

THIS TABLE FOR 0.65mm PITCH

	COMMON DIMENSIONS			VARIATIONS			5			P			P1			7		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.05	—	1.10	AB/ABT	2.50	3.00	3.00	3.10	1.39	3.2	3.2	3.2	3.0	3.0	3.0	3.0	14	8
A	0.05	0.50	0.95	AB/ABT-1	4.50	5.00	5.00	5.10	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	16	16
A	0.85	0.90	0.95	AB/ABT	4.50	5.00	5.00	5.10	3.2	3.2	3.0	3.0	3.0	3.0	3.0	3.0	20	20
QQA	0.19	0.076	—	AD/ADT	5.40	5.50	5.50	5.60	5.5	5.5	5.4	5.4	5.4	5.4	5.4	5.4	24	24
B1	0.19	0.22	0.25	AE/AET	7.70	7.80	7.80	7.90	7.4	7.4	7.3	7.3	7.3	7.3	7.3	7.3	26	26
B	0.09	—	0.20															
C1	0.09	0.127	0.16															
D	—	SEE VARIATIONS	—															
E1	4.30	4.40	4.50															
E	—	0.65 BSC	—															
L	0.50	0.60	0.70															
N	—	SEE VARIATIONS	—															
P	—	SEE VARIATIONS	—															
P1	—	SEE VARIATIONS	—															
Q	0°	—	8°															

THIS TABLE FOR 0.50mm PITCH

	COMMON DIMENSIONS			VARIATIONS			5			P			P1			7		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.05	—	1.10	BC-1/BCT-1	7.70	7.80	7.80	7.90	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.0	30	30
A	0.05	0.50	0.95	BD-1/BDT-1	9.60	9.70	9.80	9.90	7.4	7.4	7.3	7.3	3.2	3.2	3.2	3.2	44	44
A	0.85	0.90	0.95	BE/BET	10.90	11.00	11.10	11.20	8.0	8.0	8.0	8.0	3.2	3.2	3.2	3.2	44	44
QQA	0.17	0.076	—															
B1	0.17	0.20	0.23															
B	0.09	—	0.20															
C1	0.09	0.127	0.16															
D	—	SEE VARIATIONS	—															
E1	4.30	4.40	4.50															
E	—	0.50 BSC	—															
L	0.50	0.60	0.70															
N	—	SEE VARIATIONS	—															
P	—	SEE VARIATIONS	—															
P1	—	SEE VARIATIONS	—															
Q	0°	—	8°															

THIS TABLE FOR 0.40mm PITCH

	COMMON DIMENSIONS			VARIATIONS			5			P			P1			7		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.05	—	1.10	AC/ACT	4.50	5.00	5.10	5.10	3.9	3.9	3.0	3.0	3.0	3.0	3.0	3.0	20	20
A	0.05	0.90	0.95	TA/CA/AT	4.50	5.00	5.10	5.10	3.9	3.9	3.0	3.0	3.0	3.0	3.0	3.0	24	24
A	0.85	0.90	0.95	CD/CDT	9.60	9.70	9.80	9.90	7.3	7.3	7.3	7.3	3.0	3.0	3.0	3.0	48	48
QQA	0.13	0.076	—	AF/AF1	11.20	11.30	11.40	11.50	6.3	6.3	6.3	6.3	2.3	2.3	2.3	2.3	36	36
B1	0.13	0.16	0.19															
B	0.09	—	0.20															
C1	0.09	0.127	0.16															
D	—	SEE VARIATIONS	—															
E1	4.30	4.40	4.50															
E	—	0.40 BSC	—															
L	0.50	0.60	0.70															
N	—	SEE VARIATIONS	—															
P	—	SEE VARIATIONS	—															
P1	—	SEE VARIATIONS	—															
Q	0°	—	8°															

1 - DESIGNED BUT NOT TOOLED

* - THIS VARIATION IS A DEPOPULATED 24 LEAD

NOTES:

1. DIE THICKNESS ALLOWABLE IS 0.279±0.0127 (0.0110±0.005 INCHES)
2. DIMENSIONING & TOLERANCES PER ASME: Y14.5M-1994.
3. DATUM PLANE H LOCATED AT MOLD PARTING LINE AND COINCIDENT WITH LEAD, WHERE LEAD EXITS PLASTIC BODY AT BOTTOM OF PARTING LINE.
4. DATUM A-B AND D TO BE DETERMINED WHERE CENTERLINE BETWEEN LEADS EXITS PLASTIC BODY AT DATUM PLANE H.
5. 'D' & 'E1' ARE REFERENCE DATUM AND DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS, AND ARE MEASURED AT THE BOTTOM PARTING LINE. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED 0.15mm ON D AND 0.25mm ON E PER SIDE.
6. DIMENSION IS THE LENGTH OF TERMINAL FOR SOLDERING TO A SUBSTRATE.
7. TERMINAL POSITIONS ARE SHOWN FOR REFERENCE ONLY.
8. FORMED LEADS SHALL BE PLANAR WITH RESPECT TO ONE ANOTHER WITHIN 0.076mm AT SEATING PLANE.
9. THE LEAD WIDTH DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.07mm TOTAL IN EXCESS OF THE LEAD WIDTH DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN PROTRUSIONS AND AN ADJACENT LEAD SHOULD BE 0.07mm FOR 0.65mm PITCH, 0.08mm FOR 0.50mm PITCH AND 0.07mm FOR 0.40mm PITCH PACKAGES. SEE SECTION 'B-B'.
10. SECTION 'B-B' TO BE DETERMINED AT 0.10 TO 0.25 MM FROM THE LEAD TIP.
11. CONTROLLING DIMENSION: MILLIMETERS.
12. THIS PART IS COMPLIANT WITH JEDEC SPECIFICATION MO-153 VARIATIONS AA/AA1, AB-1/ABT-1, AB/AB1, AC/ACT, AD/ADT, AE/AET BC-1/BCT-1, BD-1/BDT-1, BE/BET, CA/CA1 & CD/CDT AND MD-194 VARIATIONS AC/ACT & AF/AF1.
13. DIMENSIONS 'P' AND 'P1' ARE THERMALLY ENHANCED VARIATIONS. VALUES SHOWN ARE MAXIMUM SIZE OF EXPOSED PAD WITHIN LEAD COUNT AND BODY SIZE. END USER SHOULD VERIFY AVAILABLE SIZE OF EXPOSED PAD FOR SPECIFIC DEVICE APPLICATION.

ALL DIMENSIONS IN MILLIMETERS

Amkor Technology, Inc.
USA
Acorn Semiconductor, Inc.,
Seoul, Korea
Amkor Technology Philippines, Inc.
Manila, Philippines



PACKAGE OUTLINE,
4.40mm BODY, TSSOP/ePAD TSSOP, AA/VV

DATE

REV

DATE

REV

A3

38118

04

8/1

PRINTING IS SCALED TO FIT
DO NOT SCALE DRAWING

2 OF 2

FORM NO. MDOFRM4-LJLVG