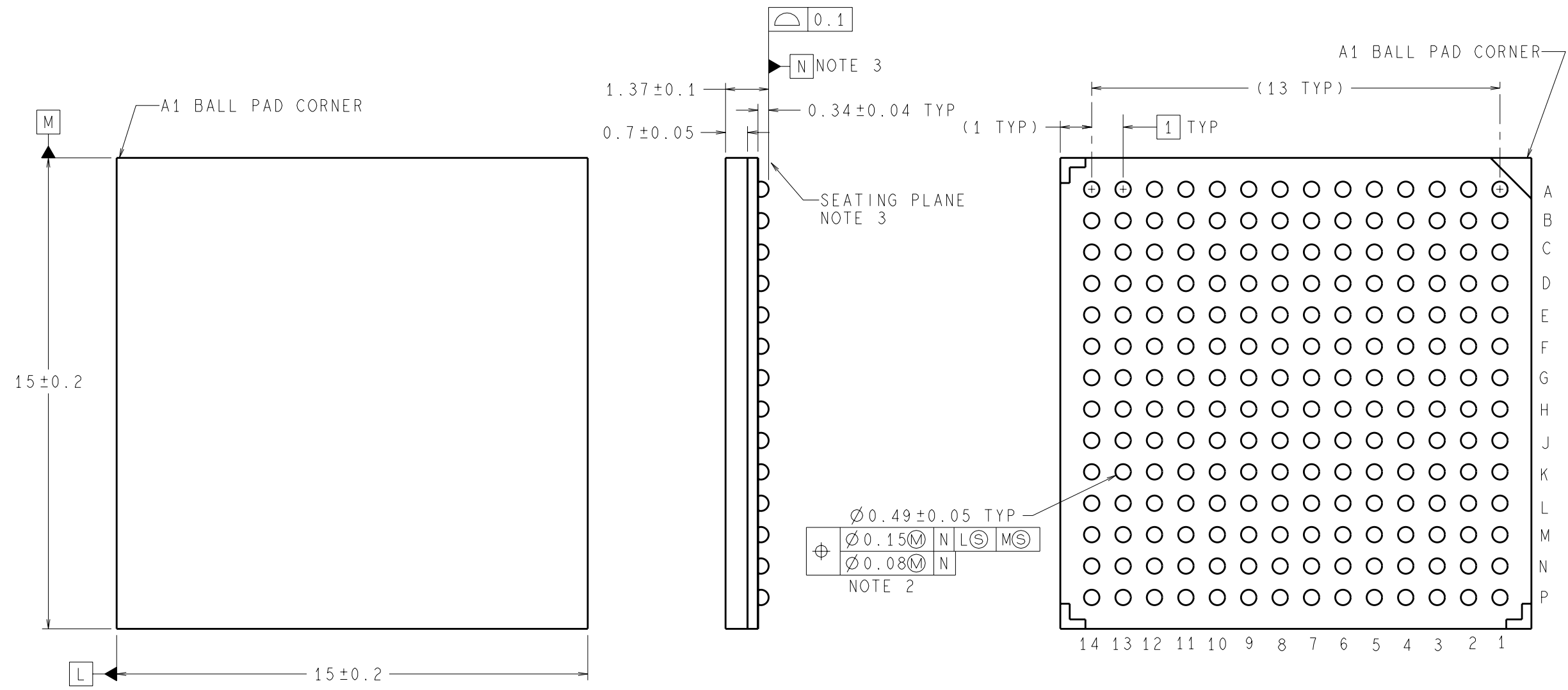


| REVISIONS | | | | |
|-----------|--|--------|------------|----------|
| LTR | DESCRIPTION | E.C.N. | DATE | BY/APP'D |
| A | RELEASE TO DOCUMENT CONTROL | 12452 | 04/17/2000 | MS/MJL |
| B | DIM'S 1.37±0.1 WAS 1.46±0.19/-0.09, 0.34±0.04 WAS 0.4 MIN, Ø0.49±0.05 WAS Ø0.5; REVISE NOTE 4 & TITLE. | 189 | 12/14/2000 | MS/VG |



DIMENSIONS ARE IN MILLIMETERS

NOTES: UNLESS OTHERWISE SPECIFIED

- SOLDER BALL COMPOSITION: Sn 63%, Pb 37%.
- DIMENSION MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM N.
- PRIMARY DATUM N AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
- REFERENCE JEDEC REGISTRATION MO-192, VARIATION AAE-1.

| | | | | | |
|------------------------------|--|--------------|-----------|--|----------|
| APPROVALS | | DATE | | National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090 | |
| DRAWN MARTA SUCHY | | 04/17/2000 | | | |
| DFTG. CHK. THANH LEQUANG | | 12/14/2000 | | LPGA, 15 X 15 X 1.37mm, 196 BALL, 1.0mm PITCH | |
| ENGR. CHK. VIJAYA GUMASTE | | 12/14/2000 | | | |
| PROJECTION INCH [MM] | | SCALE N/A | SIZE C | DRAWING NUMBER (SC)MKT-UJB196A | REV B |
| DO NOT SCALE DRAWING | | | | SHEET 1 of 1 | |