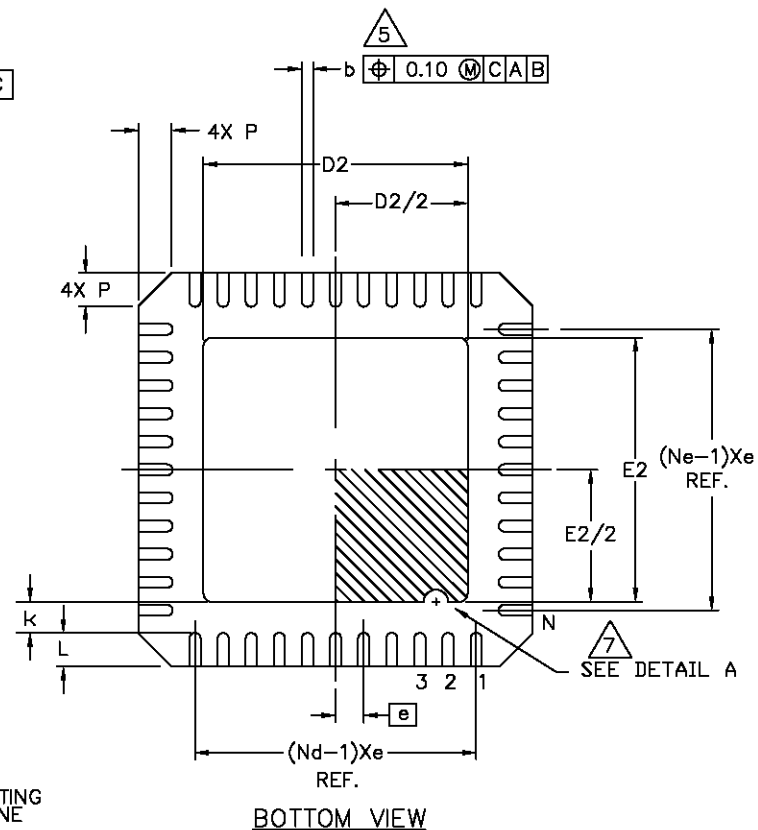
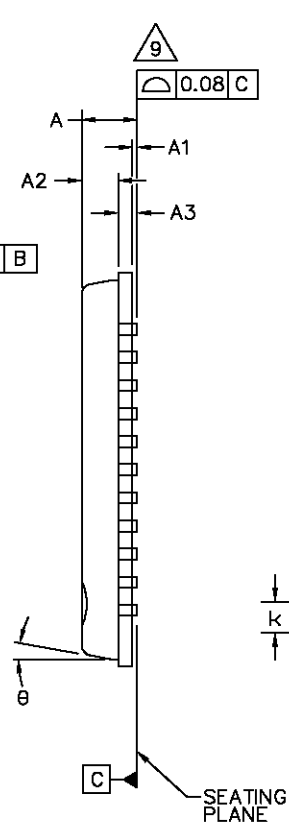
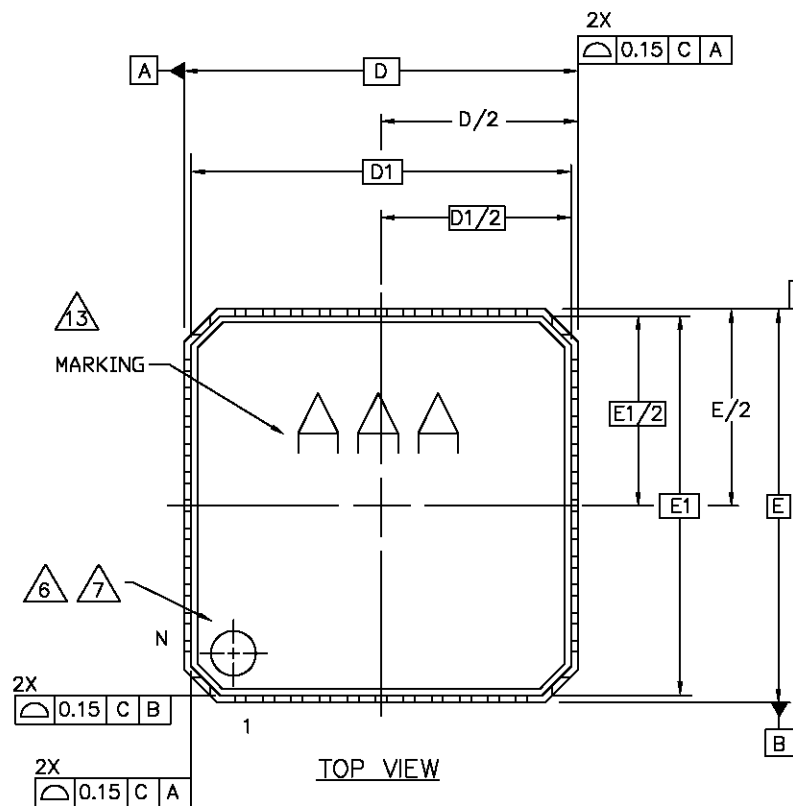


PIN #1 ID AND TIE BAR MARK OPTIONS



TITLE:  
PACKAGE OUTLINE,  
32,44,48L QFN, 7x7x0.85mm

APPROVAL  
AHL FLERAS  
3/22/13

DOCUMENT CONTROL NO.  
21-0092

REV. K 1/2

-DRAWING NOT TO SCALE-

| COMMON DIMENSIONS |          |      |      |          |      |      |          |      |      |
|-------------------|----------|------|------|----------|------|------|----------|------|------|
| PKG               | 32L 7x7  |      |      | 44L 7x7  |      |      | 48L 7x7  |      |      |
| SYMBOL            | MIN.     | NOM. | MAX. | MIN.     | NOM. | MAX. | MIN.     | NOM. | MAX. |
| A                 | 0.80     | 0.85 | 0.90 | 0.80     | 0.85 | 0.90 | 0.80     | 0.85 | 0.90 |
| A1                | 0.00     | 0.01 | 0.05 | 0.00     | 0.01 | 0.05 | 0.00     | 0.01 | 0.05 |
| A2                | 0.00     | 0.65 | 1.00 | 0.00     | 0.65 | 1.00 | 0.00     | 0.65 | 1.00 |
| A3                | 0.20 REF |      |      | 0.20 REF |      |      | 0.20 REF |      |      |
| b                 | 0.23     | 0.28 | 0.35 | 0.18     | 0.23 | 0.30 | 0.18     | 0.23 | 0.30 |
| D                 | 6.90     | 7.00 | 7.10 | 6.90     | 7.00 | 7.10 | 6.90     | 7.00 | 7.10 |
| D1                | 6.75 BSC |      |      | 6.75 BSC |      |      | 6.75 BSC |      |      |
| E                 | 6.90     | 7.00 | 7.10 | 6.90     | 7.00 | 7.10 | 6.90     | 7.00 | 7.10 |
| E1                | 6.75 BSC |      |      | 6.75 BSC |      |      | 6.75 BSC |      |      |
| e                 | 0.65 BSC |      |      | 0.50 BSC |      |      | 0.50 BSC |      |      |
| k                 | 0.25     | -    | -    | 0.25     | -    | -    | 0.25     | -    | -    |
| L                 | 0.35     | 0.55 | 0.75 | 0.35     | 0.55 | 0.75 | 0.30     | 0.40 | 0.50 |
| N                 | 32       |      |      | 44       |      |      | 48       |      |      |
| Nd                | 8        |      |      | 11       |      |      | 12       |      |      |
| Ne                | 8        |      |      | 11       |      |      | 12       |      |      |
| P                 | 0.00     | 0.42 | 0.60 | 0.00     | 0.42 | 0.60 | 0.00     | 0.42 | 0.60 |
| θ                 | 0°       | -    | 12°  | 0°       | -    | 12°  | 0°       | -    | 12°  |

| EXPOSED PAD VARIATIONS |      |      |      |      |      |      |
|------------------------|------|------|------|------|------|------|
| PKG. CODES             | D2   |      |      | E2   |      |      |
|                        | MIN. | NOM. | MAX. | MIN. | NOM. | MAX. |
| G3277+2                | 4.55 | 4.70 | 4.85 | 4.55 | 4.70 | 4.85 |
| G4477-1                | 3.65 | 3.80 | 3.95 | 3.65 | 3.80 | 3.95 |
| G4477-3                | 3.15 | 3.30 | 3.45 | 3.15 | 3.30 | 3.45 |
| G4877-1                | 4.95 | 5.10 | 5.25 | 4.95 | 5.10 | 5.25 |

# NOTES:

- DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
- DIMENSIONING & TOLERANCES CONFORM TO ASME Y14.5M, -1994.
- DIE THICKNESS ALLOWABLE IS 0.305mm MAXIMUM (.012 INCHES MAXIMUM).
- N IS THE NUMBER OF TERMINALS.  
Nd IS THE NUMBER OF TERMINALS IN X-DIRECTION &  
Ne IS THE NUMBER OF TERMINALS IN Y-DIRECTION.
-  DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.20 AND 0.25mm FROM TERMINAL TIP.
-  THE PIN #1 IDENTIFIER MUST EXIST ON THE TOP SURFACE OF THE PACKAGE BY USING INDENTATION MARK OR INK/LASER MARKED. DETAILS OF PIN #1 IDENTIFIER IS OPTIONAL, BUT MUST BE LOCATED WITHIN ZONE INDICATED.
-  EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.
- PACKAGE WARPAGE MAX 0.08mm.
-  APPLIED FOR EXPOSED PAD AND TERMINALS. EXCLUDE EMBEDDED PART OF EXPOSED PAD FROM MEASURING.
- MEETS JEDEC MO220 EXCEPT DIMENSION "b" MINIMUM.
-  APPLY ONLY FOR TERMINAL.
- THIS PACKAGE OUTLINE APPLIES TO PUNCHED QFN (STEPPED SIDES).
-  MARKING SHOWN IS FOR PACKAGE ORIENTATION REFERENCE ONLY.
- MATERIAL MUST COMPLY WITH BANNED AND RESTRICTED SUBSTANCES SPEC # 10-0131.
- ALL DIMENSIONS APPLY TO BOTH LEADED (-) AND PbFREE (+) PKG. CODES.

-DRAWING NOT TO SCALE-



TITLE:  
PACKAGE OUTLINE,  
32,44,48L QFN, 7x7x0.85mm

APPROVAL  
AHL FLERAS  
3/22/13

DOCUMENT CONTROL NO.  
21-0092

REV. K 2/2