

VARIATION: AB, BB, CB

PATENT ISSUES  14

JEDEC  
SOLID STATE  
PRODUCT OUTLINE

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

TITLE: DDR2 SDRAM DIMM  
(DUAL INLINE MEMORY MODULE) FAMILY  
1.00mm CONTACT CENTERS

DESIGNATOR:

ISSUE:

DATE:

ITEM:

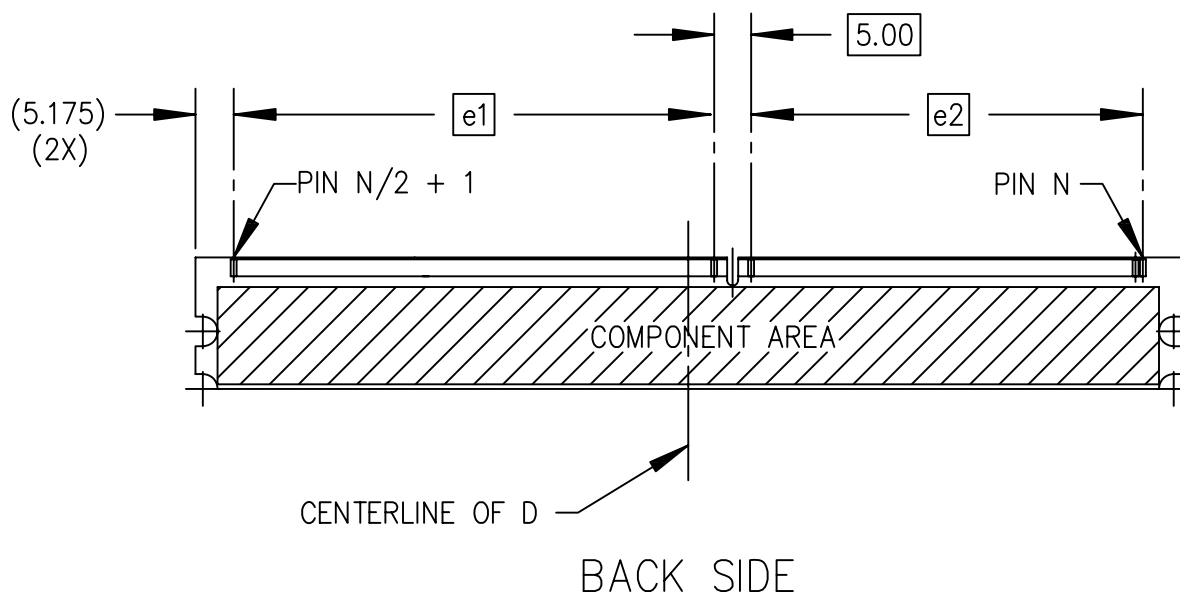
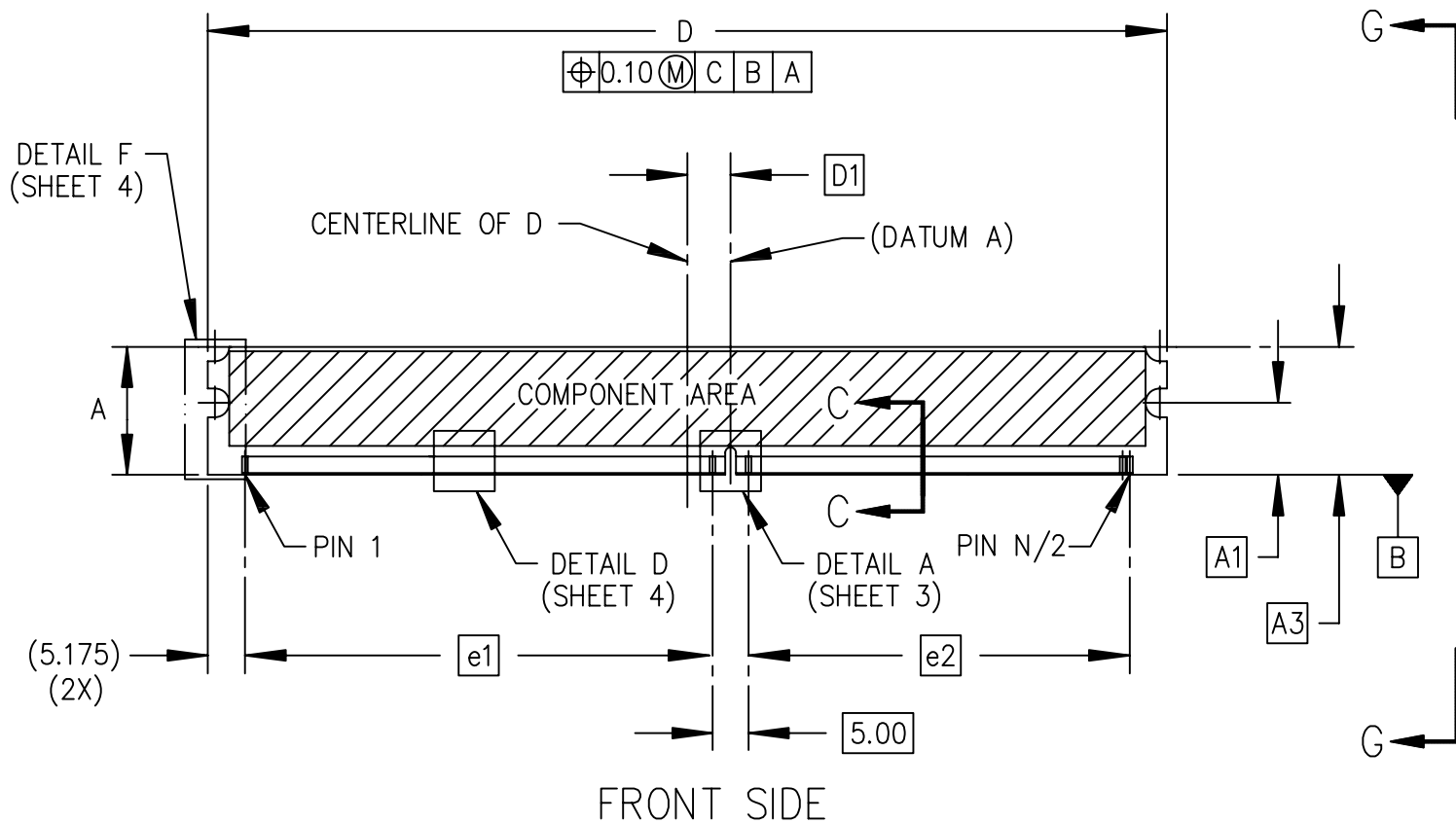
PAGE:

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9/08

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VARIATION: DB, EB, FB, GB, HB, JB, KB, LB

PATENT ISSUES 

JEDEC  
SOLID STATE  
PRODUCT OUTLINE

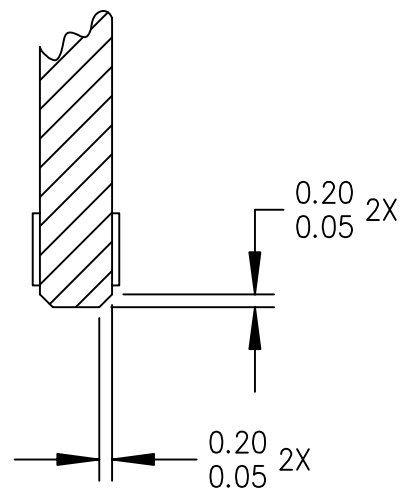
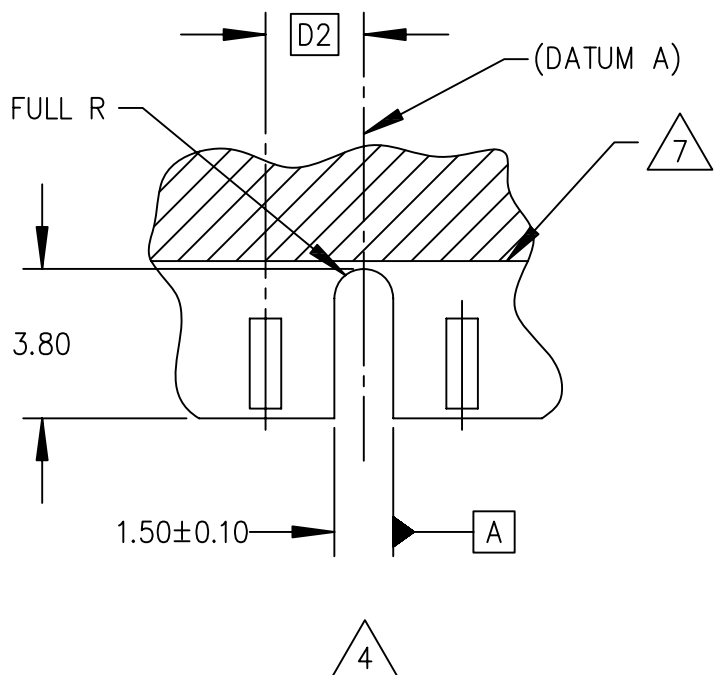
TITLE: DDR2 SDRAM DIMM  
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1.00mm CONTACT CENTERS

ISSUE:  
G

DATE:  
9/08

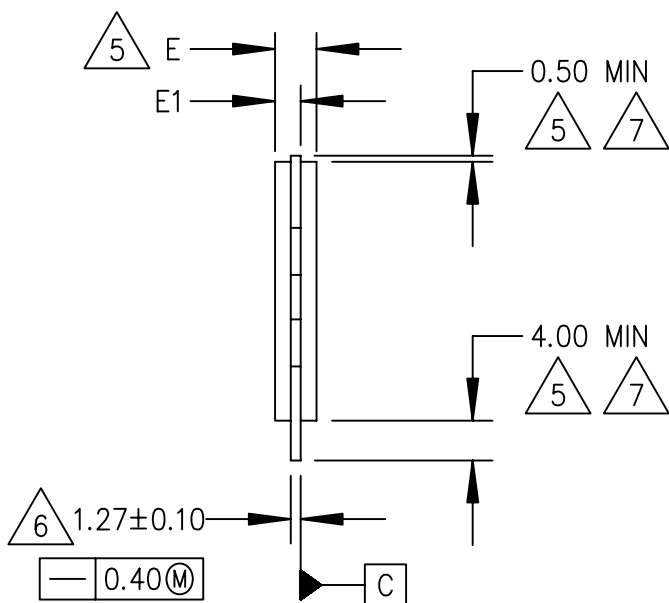
ITEM:  
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PAGE:  
2 OF 8

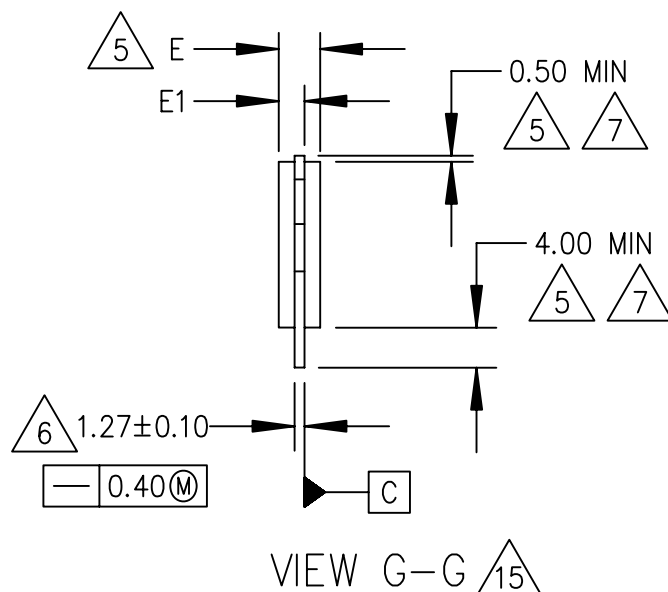


SECTION C-C 13  
(OPTIONAL)

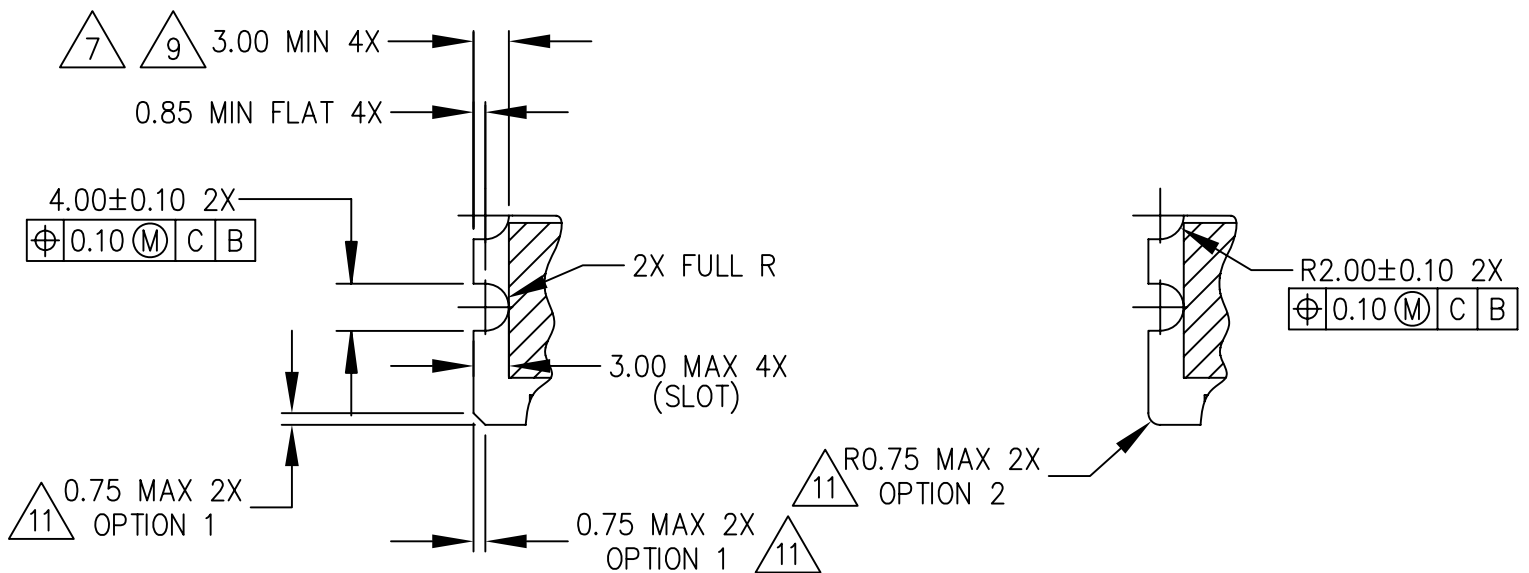
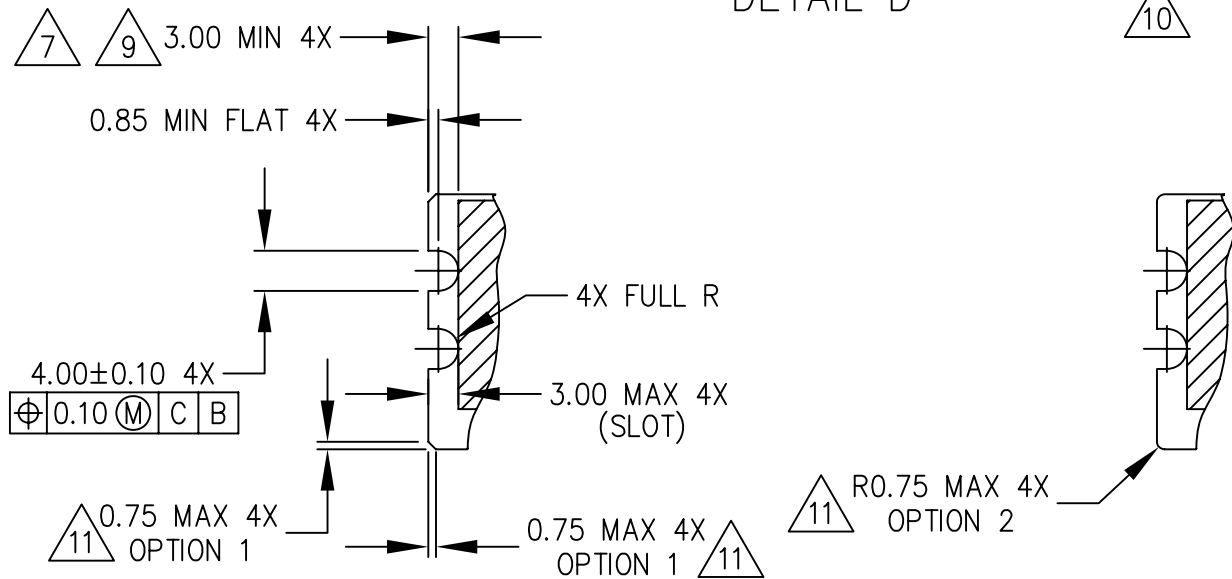
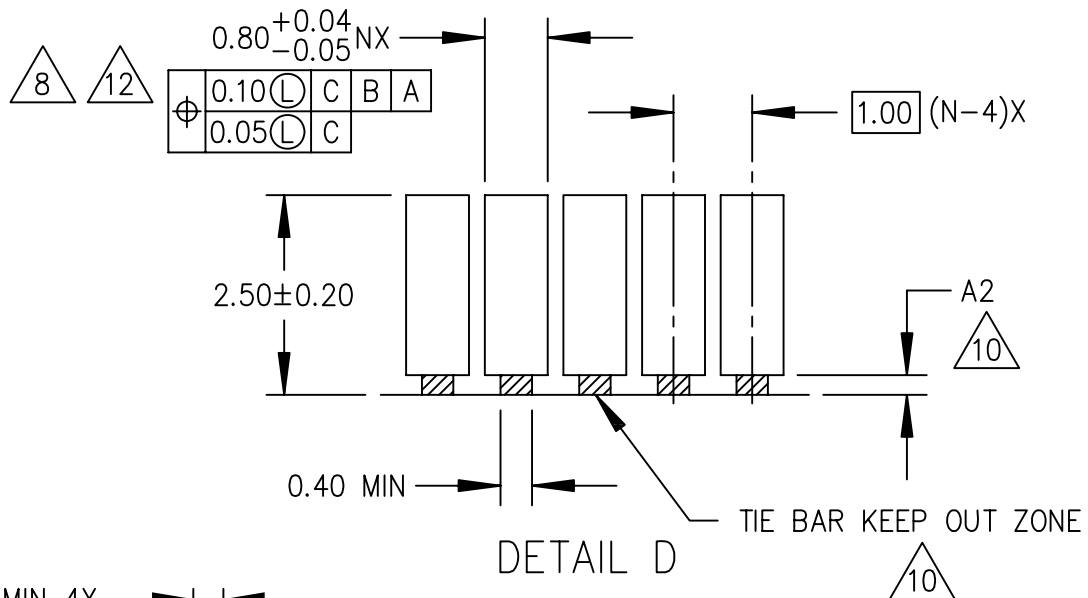
DETAIL A : CENTER KEY ZONE



VIEW B-B 15



VIEW G-G 15



## COMMON DIMENSION TABLE

SYMBOL	MIN	NOM	MAX	NOTES
A1	10.00 BASIC			
A2	0.05	0.20	0.35	
A3	17.80 BASIC			
D	133.20	133.35	133.50	
D1	4.00 BASIC			4
D2	2.50 BASIC			4
e1	63.00 BASIC			
e2	55.00 BASIC			
N	240			8
NOTES	1, 2, 3, 5, 6			
REF	14-054			
ISSUE	A			

## VARIATIONS

VAR SYMBOL	AB			BB			CB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	
A	29.85	30.00	30.50	29.85	30.00	30.50	29.85	30.00	30.50	
E	—	—	4.00	—	—	6.75	—	—	7.55	5
E1	—	—	2.70	—	—	4.05	—	—	4.45	
NOTES	1, 2, 3									
REF	14-054									
ISSUE	B									

## VARIATIONS

VAR SYMBOL	DB			EB			FB			GB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	
A	18.15	18.30	18.45	18.15	18.30	18.45	18.15	18.30	18.45	18.15	18.30	18.45	
E	–	–	4.00	–	–	6.75	–	–	7.55	–	–	10.55	5
E1	–	–	2.70	–	–	4.05	–	–	4.45	–	–	5.95	
NOTES	1, 2, 3, 5, 6												
REF	14–080												
ISSUE	E												

## VARIATIONS

VAR SYMBOL	HB			JB			KB			LB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	
A	17.80	17.90	18.00	17.80	17.90	18.00	17.80	17.90	18.00	17.80	17.90	18.00	
E	–	–	4.00	–	–	6.75	–	–	7.55	–	–	10.55	5
E1	–	–	2.70	–	–	4.05	–	–	4.45	–	–	5.95	
NOTES	1, 2, 3, 5, 6												
REF	14–080												
ISSUE													

## NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5M-1994.
2. TOLERANCES ON ALL DIMENSIONS  $\pm 0.15$  UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE IN mm.
4. THE JC-45 COMMITTEE CONTROLS THE SIGNIFICANCE OF OFFSET KEY POSITION. IT IS SHOWN FOR REFERENCE ONLY, AND IS SUBJECT TO CHANGE.
5. DIMENSIONS APPLICABLE WHEN COMPONENTS MOUNTED ON ONE OR BOTH SIDES.
6. CARD THICKNESS APPLIES ACROSS TABS AND INCLUDES PLATING AND/OR METALIZATION. STRAIGHTNESS CALLOUT APPLIES TO ZONE DEFINED BY THE 4.00 CONTACT AREA DIMENSION FOR THE ENTIRE LENGTH OF 133.35.
7. BORDER OF COMPONENT AREA.
8. N IS THE TOTAL NUMBER OF CIRCUIT CONTACTS (PINS, LEADS, TABS, PADS).
9. 3.00mm MINIMUM APPLIES TO BOTH 4.00mm WIDE NOTCH LENGTH AND COMPONENT KEEPOUT AREA.
10. LEADING EDGE OF CONTACT PADS SPECIFIED BY THE KEEPOUT ZONE SHALL BE FREE OF BURRS AND EXTERNAL TIEBARS. FOR OPTIMUM PERFORMANCE, THE TIEBAR IS TO BE ON AN INTERNAL LAYER SO THAT THE REMNANT CANNOT CAUSE CONTACT DAMAGE.
11. OPTIONAL CHAMFER OR RADIUS ON ALL EXISTING CORNERS OF MODULES.

## APPLICATION NOTES:

12. RECOMMENDED PLATING FOR CONTACT PADS ARE:
  - 1) PREFERABLE PLATING: ELECTROLYTIC GOLD PLATING 0.76 MICROMETERS MINIMUM OVER ELECTROLYTIC NICKEL 2.00 MICROMETERS MINIMUM.
  - 2) ALTERNATIVE PLATING: GOLD PLATING 0.05-0.75 MICROMETERS OVER NICKEL 2.00 MICROMETERS MINIMUM MUST USE AN ELECTRONIC CONTACT GRADE CORROSIVE BARRIER LUBRICANT.
13. THE BEVEL IS A FABRICATION OPTION AND IS NOT REQUIRED. THE BEVEL AIDS THE INSERTION OF THE MODULE INTO THE CONNECTOR. THE BEVEL IS NOT TO HIT THE GOLD CONTACTS.
14. PATENT CLAIM: IT HAS BEEN STATED THAT U.S. PATENT NO. 5,227,664 (HELD BY HITACHI) MAY RELATE TO CERTAIN IMPLEMENTATIONS OF THE PACKAGE OUTLINE.
15. VIEW B-B AND G-G APPLIES TO ALL VARIATIONS.

# CHANGE RECORD

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

INITIAL ISSUE:	DATE:	ITEM:
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REVISION HISTORY:
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ISSUE: E	DATE: JAN 06	ITEM: 11.14-80
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LOCATION:	CHANGE FROM:	CHANGE TO:
SHEET 2	ADDED	ADDED VLP FRONT/BACK SIDE VIEW
SHEET 3	LEFT KEY AND RIGHT KEY VARIATION	LEFT AND RIGHT KEY POSITION VARIATION MOVED
SHEET 4	DETAIL F FOR DRAM FOOTPRINT	DETAIL F FOR VLP NOTCH
SHEET 5	D1 IN VARIATION TABLE	ADDED D1 IN BASIC COMMON DIMENSION TABLE
SHEET 5	D2 IN VARIATION TABLE	ADDED D2 IN BASIC COMMON DIMENSION TABLE
SHEET 5	VARIATIONS AA, AC, BA, BC, CA, CC	REMOVED VARIATIONS AA, AC, BA, BC, CA, CC
SHEET 6	ADDED	ADDED VARIATIONS DB, EB, FB, GB

ISSUE: F	DATE: JUNE 07	ITEM: 11.14-104
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LOCATION:	CHANGE FROM:	CHANGE TO:
SHEET 2	VARIATIONS DB, EB, FB, GB	ADDED VARIATIONS HB, JB, KB, LB
SHEET 4	DETAILS E AND F	ADDED 3.00 MIN KEEPOUT AND 3.00 MAX SLOT DEPTH
SHEET 4	DETAIL D NOTE FLAGS 10 AND 11	CHANGED NOTE FLAG 10 TO 8 AND NOTE FLAG 11 TO 10; ADDED NOTE FLAG 11.
SHEET 4	DETAIL E AND F NOTE FLAGS	CHANGED 8 TO 9
SHEET 4	DETAIL F VARIATIONS CA, CB	ADDED HB, JB, KB, LB
SHEET 6	ADDED VARIATION TABLE	ADDED VARIATIONS HB, JB, KB, LB
SHEET 7	NOTE 14, SECTION B-B SHOWING VARIATIONS AB, BB, CB	SECTION B-B APPLIES TO ALL VARIATIONS

ISSUE:	DATE: APRIL 08	ITEM:
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LOCATION:	CHANGE FROM:	CHANGE TO:
SHEET 1, 2	SQUARE CORNERS OF MODULE	BEVELED 4 CORNERS OF MODULE AS OPTION
SHEET 1	PATENT NOTE ON DETAIL E AND F	NOTE MOVED TO BOTTOM OF PAGE 1 AND 2
SHEET 4	DETAILS D, E AND F	REVISED DETAILS E AND F TO SHOW OPTIONAL CHAMFER OR RADIUS
SHEET 4	DETAIL D- 0.80+0.05	0.80 +0.04 PER LATEST AGREED CHANGES
SHEET 7	14 TOTAL NOTES	ADDED NOTE 11 TO MAKE 15 NOTES