


MAXIM

PROPRIETARY INFORMATION

TITLE:
PACKAGE OUTLINE,
13x13mm SBGA, 80 BALLS, 1.0mm PITCH

| | | | |
|----------|----------------------|------|-----|
| APPROVAL | DOCUMENT CONTROL NO. | REV. | 1/2 |
| | 21-0125 | A | |

STANDARD BODY SIZE DIMENSION TABLE

| BODY SIZE | 13.0mm x 13.0mm | | | BODY SIZE |
|--|-----------------|-------|-------|-----------------------------|
| | MIN. | NOM. | MAX. | NOTE |
| A | — | — | 1.50 | OVERALL THICKNESS |
| A ₁ | 0.40 | 0.50 | 0.60 | BALL HEIGHT |
| A ₂ | 0.60 | 0.75 | 0.90 | BODY THICKNESS |
| D | — | 13.00 | — | BODY SIZE |
| D ₁ | 10.90 | 11.00 | 11.10 | BALL FOOTPRINT |
| E | — | 13.00 | — | BODY SIZE |
| E ₁ | 10.90 | 11.00 | 11.10 | BALL FOOTPRINT |
| M,N | 12 x 12 | | | BALL MATRIX |
| M ₁  | 2 | | | NUMBER OF ROWS DEEP |
| b | 0.50 | 0.60 | 0.70 | BALL DIAMETER |
| d | 0.5 | — | — | MIN DISTANCE ENCAP TO BALLS |
| e | 1.00 | | | BALL PITCH |
| aaa | — | — | 0.15 | PACKAGE BODY PROFILE |
| bbb | — | — | 0.10 | PARALLEL |
| ccc | — | — | 0.15 | ENCAP FLATNESS OVER DIE |
| ddd | — | — | 0.42 | COPLANARITY |
| S | — | 0.50 | — | SOLDER BALL PLACEMENT |
| T | 0.050 | 0.125 | 0.175 | V-SCORE WEB THICKNESS |
| V | 12.2 | — | 12.9 | V-SCORE BOTTOM SIZE |

NOTES: UNLESS OTHERWISE SPECIFIED.

1. ALL DIMENSIONS AND TOLERANCES CONFORM TO ASME Y14.5M-1994.




 2. DIMENSION "d" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM .


 3. PRIMARY DATUM  AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

 4. PIN A1 I.D. MARK.

 5. NUMBER OF ROWS IN FROM EDGE TO CENTER.

 6. SEATING PLANE CLEARANCE: MINIMUM HEIGHT OF ENCAPSULANT ABOVE SEATING PLANE.

 7. "S" IS MEASURED WITH RESPECT TO  AND  AND DEFINES THE POSITION OF THE CENTER SOLDER BALL IN THE OUTER ROW. WHEN THERE IS AN ODD NUMBER OF SOLDER BALLS IN THE OUTER ROW "S"=.000.

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| | 21-0125 | A | 2/2 |