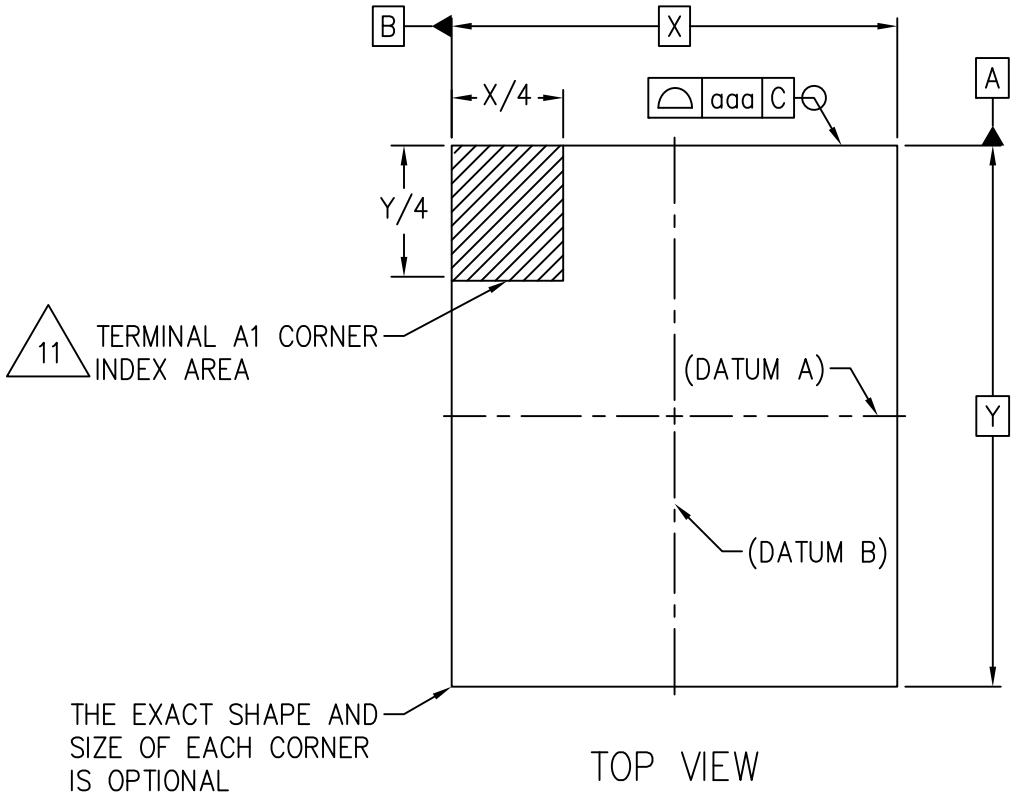
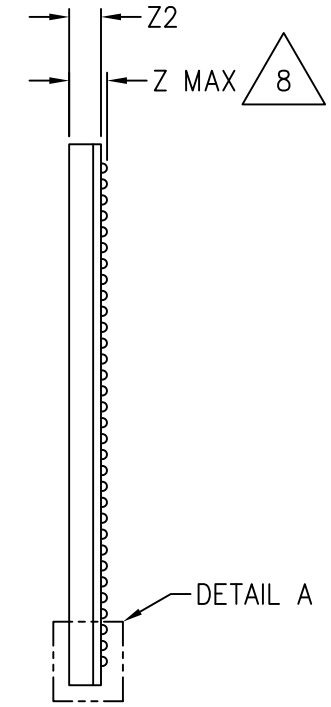
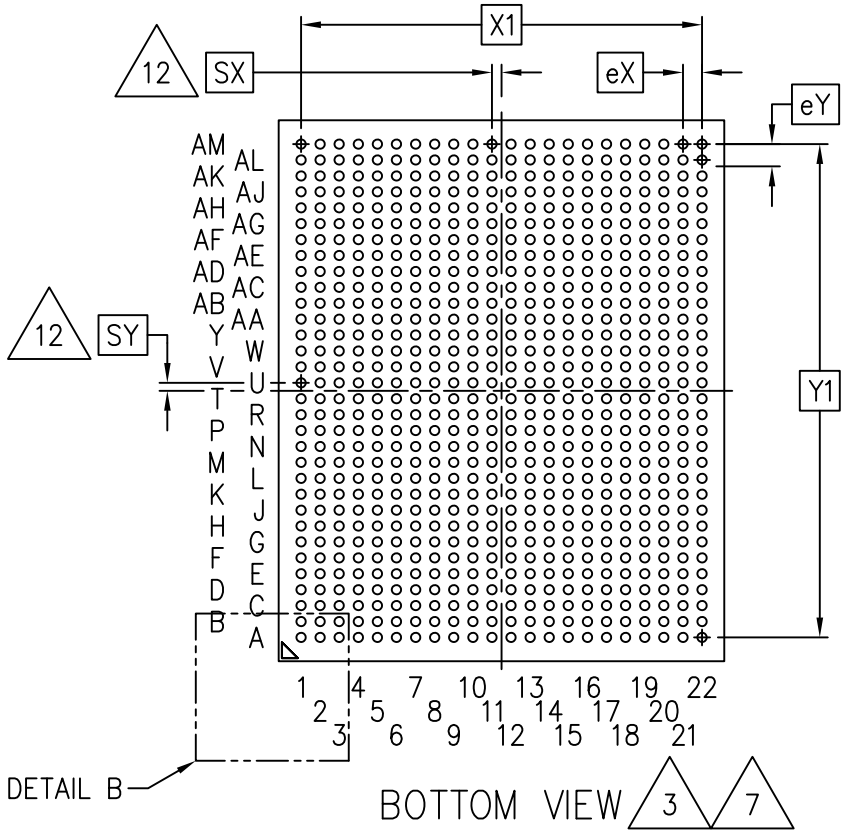


TOP VIEW

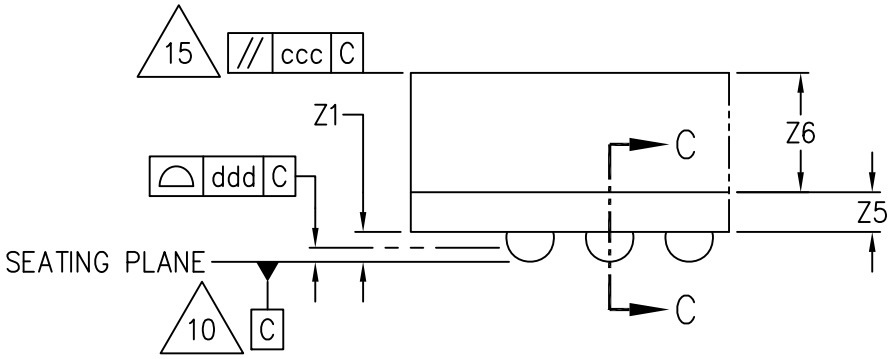


SIDE VIEW

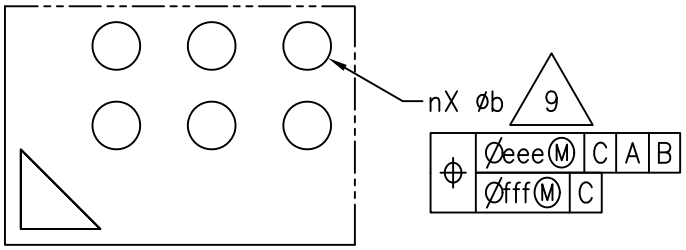


BOTTOM VIEW

JEDEC SOLID STATE PRODUCT OUTLINE 	THIS *REGISTERED OUTLINE* WAS PREPARED BY THE JEDEC JC-11 COMMITTEE AND REFLECTS A PRODUCT FOR ANTICIPATED USE IN THE ELECTRONICS INDUSTRY. CHANGES ARE LIKELY TO OCCUR. USERS ASSUME ALL RISK AND LIABILITY RESULTING FROM THE USE OF THIS OUTLINE.				
TITLE PLASTIC BOTTOM GRID ARRAY BALL, 0.60 MM X 0.50 MM PITCH RECTANGULAR FAMILY PACKAGE	PACKAGE DESIGNATOR PBGA-B#[#] _l0p5...	NUMBER MO-363	ISSUE B	DATE JUL 2025	SHEET 1 OF 9



DETAIL A
(ROTATED 90° CW)



DETAIL B

TYPE 1 – SMD
(SOLDER MASK DEFINED)

TYPE 2 – NSMD
(NON SOLDER MASK DEFINED)

SECTION C–C

TABLE 1

COMMON DIMENSIONS		
SYMBOL		
Z		PACKAGE SPECIFIC
Z2	b(NOM) = 0.300	Z2(MAX) = Z(MAX) – Z1
	b(NOM) = 0.350	Z2(MAX) = Z(MAX) – Z1
Z5		OPTIONAL – PACKAGE SPECIFIC
Z6		OPTIONAL – PACKAGE SPECIFIC
eX		0.60 BASIC
eY		0.50 BASIC
NOTES		1, 2, 8
REF		11–1066
ISSUE		A

TABLE 2

COMMON DIMENSIONS							
SYMBOL		(b) SOLDER BALL DIAMETER					
		MIN	NOM	MAX	MIN	NOM	MAX
Z1		PACKAGE SPECIFIC	---	---	PACKAGE SPECIFIC	---	---
b		0.225	0.30	0.375	0.275	0.35	0.425
b1	TYPE1	0.20	---	---	0.23	---	---
	TYPE2	0.20	---	---	0.23	---	---
NOTES		1, 2, 9, 17			1, 2, 9, 17		
REF		11–1066			11–1080		
ISSUE		A			B		

TABLE 3

TOLERANCE OF FORM AND POSITION				
SYMBOL	PACKAGE TYPE	VALUE		
		øb NOM = 0.300	øb NOM = 0.350	---
aaa	---	0.10	0.10	---
ccc	ENCAPSULATED	0.20	0.20	---
ddd	---	0.08	0.08	---
eee	ENCAPSULATED	0.15	0.15	---
fff	---	0.05	0.05	---
NOTES		2	2	–
REF		11–1066	11–1080	–
ISSUE		A	B	–

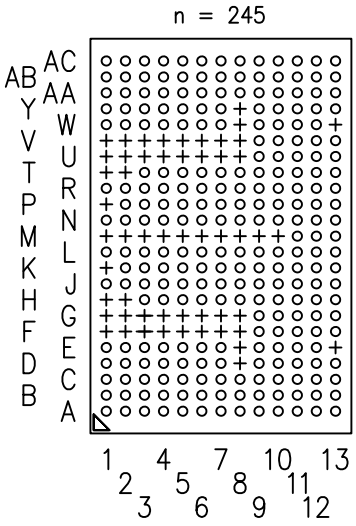
b1 = b(NOM) * 0.667

TABLE 4

øb = 0.300 NOMINAL												
NEW VARIATION 16	X BASIC	Y BASIC	X1 BASIC	Y1 BASIC	MX	MY	SX BASIC	SY BASIC	n	N	TERMINAL PATTERN	REF	ISSUE
PBGA-B245[299]_10p5-R8p2x12p4Z#-C0p30H#	8.20	12.40	7.20	11.00	13	23	0.00	0.00	245	299	A	11-1066	A
NOTES	2	2	2	2	5	5	2, 12	2, 12	6, 13	6	13		

TABLE 5

øb = 0.350 NOMINAL												
NEW VARIATION △16	X BASIC	Y BASIC	X1 BASIC	Y1 BASIC	MX	MY	SX BASIC	SY BASIC	n	N	TERMINAL PATTERN	REF	ISSUE
PBGA-B245[299]_10p5-R8p2x12p4Z#-C0p35H#	8.20	12.40	7.20	11.00	13	23	0.00	0.00	245	299	A	11-1080	B
NOTES	2	2	2	2	5	5	2, 12	2, 12	6, 13	6	13		



TERMINAL PATTERN A

3 13 + = DEPOPULATED TERMINAL POSITIONS

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE PLASTIC BOTTOM GRID ARRAY BALL, 0.60 MM X 0.50 MM PITCH RECTANGULAR FAMILY PACKAGE	NUMBER	ISSUE	DATE	SHEET
		MO-363	B	JUL 2025	7 OF 9

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5–2009.
   THIS OUTLINE CONFORMS TO JEP95, SECTION 4.5.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 SOLDER BALL POSITION DESIGNATION PER JEP95 SECTION 3, SPP–010.

4. eX REPRESENTS THE SOLDER BALL GRID PITCH IN X DIRECTION.
   eY REPRESENTS THE SOLDER BALL GRID PITCH IN Y DIRECTION.

5. MX AND MY REPRESENT THE MAXIMUM MATRIX SIZE CORRESPONDING TO THE
   X AND Y DIRECTIONS RESPECTIVELY.

6. n REPRESENTS THE ACTUAL NUMBER OF SOLDER BALLS AFTER DEPOPLUATION.
   N REPRESENTS THE MAXIMUM NUMBER OF SOLDER BALLS FOR A FULL MATRIX, MX X MY.

7 A FULLY POPULATED 22 X 32 MATRIX SIZE IS SHOWN FOR ILLUSTRATION ONLY.

8 DIMENSION Z INCLUDES STAND–OFF HEIGHT Z1, PACKAGE BODY THICKNESS AND LID HEIGHT, BUT DOES NOT INCLUDE ATTACHED FEATURES, e.g., EXTERNAL HEATSINK. AN INTEGRAL HEATSLUG IS NOT CONSIDERED AN ATTACHED FEATURE.

9 DIMENSION b IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER PARALLEL TO PRIMARY DATUM C.

10 PRIMARY DATUM C (SEATING PLANE) IS DEFINED BY THE PLANE ESTABLISHED BY THE CONTACT POINTS OF THREE OR MORE SOLDER BALLS THAT SUPPORT THE DEVICE WHEN IT IS PLACED ON TOP OF A PLANAR SURFACE.

11 THE Z1 TERMINAL CORNER MUST BE IDENTIFIED ON BOTH THE BOTTOM AND TOP SIDES OF THE PACKAGE, THE IDENTIFICATION FEATURE CAN BE MADE USING INK, METALIZED MARKINGS, IDENTATIONS, OR OTHER FEATURES.

12 DIMENSIONS SX AND SY ARE MEASURED WITH RESPECT TO DATUMS A AND B AND DEFINE THE POSITION OF THE CENTER SOLDER BALLS.
WHEN THERE IS AN ODD NUMBER OF SOLDER BALLS, SX OR SY = 0.00.
WHEN THERE IS IS AN EVEN NUMBER OF SOLDER BALLS, SX =eX/2 OR SY = eY/2.

13 SOLDER BALL DEPOPULATION IS ALLOWED. DEPOPULATION IS THE OMISSION OF BALLS FROM A FULL MATRIX (MX X MY).

14 THE SOLDERABLE SURFACE MAY BE DEFINED BY AN OPENING IN THE SOLDER RESIST LAYER (TYPE 1) OR BY THE SIZE OF A METALIZED PAD (TYPE 2). IT MAY BE ELLIPITACL PROVIDED THE RATIO OF THE MAJOR TO MINOR AXES IS NO GREATER THAN 2/1, AND THE SURFACE AREA IS NO LESS THEN THE MINIMUM FOR A CIRCULAR PAD. FOR TYPE 2 DESIGNS, EXPOSED COPPER TRACES ARE PERMITTED OUTSIDE THE b1 PAD AREA.

NOTES CONTINUED:

15 FOR GLOB TOP AND FLIP CHIP CONFIGURATIONS, PARALLELISM (ccc) APPLIES ONLY TO THE SURFACE DIRECTLY ABOVE THE DIE AREA. THE PARALLELISM SPECIFICALLY WILL NOT APPLY TO ANY FILLET OR SLOPED REGION OF THE ENCAPSULANT.

16 SEE JESD30 FOR EXPLANATION OF VARIATION SCHEME.
PACKAGE HEIGHT IS THE MAXIMUM PACKAGE THICKNESS.

17. THE Z1 HEIGHT NEEDS TO BE ACCEPTABLE TO MANUFACTURING STANDARDS.

STP (3D) FILE RECORD

3D FILE NAMES MAY EXCEED LENGTH REQUIREMENTS FOR SOME SOFTWARE TOOLS.

STP FILE NAME	DATE	ITEM NUMBER
MO-363A_PBGA-B245[299]_I0p5-R8p2X12p4Z#-C0p30H#	JUL 2024	11-1066
MO-363B_PBGA-B245[299]_I0p5-R8p2X12p4Z#-C0p35H#	JUL 2025	11-1080

TASK GROUP CONTRIBUTORS

CHANGXIN MEMORY TECHNOLOGIES (CXMT)
MICRON TECHNOLOGY, INC

CHANGE RECORD

IF THE CHANGE INVOLVES ANY WORDS ADDED OR DELETED (EXCLUDING DELETION OF ACCIDENTALLY REPEATED WORDS), THE CHANGE IS TO BE INCLUDED BELOW. PUNCTUATION CHANGES MAY OR MAY NOT BE INCLUDED.

INITIAL ISSUE: A	DATE: JULY 2024	ITEM NUMBER: 11–1066

CHANGE RECORD HISTORY:

ISSUE: B	DATE: JULY 2025	ITEM NUMBER: 11–1080

LOCATION	CHANGED FROM:	CHANGED TO:
SHEETS 3, 4, & 6		ADDED 0.35 NOM BALL
SHEET 4		b1 = b(NOM) * 0.667
SHEET 7	W7, Y7 NO SOLDER BALL W8, Y8 WITH SOLDER BALL	W7, Y7 WITH SOLDER BALL W8, Y8 NO SOLDER BALL