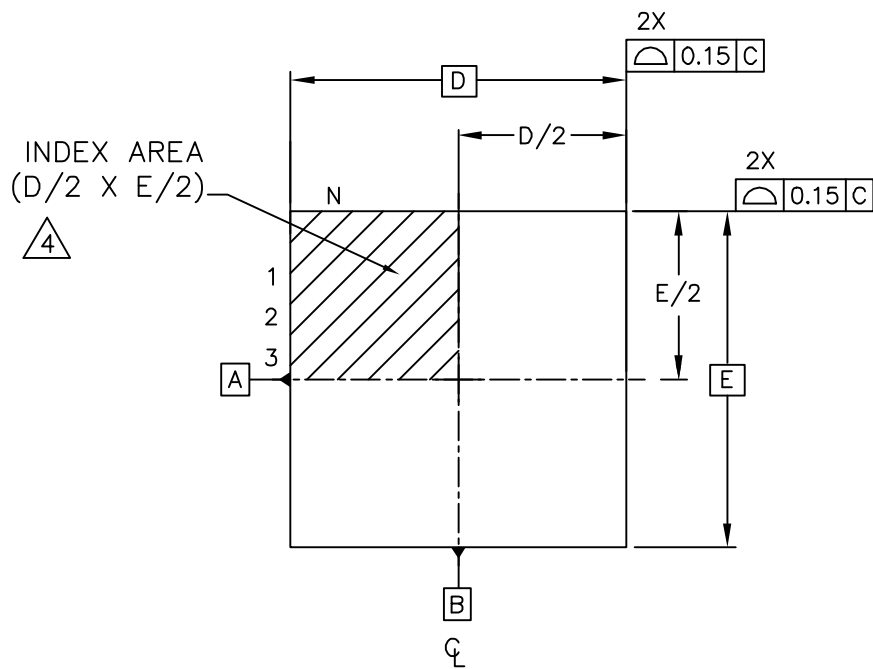
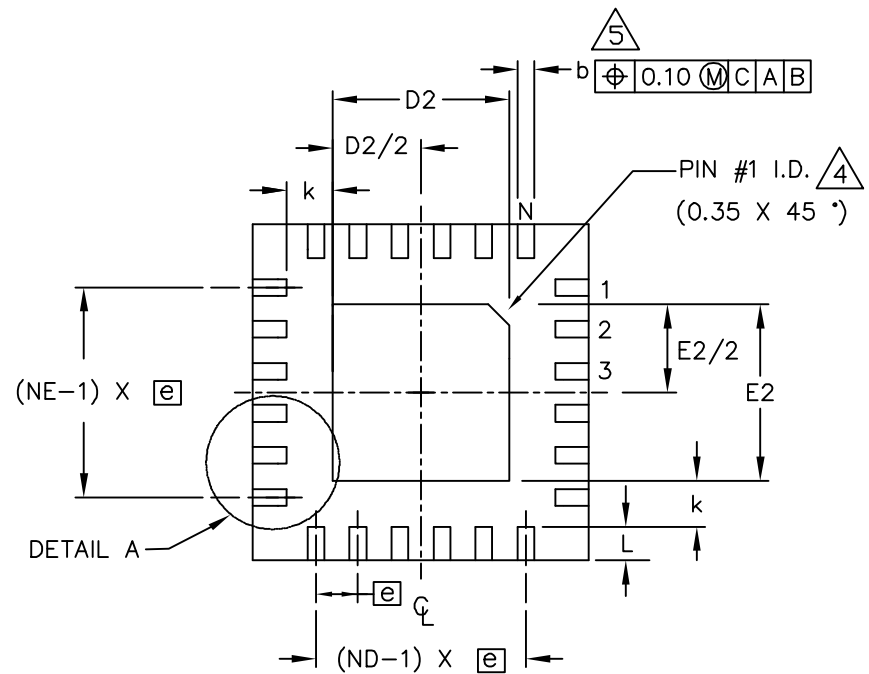
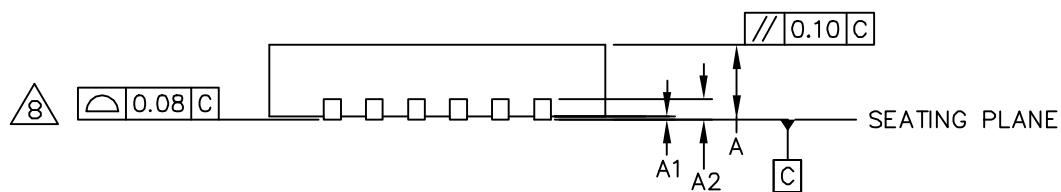




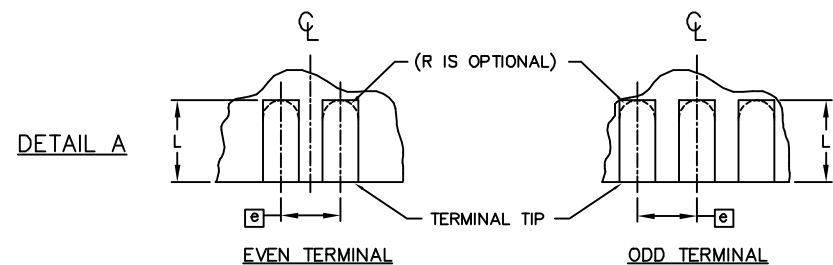
TOP VIEW



BOTTOM VIEW



SIDE VIEW



|                                                             |                                 |          |     |
|-------------------------------------------------------------|---------------------------------|----------|-----|
|                                                             |                                 |          |     |
| PROPRIETARY INFORMATION                                     |                                 |          |     |
| TITLE: PACKAGE OUTLINE<br>12,16,20,24L QFN THIN, 4x4x0.8 mm |                                 |          |     |
| APPROVAL                                                    | DOCUMENT CONTROL NO.<br>21-0139 | REV<br>A | 1/2 |

| COMMON DIMENSIONS |           |      |      |           |      |      |           |      |      |           |      |      |
|-------------------|-----------|------|------|-----------|------|------|-----------|------|------|-----------|------|------|
| PKG               | 12L 4x4   |      |      | 16L 4x4   |      |      | 20L 4x4   |      |      | 24L 4x4   |      |      |
| REF.              | MIN.      | NOM. | MAX. | MIN.      | NOM. | MAX. | MIN.      | NOM. | MAX. | MIN.      | NOM. | MAX. |
| A                 | 0.70      | 0.75 | 0.80 | 0.70      | 0.75 | 0.80 | 0.70      | 0.75 | 0.80 | 0.70      | 0.75 | 0.80 |
| A1                | 0.0       | 0.02 | 0.05 | 0.0       | 0.02 | 0.05 | 0.0       | 0.02 | 0.05 | 0.0       | 0.02 | 0.05 |
| A2                | 0.20 REF  |      |      | 0.20 REF  |      |      | 0.20 REF  |      |      | 0.20 REF  |      |      |
| b                 | 0.25      | 0.30 | 0.35 | 0.25      | 0.30 | 0.35 | 0.20      | 0.25 | 0.30 | 0.18      | 0.23 | 0.30 |
| D                 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 |
| E                 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 | 3.90      | 4.00 | 4.10 |
| e                 | 0.80 BSC. |      |      | 0.65 BSC. |      |      | 0.50 BSC. |      |      | 0.50 BSC. |      |      |
| k                 | 0.25      | -    | -    | 0.25      | -    | -    | 0.25      | -    | -    | 0.25      | -    | -    |
| L                 | 0.45      | 0.55 | 0.65 | 0.45      | 0.55 | 0.65 | 0.45      | 0.55 | 0.65 | 0.30      | 0.40 | 0.50 |
| N                 | 12        |      |      | 16        |      |      | 20        |      |      | 24        |      |      |
| ND                | 3         |      |      | 4         |      |      | 5         |      |      | 6         |      |      |
| NE                | 3         |      |      | 4         |      |      | 5         |      |      | 6         |      |      |
| Jedec Var.        | WGGB      |      |      | WGGC      |      |      | WGGD-1    |      |      | WGGD-2    |      |      |

| EXPOSED PAD VARIATIONS |      |      |      |      |      |      |  |
|------------------------|------|------|------|------|------|------|--|
| PKG. CODES             | D2   |      |      | E2   |      |      |  |
|                        | MIN. | NOM. | MAX. | MIN. | NOM. | MAX. |  |
| T1244-2                | 1.95 | 2.10 | 2.25 | 1.95 | 2.10 | 2.25 |  |
| T1644-2                | 1.95 | 2.10 | 2.25 | 1.95 | 2.10 | 2.25 |  |
| T2044-1                | 1.95 | 2.10 | 2.25 | 1.95 | 2.10 | 2.25 |  |
| T2444-1                | 2.45 | 2.60 | 2.63 | 2.45 | 2.60 | 2.63 |  |

NOTES:

1. DIMENSIONING & TOLERANCING CONFORM TO ASME Y14.5M-1994.
2. ALL DIMENSIONS ARE IN MILLIMETERS. ANGLES ARE IN DEGREES.
3. N IS THE TOTAL NUMBER OF TERMINALS.
4. THE TERMINAL #1 IDENTIFIER AND TERMINAL NUMBERING CONVENTION SHALL CONFORM TO JESD 95-1 SPP-012. DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL, BUT MUST BE LOCATED WITHIN THE ZONE INDICATED. THE TERMINAL #1 IDENTIFIER MAY BE EITHER A MOLD OR MARKED FEATURE.
5. DIMENSION b APPLIES TO METALLIZED TERMINAL AND IS MEASURED BETWEEN 0.25 mm AND 0.30 mm FROM TERMINAL TIP.
6. ND AND NE REFER TO THE NUMBER OF TERMINALS ON EACH D AND E SIDE RESPECTIVELY.
7. DEPOPULATION IS POSSIBLE IN A SYMMETRICAL FASHION.
8. COPLANARITY APPLIES TO THE EXPOSED HEAT SINK SLUG AS WELL AS THE TERMINALS.
9. DRAWING CONFORMS TO JEDEC MO220.

|                                                                                       |                                 |          |     |
|---------------------------------------------------------------------------------------|---------------------------------|----------|-----|
|  |                                 |          |     |
| PROPRIETARY INFORMATION                                                               |                                 |          |     |
| TITLE: PACKAGE OUTLINE<br>12,16,20,24L QFN THIN, 4x4x0.8 mm                           |                                 |          |     |
| APPROVAL                                                                              | DOCUMENT CONTROL NO.<br>21-0139 | REV<br>A | 2/2 |