

NOTES:

1. ALL DIMENSIONING AND TOLERANCES CONFORM TO ASME Y14.5-1994.
2. DATUM PLANE  LOCATED AT THE PARTING LINE AND COINCIDENT WITH LEAD WHERE LEAD EXITS PLASTIC BODY AT BOTTOM OF PARTING LINE.
3. DATUMS  AND  TO BE DETERMINED AT CENTERLINE BETWEEN LEADS WHERE LEADS EXIT PLASTIC BODY AT DATUM PLANE .
4. LEADS TO BE DETERMINED AT SEATING PLANE .
5. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD PROTRUSION, ALLOWABLE MOLD PROTRUSION IS 0.254 MM PER SIDE.
6. DIMENSION D1 AND E1 INCLUDE MOLD MISMATCH AND ARE DETERMINED AT DATUM PLANE .
7. "N" IS NUMBER OF TERMINALS.
8. PACKAGE TOP DIMENSIONS ARE SMALLER THAN BOTTOM DIMENSIONS BY 0.10 MILLIMETERS. AND TOP OF PACKAGE WILL NOT OVERHANG BOTTOM OF PACKAGE.
9. DIMENSIONS  DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE NOT CAUSE THE LEAD WIDTH TO EXCEED THE MAXIMUM  DIMENSION b BY MORE THAN 0.08 MM. DAMBAR CAN NOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT.
10. ALL DIMENSIONS ARE IN MILLIMETERS.
11. THE EXPOSED PAD IS COINCIDENT WITH THE TOP OR BOTTOM SIDE OF THE PACKAGE AND NOT ALLOWED TO PROTRUDE BEYOND THAT SURFACE.
12. THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 MM AND 0.25 MM FROM THE LEAD TIP.
13. THIS DRAWING CONFORMS TO JEDEC REGISTERED OUTLINE MS-026-C, VARIATION BFB AND BFC.
14. BUT THE EXPOSED PAD DIMENSION WAS NOT SPECIFIED ON JEDEC. AT ITS DEFINED AS THE DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT OF THE PACKAGE BODY.
15. THE MAXIMUM ALLOWED FOR THE EXPOSED PAD BETWEEN THE E-PINS AND THE E-PAD CORNERS HOWEVER, THE SIZE OF THE EXPOSED PAD IS VARIABLE DEPENDING ON DEVICE FUNCTION & DIE SIZE.
16. EXPOSED PAD SHALL BE COPLANAR WITH BOTTOM OF PACKAGE WITHIN 0.05.
17. CORNER CHAMFER OF EXPOSED DIE PAD SHALL BE WITHIN 0.30 MM.

| (JEDEC VARIATION)             |                                                                                   |                                                                                   |                                                                                   |             |
|-------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------|
| ALL DIMENSIONS IN MILLIMETERS |                                                                                   |                                                                                   |                                                                                   |             |
| BFB                           |                                                                                   |                                                                                   |                                                                                   | N<br>T<br>E |
| S<br>Y<br>M<br>B<br>O<br>L    | MIN.                                                                              | NDM.                                                                              | MAX.                                                                              |             |
| A                             |  |  | 1.20                                                                              | 13          |
| A1                            | 0.05                                                                              | 0.10                                                                              | 0.15                                                                              |             |
| A2                            | 0.95                                                                              | 1.00                                                                              | 1.05                                                                              |             |
| D                             | 22.00 BSC.                                                                        |                                                                                   |                                                                                   | 4           |
| D1                            | 20.00 BSC.                                                                        |                                                                                   |                                                                                   | 7.8         |
| D2                            | 2.00                                                                              |  |  | 10, 14      |
| E                             | 22.00 BSC.                                                                        |                                                                                   |                                                                                   | 4           |
| E1                            | 20.00 BSC.                                                                        |                                                                                   |                                                                                   | 7.8         |
| E2                            | 2.00                                                                              |  |  | 10, 14      |
| L                             | 0.45                                                                              | 0.60                                                                              | 0.75                                                                              |             |
| N                             | M128, 144                                                                         |                                                                                   |                                                                                   |             |
| e                             | 0.50 BSC.                                                                         |                                                                                   |                                                                                   |             |
| b                             | 0.17                                                                              | 0.22                                                                              | 0.27                                                                              | 9           |
| b1                            | 0.17                                                                              | 0.20                                                                              | 0.23                                                                              |             |
| ccc                           |  |  | 0.08                                                                              |             |
| ddd                           |  |  | 0.08                                                                              |             |

| (JEDEC VARIATION)             |                                                                                     |                                                                                     |                                                                                     | N<br>T<br>E |
|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------|
| ALL DIMENSIONS IN MILLIMETERS |                                                                                     |                                                                                     |                                                                                     |             |
| S<br>Y<br>M<br>B<br>O<br>L    | BFC                                                                                 |                                                                                     |                                                                                     |             |
| L                             | MIN.                                                                                | NDM.                                                                                | MAX.                                                                                |             |
| A                             |  |  | 1.20                                                                                | 13          |
| A1                            | 0.05                                                                                | 0.10                                                                                | 0.15                                                                                |             |
| A2                            | 0.95                                                                                | 1.00                                                                                | 1.05                                                                                |             |
| D                             | 22.00 BSC.                                                                          |                                                                                     |                                                                                     | 4           |
| D1                            | 20.00 BSC.                                                                          |                                                                                     |                                                                                     | 7.8         |
| D2                            | 2.00                                                                                |  |  | 10, 14      |
| E                             | 22.00 BSC.                                                                          |                                                                                     |                                                                                     | 4           |
| E1                            | 20.00 BSC.                                                                          |                                                                                     |                                                                                     | 7.8         |
| E2                            | 2.00                                                                                |  |  | 10, 14      |
| L                             | 0.45                                                                                | 0.60                                                                                | 0.75                                                                                |             |
| N                             | 176 LD                                                                              |                                                                                     |                                                                                     |             |
| e                             | 0.40 BSC.                                                                           |                                                                                     |                                                                                     | 9           |
| b                             | 0.13                                                                                | 0.18                                                                                | 0.23                                                                                |             |
| b1                            | 0.13                                                                                | 0.16                                                                                | 0.19                                                                                |             |
| ccc                           |  |  | 0.08                                                                                |             |
| ddd                           |  |  | 0.07                                                                                |             |

\* NOTE: THE 128 LEAD IS A COMPLIANT DEPOPULATION OF THE 144 LEAD MS-026 VARIATION BFA.

Amkor Technology, Inc.  
Darien, CT 06820  
Amkor Technology, Inc.  
Singapore  
Amkor Technology Philippines, Inc.  
Boracay, Philippines



PACKAGE OUTLINE, TOP, 20 X 20 MM BODY,

1.00/0.10 MM PITCH,

1.00 mm THICK (OPTIONAL, #PAD)

PRINTING IS SCALED TO FIT

DO NOT SCALE DRAWING