NOTES:

1. ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1994.
2. DATUM PLANE [-H-] LOCATED AT MOLD PARTING LINE AND COINCIDENT WITH LEAD, WHERE LEAD EXITS PLASTIC BODY AT BOTTOM OF PARTING LINE.
3. DATUMS [A-B] AND [-D-] TO BE DETERMINED AT CENTERLINE BETWEEN LEADS WHERE LEADS EXIT PLASTIC BODY AT DATUM PLANE [-H-] .
4. TO BE DETERMINED AT SEATING PLANE [-C-] .
5. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE MOLD PROTRUSION IS 0.254 MM ON D1 AND E1 DIMENSIONS.
6. "N" IS THE TOTAL NUMBER OF TERMINALS.
7. THESE DIMENSIONS TO BE DETERMINED AT DATUM PLANE [-H-] .
8. PACKAGE TOP DIMENSIONS ARE SMALLER THAN BOTTOM DIMENSIONS AND TOP OF PACKAGE WILL NOT OVERHANG BOTTOM OF PACKAGE.
9. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08mm TOTAL IN EXCESS OF THE b DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT.
10. CONTROLLING DIMENSION: MILLIMETER.
11. MAXIMUM ALLOWABLE DIE THICKNESS TO BE ASSEMBLED IN THIS PACKAGE FAMILY IS 0.38 MILLIMETERS.
12. THIS OUTLINE CONFORMS TO JEDEC PUBLICATION 95 REGISTRATION MS-026, VARIATION BGA & BGB.
13. A1 IS DEFINED AS THE DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT OF THE PACKAGE BODY.
14. DIMENSION D2 AND E2 REPRESENT THE SIZE OF THE EXPOSED PAD. THE ACTUAL DIMENSIONS ARE SPECIFIED ON THE BONDING DIAGRAM, AND IS DEPENDENT ON THE DIE SIZE.
15. EXPOSED PAD SHALL BE COPLANAR WITH BOTTOM OF PACKAGE WITHIN 0.05.
16. CORNER CHAMFER OF EXPOSED DIE PAD SHALL BE WITHIN 0.30 MM.

SYMBOL	JEDEC VARIATION ALL DIMENSIONS IN MILLIMETERS			
	BGA			NOTE
	MIN.	NOM.	MAX.	
A	∼	∼	1.60	
A₁	0.05	∼	0.15	13
A₂	1.35	1.40	1.45	
D		26.00 BSC.		4
D₁		24.00 BSC.		7,8
E		26.00 BSC.		4
E₁		24.00 BSC.		7,8
L	0.45	0.60	0.75	
N		*160, 176		
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	

* NOTE: THE 160 LEAD IS A COMPLIANT DEPOPULATION OF THE 176 LEAD MS-026 VARIATION BGA.

SYMBOL	JEDEC VARIATION ALL DIMENSIONS IN MILLIMETERS			
	BGB			NOTE
	MIN.	NOM.	MAX.	
A	∼	∼	1.60	
A₁	0.05	∼	0.15	13
A₂	1.35	1.40	1.45	
D		26.00 BSC.		4
D₁		24.00 BSC.		7,8
E		26.00 BSC.		4
E₁		24.00 BSC.		7,8
L	0.45	0.60	0.75	
N		216		
e		0.40 BSC		
b	0.13	0.18	0.23	9
b1	0.13	0.16	0.19	
ccc	∼	∼	0.08	
ddd	∼	∼	0.07	

PRINTING IS AN ACTUAL SCALE
FORM NO: MBF_LF_7A.DWG

Amkor Technology www.amkor.com

TITLE
PACKAGE OUTLINE, MATRIX, LQFP,
24 X 24 mm BODY, 1.00/0.10 mm FORM,
1.40 mm THICK (OPTIONAL ePAD)

SIZE	BD NUMBER	DWG NUMBER	REV
A3	SEE PAGE 1	32780	14

SELF DWG NO./REV.	PO SPEC NO	SCALE	SHEET
N/A	001-0000-3817	1:1	2 of 2