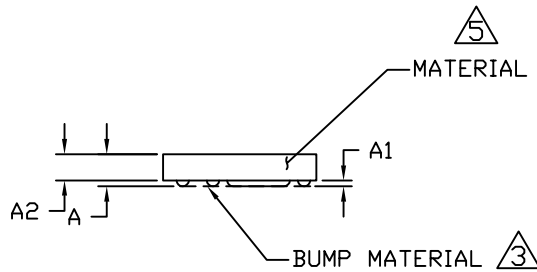
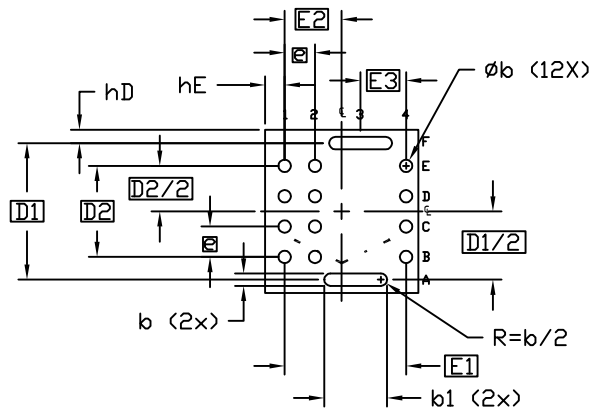


TOP VIEW



SIDE VIEW



BOTTOM VIEW

| SYMBOL | MIN.  | NOM.  | MAX.  | NOTE               |
|--------|-------|-------|-------|--------------------|
| A      | 0.45  | 0.53  | 0.59  |                    |
| A1     | 0.075 | 0.100 | 0.127 |                    |
| A2     | 0.38  | 0.43  | 0.46  | BSC $\triangle 10$ |
| D      | 2.64  | 2.69  | 2.74  |                    |
| D1     |       | 2.25  |       |                    |
| D2     |       | 1.50  |       |                    |
| hD     |       | 0.20  |       |                    |
| E      | 2.47  | 2.52  | 2.57  |                    |
| E1     |       | 2.00  |       |                    |
| E2     |       | 0.94  |       |                    |
| E3     |       | 0.75  |       |                    |
| hE     |       | 0.30  |       |                    |
| e      |       | 0.50  |       |                    |
| b      | 0.19  | 0.205 | 0.24  |                    |
| b1     | 0.99  | 1.035 | 1.07  |                    |

NOTES:

1. DIMENSIONS ARE IN MILLIMETERS.
2. MATERIAL MUST COMPLY WITH BANNED AND RESTRICTED SUBSTANCES SPEC # 10-0131.
- $\triangle 3$  BUMP MATERIAL: 95 Pb / 5 Sn.
- $\triangle 4$  LASER MARK INDICATING END OF PACKAGE CONTAINING BUMP ROW A; NUMBER OF CHARACTERS AND LINES VARY PER PRODUCT.
- $\triangle 5$  BULK SILICON EXPOSED ON FOUR SIDES AND TOP.
6. UNDERFILL REQUIRED FOR RELIABILITY OF SOLDER JOINT ON FR4 SUSTRATE
7. RECOMMENDED SUBSTRATE LAND PATTERN (NSMD PADS): LAND PAD  $\phi 0.23$ ; SOLDER MASK APERTURE  $\phi 0.33$ .
8. SUGGESTED ASSEMBLY SOLDER PASTE APERTURE:  $\phi 0.30$ .
9. ELECTRICAL NODES -- SEE PRODUCT DEVICE DATA SHEET OR PROBE DOCUMENT
- $\triangle 10$  BSC = BACK SIDE COATING AVAILABLE (NO CHANGE IN A2)
11. BRIGHT FIELD ILLUMINATION IS RECOMMENDED FOR BSC WAFER LASER SCRIBE VISUAL INSPECTION
12. ALL DIMENSIONS APPLY TO BOTH LEADED (-) AND PbFREE (+) PKG. CODES.
13. PACKAGE CODES: BF1233-1



TITLE:  
PACKAGE OUTLINE, 12 BALLS FLIP CHIP,  
2.69x2.52x0.53mm, 0.50 mm PITCH

|          |                                 |           |     |
|----------|---------------------------------|-----------|-----|
| APPROVAL | DOCUMENT CONTROL NO.<br>21-0281 | REV.<br>B | 1/1 |
|----------|---------------------------------|-----------|-----|

-DRAWING NOT TO SCALE-