

JEDEC SOLID STATE  
PRODUCT OUTLINE  
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THIS *REGISTERED OUTLINE* HAS BEEN PREPARED BY THE JEDEC JC-11 COMMITTEE  
AND REFLECTS A PRODUCT WITH ANTICIPATED USAGE IN THE ELECTRONICS INDUSTRY;  
CHANGES ARE LIKELY TO OCCUR.

TITLE  
244 PIN DDR2/DDR3 MINI DIMM,  
0.60 mm PITCH

PACKAGE DESIGNATOR  
DIM

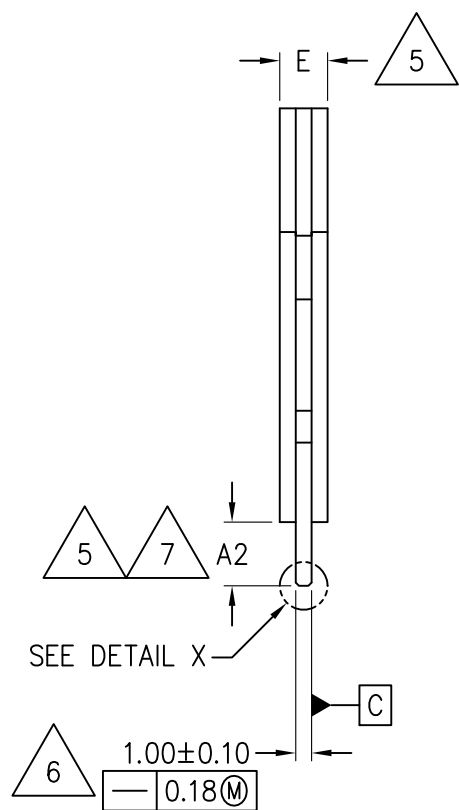
NUMBER  
MO-244

ISSUE  
D

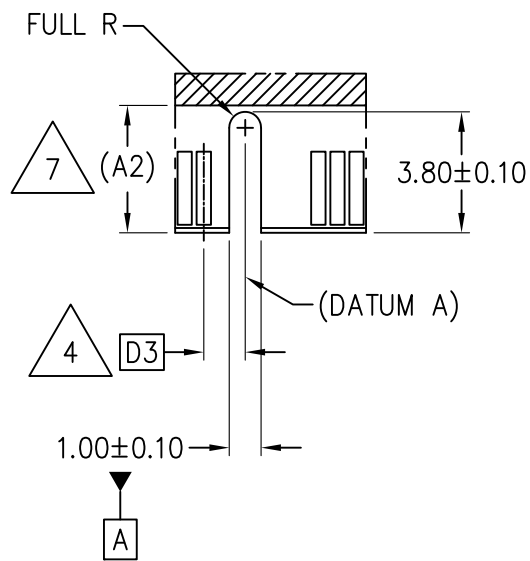
DATE  
JUL 2012

SHEET  
1 OF 12

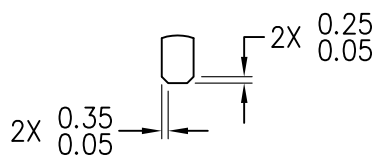




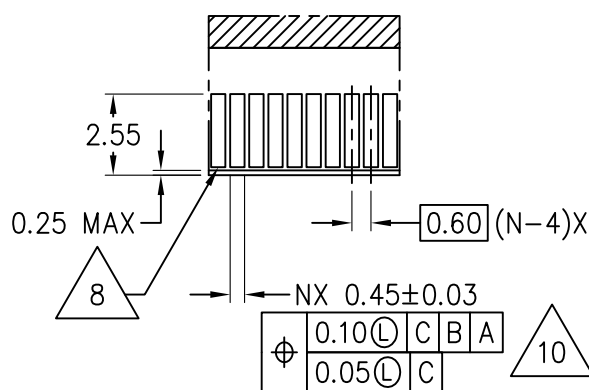
VIEW A-A



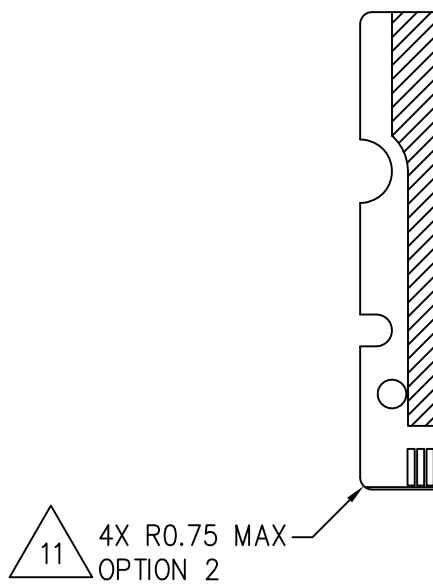
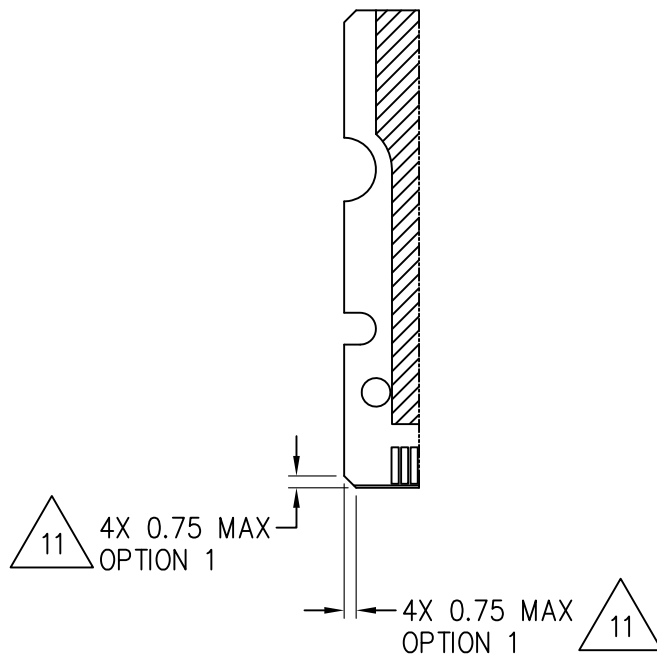
DETAIL Z



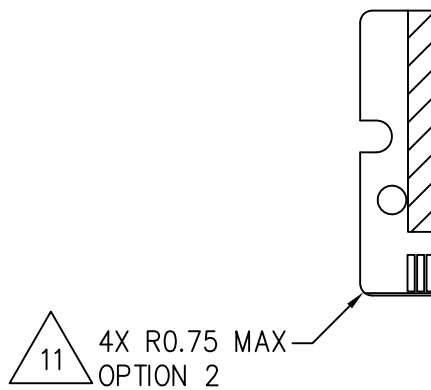
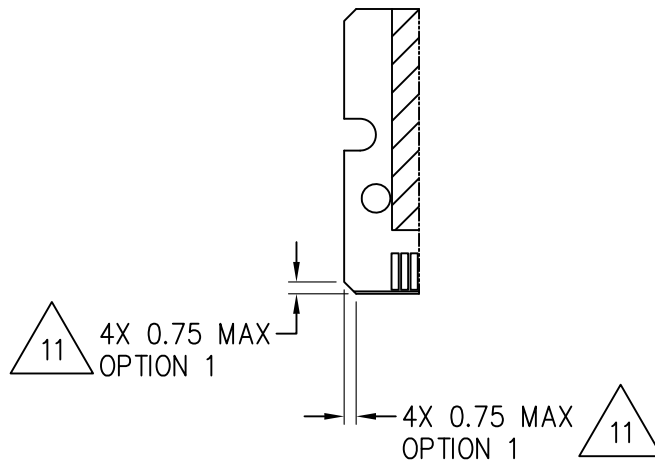
DETAIL X  
(OPTIONAL)



DETAIL Y



DETAIL W



DETAIL V

TABLE 1

COMMON DIMENSIONS				
SYMBOL	MIN	NOM	MAX	NOTES
A1	6.00 BASIC			
A2	4.00	---	---	5, 7
A3	20.00 BASIC			
A4	10.00 BASIC			
D	81.85	82.00	82.15	
D1	39.60 BASIC			
D2	78.00 BASIC			
e1	38.40 BASIC			
e2	33.60 BASIC			
N	244			
ISSUE	A			
REF	14-057			
NOTES	1, 2, 3			

TABLE 2

VARIATIONS							
SYMBOL	AA			AB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	29.85	30.00	30.15	29.85	30.00	30.15	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	3.80	---	---	3.80	5
ISSUE	A						
REF	14-057						
NOTES	1, 2, 3						

TABLE 3

VARIATIONS							
SYMBOL	BA			BB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	29.85	30.00	30.15	29.85	30.00	30.15	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	6.45	---	---	6.45	5
ISSUE	B						
REF	14-072						
NOTES	1, 2, 3						

TABLE 4

VARIATIONS							
SYMBOL	CA			CB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	29.85	30.00	30.15	29.85	30.00	30.15	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	7.25	---	---	7.25	5
ISSUE	B						
REF	14-072						
NOTES	1, 2, 3						

TABLE 5

VARIATIONS							
SYMBOL	DA			DB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	17.75	17.90	18.05	17.75	17.90	18.05	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	3.80	---	---	3.80	5
ISSUE	D						
REF	14-136						
NOTES	1, 2, 3						



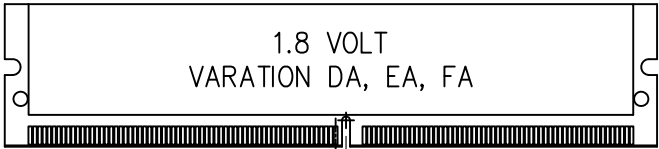
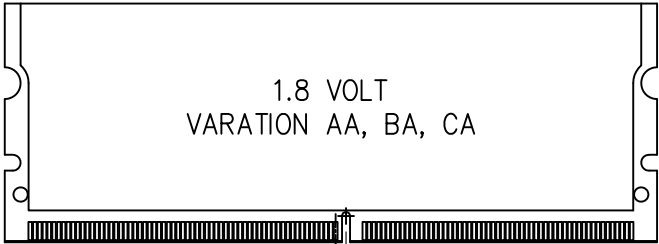
TABLE 6

VARIATIONS							
SYMBOL	EA			EB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	17.75	17.90	18.05	17.75	17.90	18.05	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	6.45	---	---	6.45	5
ISSUE	D						
REF	14–136						
NOTES	1, 2, 3						

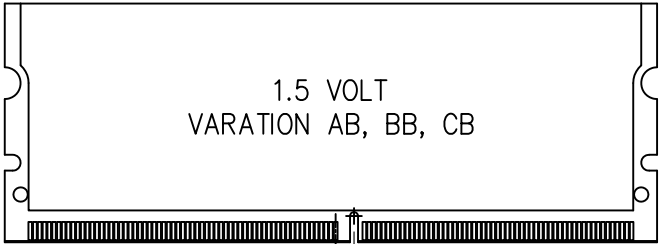
TABLE 7

VARIATIONS							
SYMBOL	FA			FB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	17.75	17.90	18.05	17.75	17.90	18.05	
D3	1.30 BASIC			2.30 BASIC			4
D4	1.30 BASIC			2.30 BASIC			
D5	1.90 BASIC			2.90 BASIC			
E	---	---	7.25	---	---	7.25	5
ISSUE	D						
REF	14–136						
NOTES	1, 2, 3						

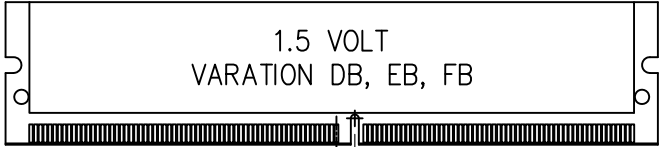
DDR2 MECHANICAL KEYING  
FRONT VIEW  
OPTIONAL CHAMFER DETAIL NOT SHOWN



DDR3 MECHANICAL KEYING  
FRONT VIEW  
OPTIONAL CHAMFER DETAIL NOT SHOWN



2.30



2.30

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5–2009.
2. TOLERANCES ON ALL DIMENSIONS  $\pm 0.15$  UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE MM.



THE POSITION OF THE NOTCH IDENTIFIES THE OPERATIONAL VOLTAGE:  
1.8 VOLT (xA)  
1.5 VOLT (xB)  
THE JC-45 COMMITTEE CONTROLS THIS INFORMATION.  
IT IS SHOWN HERE FOR REFERENCE ONLY, AND SUBJECT TO CHANGE.



DIMENSIONS APPLICABLE WHEN COMPONENTS MOUNTED ON BOTH SIDES.  
PCB THICKNESS NOT TO BE EXCEEDED OUTSIDE OF COMPONENT AREA.



CARD THICKNESS APPLIES ACROSS TABS AND INCLUDES PLATING AND/OR METALIZATION.



BORDER OF COMPONENT AREA.



EDGE OF CONTACT PADS SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS.



THE ADDITION OF THIS BEVEL IS A FABRICATION OPTION AND IS NOT REQUIRED.  
THE BEVEL AIDS THE INSERTION OF THE MODULES INTO THE CONNECTOR.  
THE BEVEL IS NOT TO HIT THE PLATED CONTACTS.

APPLICATION NOTES:



RECOMMENDED PLATING FOR CONTACT PADS ARE:

- 1) PREFERABLE PLATING: ELECTROLYTIC GOLD PLATING 0.76 MICROMETERS MINIMUM OVER ELECTROLYTIC Ni 2.00 MICROMETERS MINIMUM.
- 2) ALTERNATIVE PLATING: GOLD PLATING 0.05 – 0.75 MICROMETERS OVER Ni 2.00 MICROMETERS MINIMUM MUST USE AN ELECTRONIC CONTACT GRADE CORROSIVE BARRIER LUBRICANT.



OPTIONAL CHAMFER OR RADIUS.

# 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: APRIL 2004	ITEM NUMBER: 14-057
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CHANGE RECORD HISTORY:
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ISSUE: B	DATE: DECEMBER 2004	ITEM NUMBER: 14-072 14-075
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LOCATION:	CHANGED FROM:	CHANGED TO:
SHEET 2	1.00±0.05	1.00±0.10
SHEET 2	NEW HEIGHT VARIATIONS	BA, BB, CA, CB

ISSUE: C	DATE: FEBRUARY 2008	ITEM NUMBER: 14-121
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LOCATION:	CHANGED FROM:	CHANGED TO:
SHEET 1	NEW POSITIONAL TOLERANCE	$\phi$ 0.10 M C B A
SHEET 1	EDIT GD&T CONTROL FRAMES	REMOVE DIAMETER SYMBOLS
SHEET 1	NEW TEXT	"(OPTIONAL NOTCH)"
SHEET 1	$\phi$ 0.10 M C B A	$\phi$ 0.10 M C B
SHEET 2	CHAMFER 0.25/0.05	CHAMFER 0.35/0.05
SHEET 2	EDIT GD&T CONTROL FRAME	COMPOSITE TOLERANCE
SHEET 5	DEFINE DDR2 VOLTAGE KEY	DDR2 & 1.8 V
SHEET 5	DEFINE DDR3 VOLTAGE KEY	DDR3 & 1.5 V
SHEET 6 (NOTE 9)	JC42.5	JC45
SHEET 7	NEW PAGE	ADDED CHANGE RECORD PAGE
SHEETS 1 TO 7	REVISED TITLE	INCLUDE TEXT "DDR3"

ISSUE: D	DATE: JUL 2012	ITEM NUMBER: 14-136
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LOCATION:	CHANGED FROM:	CHANGED TO:
ALL SHEETS	0.60 mm LEAD CENTERS	NEW FORMAT REDRAWN TO CORRECT DIM ERRORS AND TEXT HEIGHT 0.60 mm PITCH

# 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.

LOCATION:	CHANGED FROM:	CHANGED TO:
SHEET 1	4X 3.00	ADDED DETAIL W 4X 3.00 MIN
SHEET 2		NEW
SHEET 3	SHEET 2	SHEET 3
SHEET 4		NEW
SHEET 5		NEW
SHEET 6	SHEET 3	SHEET 6 ADDED TABLE NUMBER
SHEET 7	SHEET 4	SHEET 7 ADDED TABLE NUMBERS VAR CA & CB MOVED TO PG 8
SHEET 8		ADDED TABLE NUMBER ADDED TABLE 5
SHEET 9		ADDED TABLES 6 & 7
SHEET 10	SHEET 5	SHEET 10 ADDED VAR DA, EA, & FA
SHEET 11	SHEET 5	SHEET 11 ADDED VAR DB, EB, & FB
SHEET 12	1. ... ASME Y14.5M-1994  NOTE 7 NOTE 8 NOTE 10 NOTE 11	1. ... ASME Y14.5-2009 COMBINED NOTES 4 & 9 5. ADDED PCB THICKNESS ... COMPONENT AREA.  NOTE 10 NOTE 7 NOTE 8 NOTE 9 PATENT CLAIM NOTE REMOVED ADDED NOTE 11
SHEET i	JC11.14-XXX	14-XXX