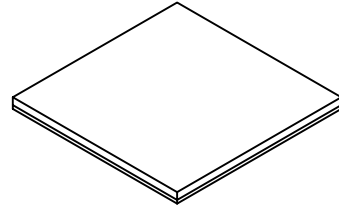


| REVISION HISTORY | | | | | | | |
|------------------|------------|---------------------------------------------|------------|--------------------|-------------------|--------------|----------|
| REV | DRN NUMBER | DESCRIPTION | ORIGINATOR | DATABASE FILE NAME | GENERER FILE NAME | INCORPORATOR | DATE |
| 00 | C9763 | INITIAL RELEASE | LMACK | N/A | N/A | LMACK | 12/27/00 |
| 01 | A50143 | ROW OF BALLS ARE MISSING ON THE BOTTOM SIDE | SWOON | N/A | N/A | SWOON | 12/27/00 |
| 02 | C11534 | ADDED 316 FOOTPRINT | GREME | N/A | N/A | SDEFO | 02/28/01 |
| 03 | C13383 | ADDED 300 FOOTPRINT | GREME | N/A | N/A | ACOP1 | 08/20/01 |
| 04 | C23465 | ADDED 320 FOOTPRINT | MCSHIN | N/A | N/A | MCSHIN | 05/19/03 |
| 05 | N/A | ADDED 272 FOOTPRINT | VMANF | N/A | N/A | VMANF | 06/17/03 |
| 06 | N/A | ADDED 292 FOOTPRINT | TMILL | N/A | N/A | TMILL | 11/07/03 |



7. REFERENCE SPECIFICATIONS:
 A. AWW SPEC #001-0531-2234: PACKING OPERATION PROCEDURE.
 B. AWW SPEC #001-0519-2062: MARKING.



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



5. DIMENSION IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C.

4. THE MAXIMUM ALLOWABLE NUMBER OF SOLDER BALLS IS 400.

3. THE MAXIMUM SOLDER BALL MATRIX SIZE IS 20 X 20.

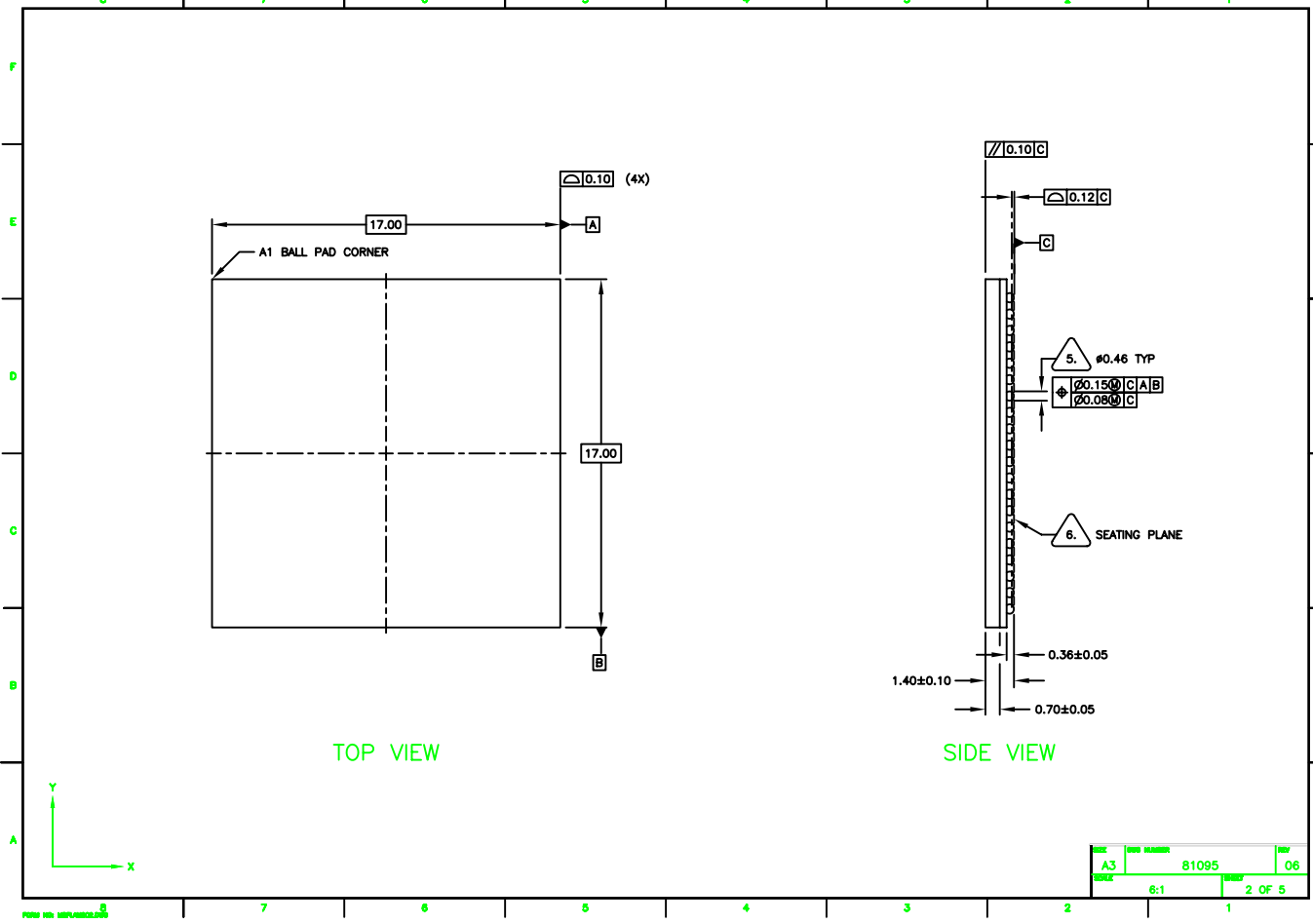
2. THE BASIC SOLDER BALL GRID PITCH IS 0.80mm.

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

NOTES: UNLESS OTHERWISE SPECIFIED

| | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS DECIMAL X.XX ±0.1 X.XXX ±0.05 X.XXX ±0.030 INTERPRET DIM AND TOL PER ASME Y14.5M - 1994 | ANGULAR ±1° | THIRD ANGLE PROJECTION | | | Amkor Technology, Inc. Chandler, Arizona, USA Amkor Semiconductor, Inc. Seoul, Korea Amkor Technology Philippines, Inc. Manila, Philippines | | |
| | | APPROVALS | DATE | TITLE | | | |
| DESIGNED | LMACK | 08/14/00 | PACKAGE OUTLINE - MAF, 20 X 20 MATRIX, 17.00mm X 17.00mm X 1.40mm, 0.70mm MOLD CAP, 0.46mm BALL, 0.80mm PITCH, LAMINATE SUBSTRATE, AWW | | | | |
| CHECKED | DARNO | 08/14/00 | SIZE | DRN NUMBER | REV | | |
| PRODUCT MANAGER | TPANC | 08/14/00 | A3 | N/A | 81095 | 06 | |
| RELEASED | RHOLM | 08/23/00 | DRN | ISSUES/REV | PROJ OUTLINE DRG NO. | SCALE | SHEET |
| DO NOT SCALE DRAWING | | | N/A | N/A | NONE | | 1 OF 5 |

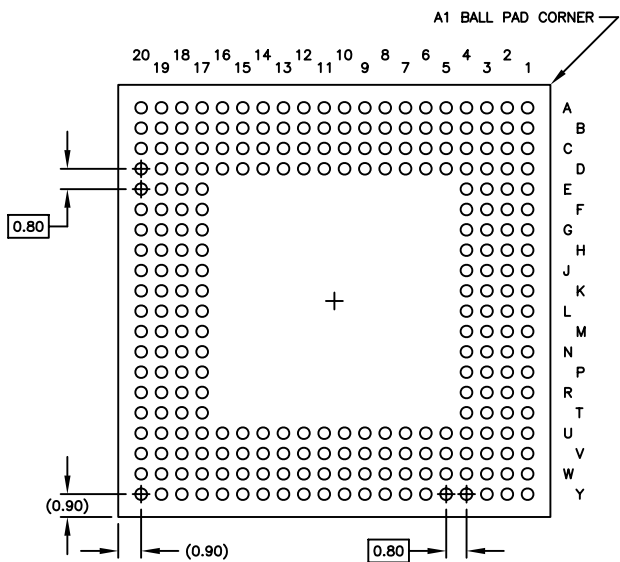
100001/24/08/16/25/15/08/01/01-01 100001/16/16/16/01/01/01



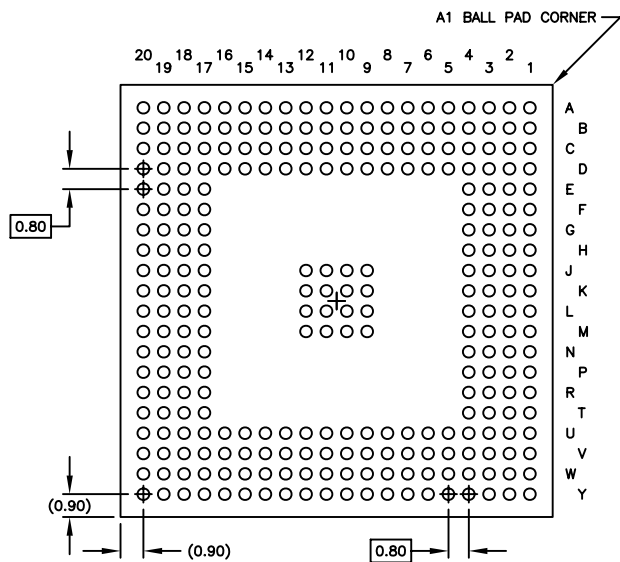
TOP VIEW

SIDE VIEW

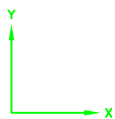
| | | | |
|-----|-------|--------|-----|
| REV | DATE | BY | CHK |
| A3 | 81095 | | 06 |
| 6:1 | | 2 OF 5 | |



BOTTOM VIEW
256 SOLDER BALLS



BOTTOM VIEW
272 SOLDER BALLS



| | | |
|-------|------------|-----|
| SIZE | DWG NUMBER | REV |
| A3 | 81095 | 06 |
| SCALE | SHEET | |
| 6:1 | 3 OF 5 | |