W27 | X27 | Y27 | Z27   |
| 113 | K28 | L28 | M28 | N28 | O28 | P28 | Q28 | R28 | S28 | T28 | U28 | V28 | W28 | X28 | Y28 | Z28   |
| 114 | K29 | L29 | M29 | N29 | O29 | P29 | Q29 | R29 | S29 | T29 | U29 | V29 | W29 | X29 | Y29 | Z29   |
| 115 | K30 | L30 | M30 | N30 | O30 | P30 | Q30 | R30 | S30 | T30 | U30 | V30 | W30 | X30 | Y30 | Z30   |
| 116 | K31 | L31 | M31 | N31 | O31 | P31 | Q31 | R31 | S31 | T31 | U31 | V31 | W31 | X31 | Y31 | Z31   |
| 117 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM16 |
| 118 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM15 |
| 119 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM14 |
| 120 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM13 |
| 121 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM12 |
| 122 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM11 |
| 123 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM10 |
| 124 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM9  |
| 125 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM8  |
| 126 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM7  |
| 127 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM6  |
| 128 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM5  |
| 129 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM4  |
| 130 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM3  |
| 131 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM2  |
| 132 | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | COM1  |

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