2) LEAD FRAME: COPPER, C-194F/H
1) BODY; PLASTIC, SEMICONDUCTOR GRADE

Notes: (Unless Otherwise Specified)
1) BODY; PLASTIC, SEMICONDUCTOR GRADE
2) LEAD FRAME: COPPER, C-194F/H
3) LEAD FRAME PLATING: Ni, Pd, Au
4) FRAME THICNESS: 0.203mm
5) DIE PAD: 2.5 X 2.5mm
6) JEDEC OUTLINE: MO-220
7) DIMENSIONS: MM

<table>
<thead>
<tr>
<th>TOLERANCE UNLESS NOTED</th>
<th>APPROVALS</th>
<th>DATE</th>
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<tbody>
<tr>
<td>X.X ± 0.05</td>
<td>DRAWN</td>
<td>MH</td>
</tr>
<tr>
<td>X.XX ± 0.01</td>
<td>CHECKED</td>
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<tr>
<td>X.XXX ± 0.005</td>
<td>ENG</td>
<td></td>
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<tr>
<td>X.XXXX ± 0.0005</td>
<td>MFG</td>
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ALL DIMENSIONS IN MILLIMETERS
THIRD ANGLE PROJECTION

TITLE: 24-LEAD 4mm P=0.5 mm M-QFN CAVITY PACKAGE

SCALE 15:1 SIZE A DWG. NO. 452460 M-QFN24W.5 REV A
DO NOT SCALE DRAWING SHEET 1 OF 4
TITLE:
24-LEAD 4mm P=0.5 mm
M-QFN CAVITY PACKAGE

SCALE
20:1

SIZE
A

DWG. NO.
452460

M-QFN24W.5

REV
A

DO NOT SCALE DRAWING

SHEET 2 OF 4
**Notes:** (Unless Otherwise Specified).
1) **DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.**
   DESIGNERS SHOULD USE THEIR OWN KNOWLEDGE BASE WHEN DESIGNING THE PCB.
2) **SURROUND EACH SIDE OF I/O PERIMETER PADS WITH 0.060~0.075 mm (NSMD) SOLDER MASK OPENING (2.4~3.0mils).** OPTIONALLY OK TO USE RECTANGLE (NSMD) MASK OPENING AROUND I/O PADS.
3) **ROUNDED PCB LAND PADS REDUCE SOLDER BRIDGING. PAD CHAMFER ANGLE MAY VARY**
4) **PCB LANDS SHOULD BE 0.2mm LONGER THAN THE PACKAGE I/O PADS.**
5) **THE WIDTH OF PERIMETER PCB PADS SHOULD MATCH (1:1) THE SAME WIDTH AS THE PACKAGE PADS.**
6) **REFER TO INDUSTRY REFERENCES SUCH AS IPC-SM-782 FOR PCB LAND PATTERN DESIGN.**
7) **THERMAL GROUND PADS MAY BE CHANGED TO SUITE REQUIREMENTS OF THE DESIGNER.**
   A. MAKE COPPER THERMAL PAD AS LARGE AS POSSIBLE.
   B. DRILL MULTIPLE THERMAL VIAS 0.25~0.33mm DIAMETER USING 0.8~1.2mm PITCH GRID.
   C. PLATE THERMAL VIA BARRELS WITH 1-OUNCE COPPER (18μm).
   D. TENT (COVER) THERMAL VIAS WITH SOLDER MASK 0.1mm LARGER THEN THE VIA DIAMETER.
8) **STENCIL DESIGN MAY BE CHANGED TO SUITE REQUIREMENTS OF THE DESIGNER.**
   A. LASER CUT STENCIL 0.125mm (5mil) THICK. APERTURE SIZE-TO-LAND RATIO OF 1:1.
   B. THE SOLDER PASTE OPENING IN THE THERMAL PAD AREA SHOULD BE A MATRIX ARRAY OF SMALLER APERTURES INSTEAD OF ONE LARGE APERTURE TO CONTROL PASTE AMOUNTS.
   C. APPLY 50% TO 80% SOLDER PASTE COVERAGE IN THE THERMAL PAD AREA.