TOP VIEW

SIDE VIEW

BOTTOM VIEW

PIN 1

A

4 0.41

2.4

A

4

6°

0.635

4 3.65 3.52

0.175±0.050 TYP

0.84

SECTION A-A

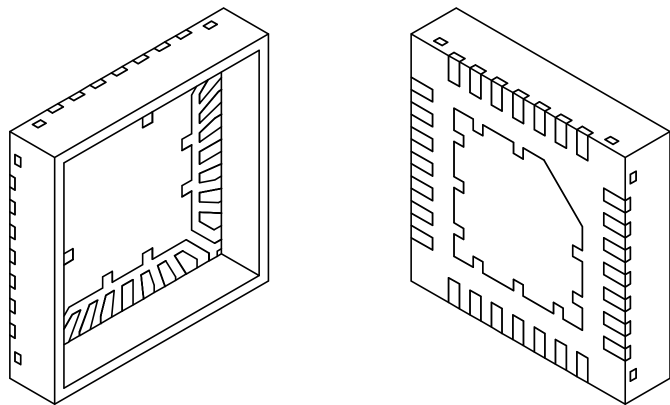
0.4 TYP. 0.20

PIN 1

4 2.40 2.4

2.40 0.4

4



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 THICKNESS: 0.203mm
5) DIE PAD: 2.40 X 2.40mm
6) JEDEC OUTLINE: MO-220

TOLERANCES UNLESS NOTED		APPROVALS		DATE
X.X	± 0.05	DRAWN	EDK	2/15/2012
X.XX	± 0.01	CHECKED		
X.XXX	± 0.005	ENG APPR.		
X.XXXX	± 0.0005	MFG APPR.		
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		Q.A.		
THIRD ANGLE PROJECTION		CUST.		
		REVISED		

Mirror Semiconductor
www.MirrorSemi.com

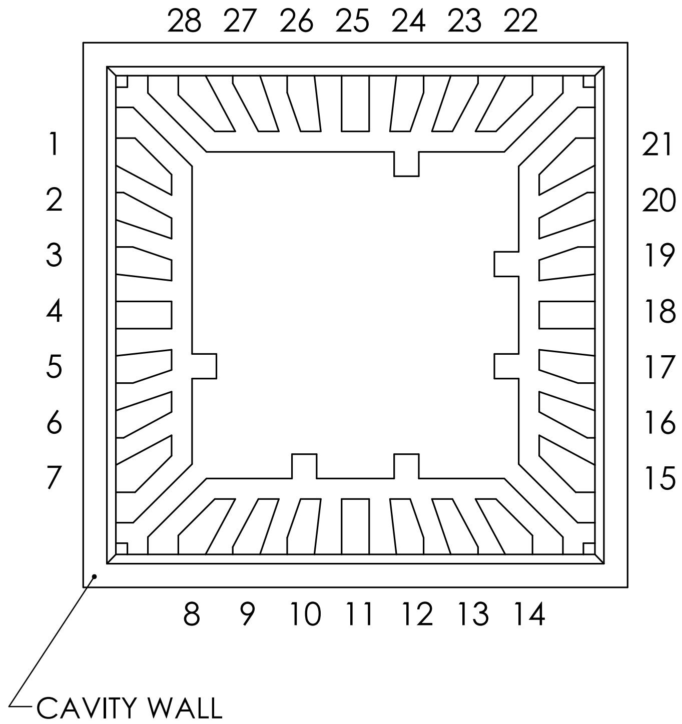
TITLE:

28-LEAD 4mm P=0.40mm
QFN CAVITY PACKAGE

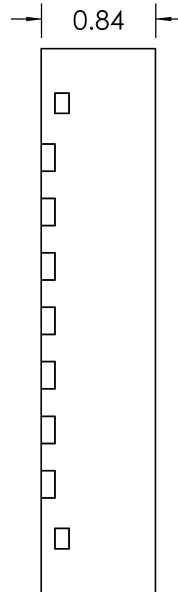
SCALE	SIZE	DWG. NO.	REV
18:1	**A**	**442870 M-QFN28W.4**	A

DO NOT SCALE DRAWING

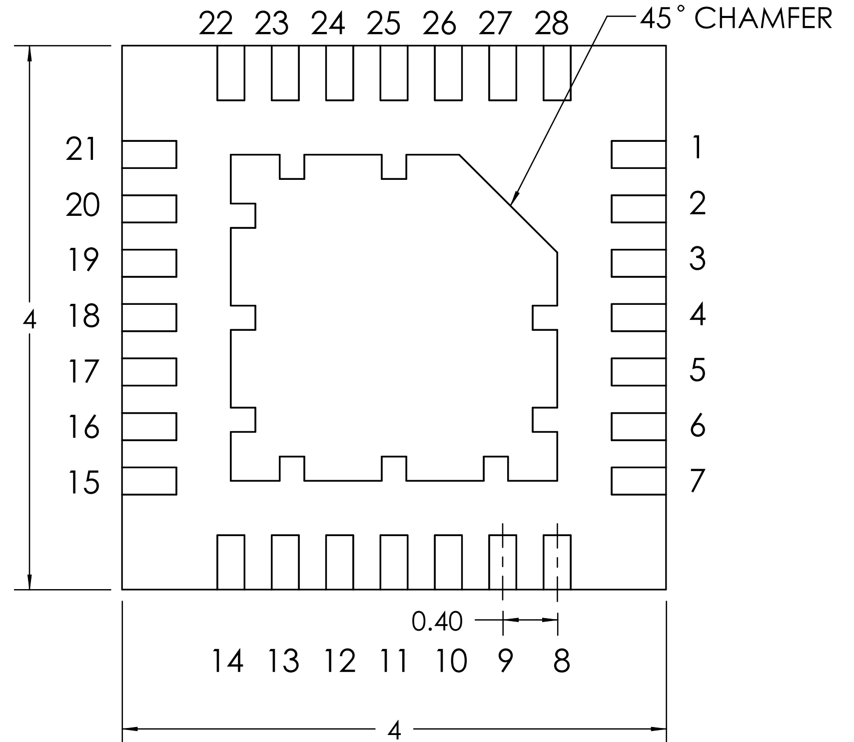
TOP VIEW



SIDE VIEW
(BEFORE LID ATTACH)



BOTTOM VIEW



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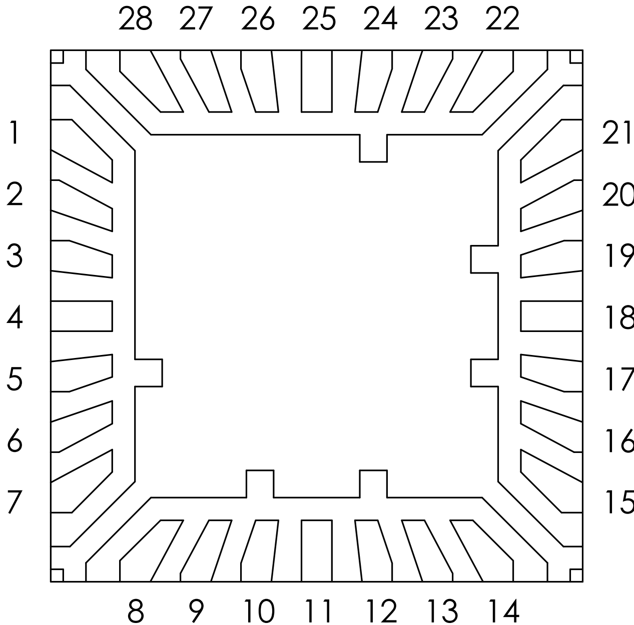
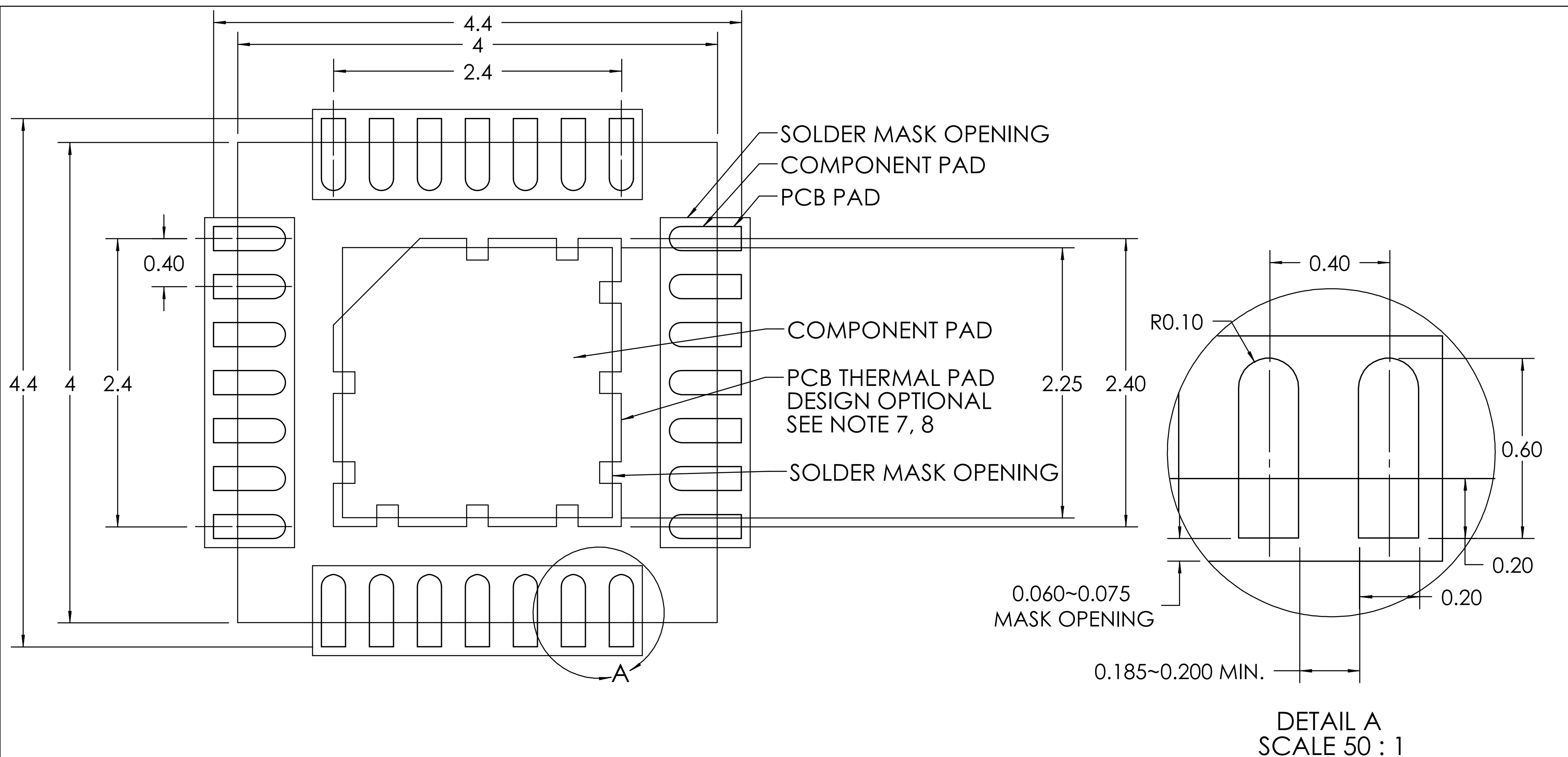
TITLE: 28-LEAD 4mm P=0.40mm QFN CAVITY PACKAGE LEAD NUMBERING			
SCALE **18:1**	SIZE **A**	DWG. NO. **442870** **M-QFN28W.4**	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 4	

BOND DIAGRAM



Mirror Semiconductor www.MirrorSemi.com			
TITLE: 28-LEAD 4mm P=0.40mm QFN CAVITY PACKAGE BOND DIAGRAM			
SCALE **20:1**	SIZE **A**	DWG. NO. **442870** **M-QFN28W.4**	REV A
DO NOT SCALE DRAWING		SHEET 3 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 (2.4~3.0mils) NSMD SOLDER MASK OPENING. 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 WIDTH OF 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 THAN 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 APERATURES INSTEAD OF ONE LARGE APERATURE TO CONTROL PASTE AMOUNTS.
   - C. APPLY 50% TO 80% SOLDER PASTE COVERAGE IN THE PAD AREA.

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TITLE: 28-LEAD 4mm P=0.40mm QFN CAVITY PACKAGE RECOMMENDED PCB LAYOUT			
SCALE	SIZE	DWG. NO.	REV
20:1	**A**	**442870** **M-QFN28W.4**	A
DO NOT SCALE DRAWING		SHEET 4 OF 4	