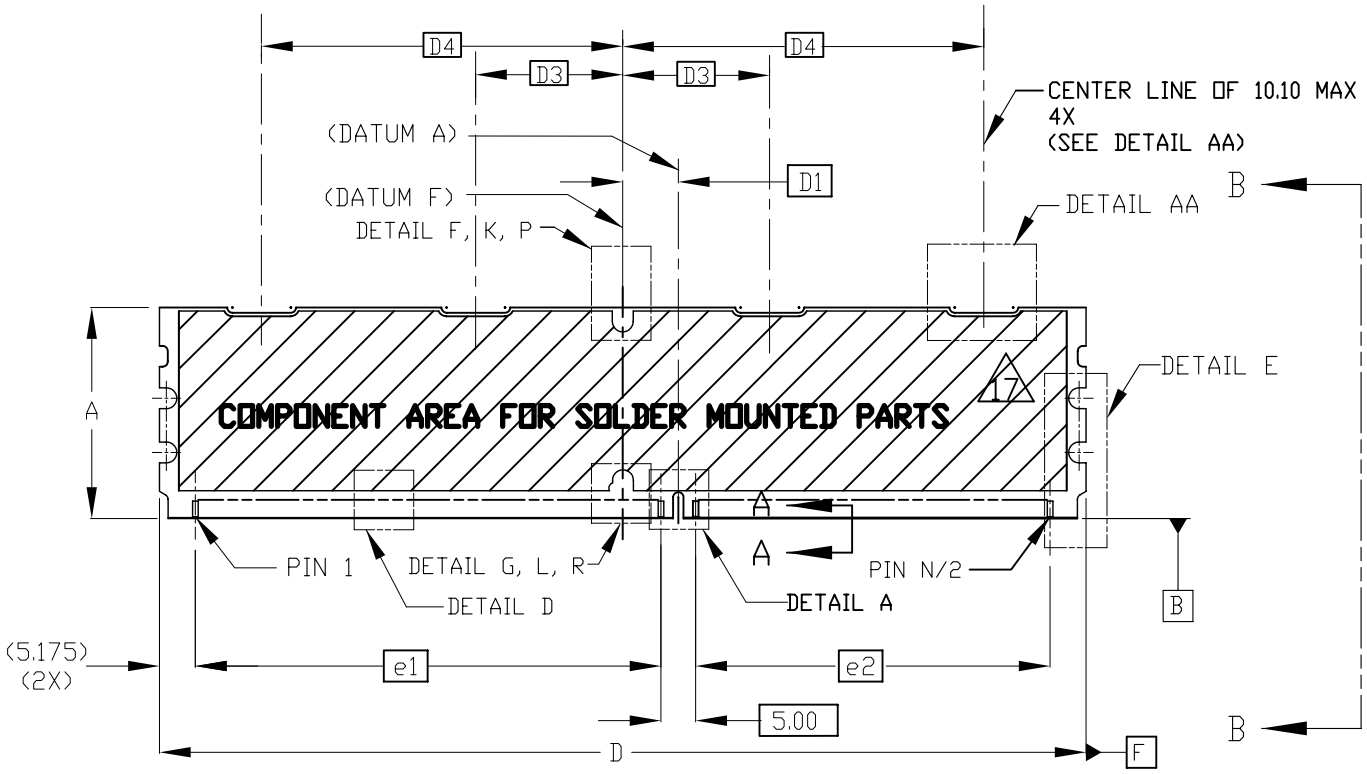
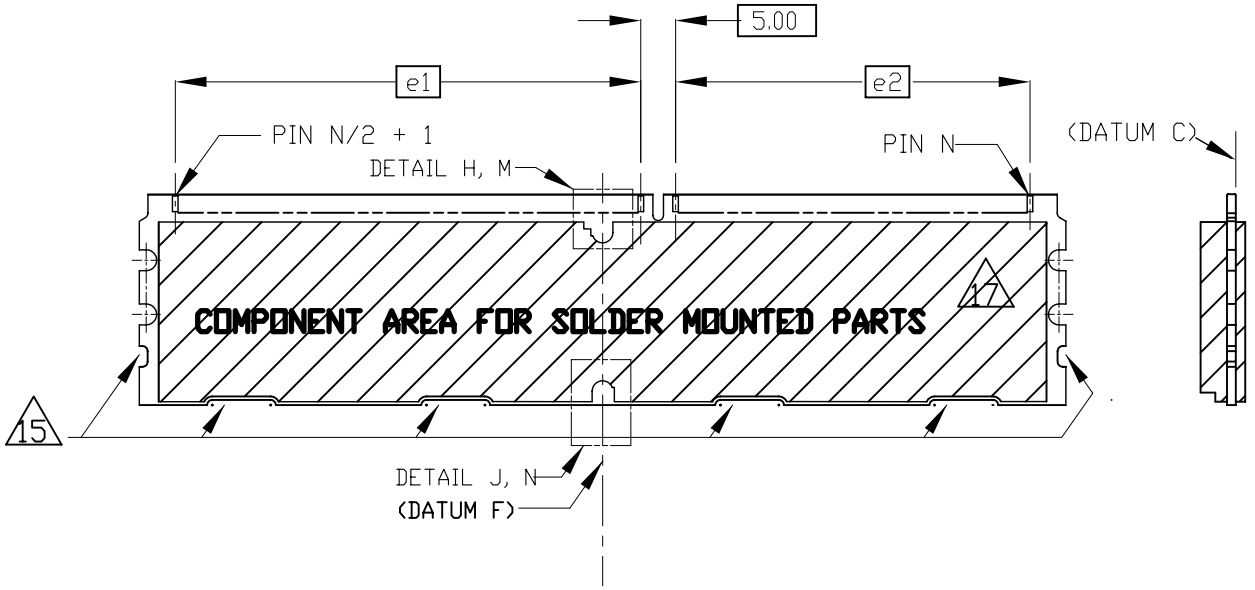


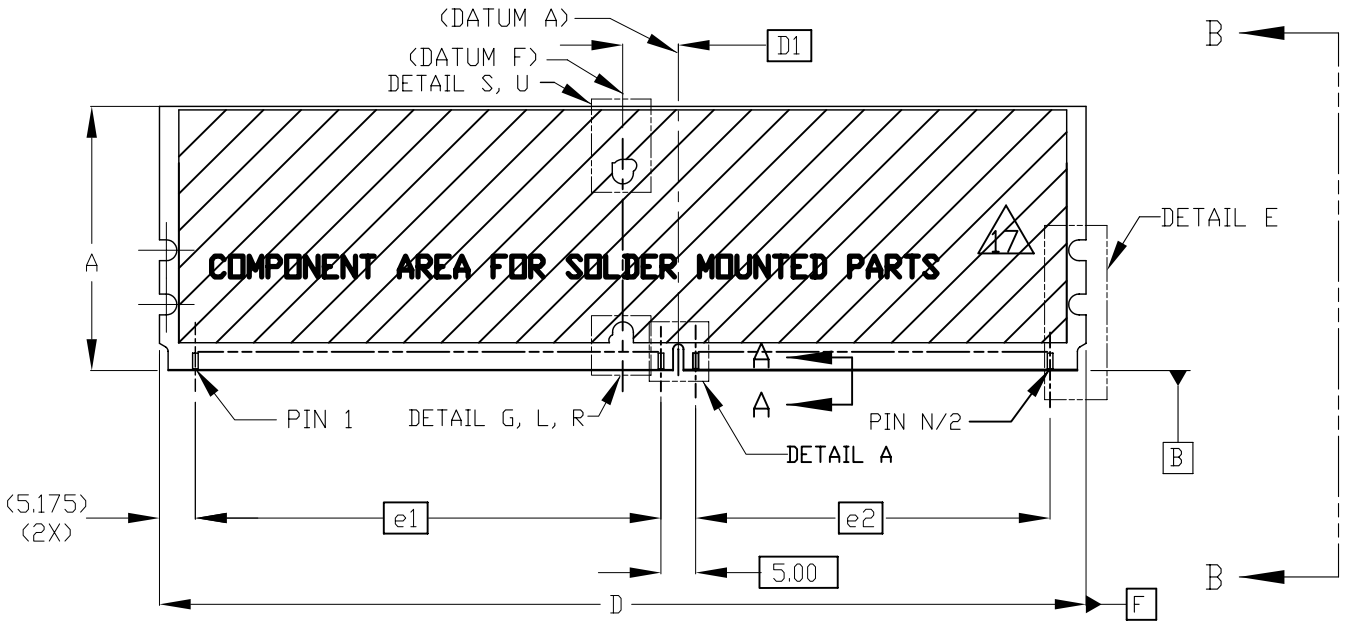
FRONT SIDE FOR VARIATION A, B, E



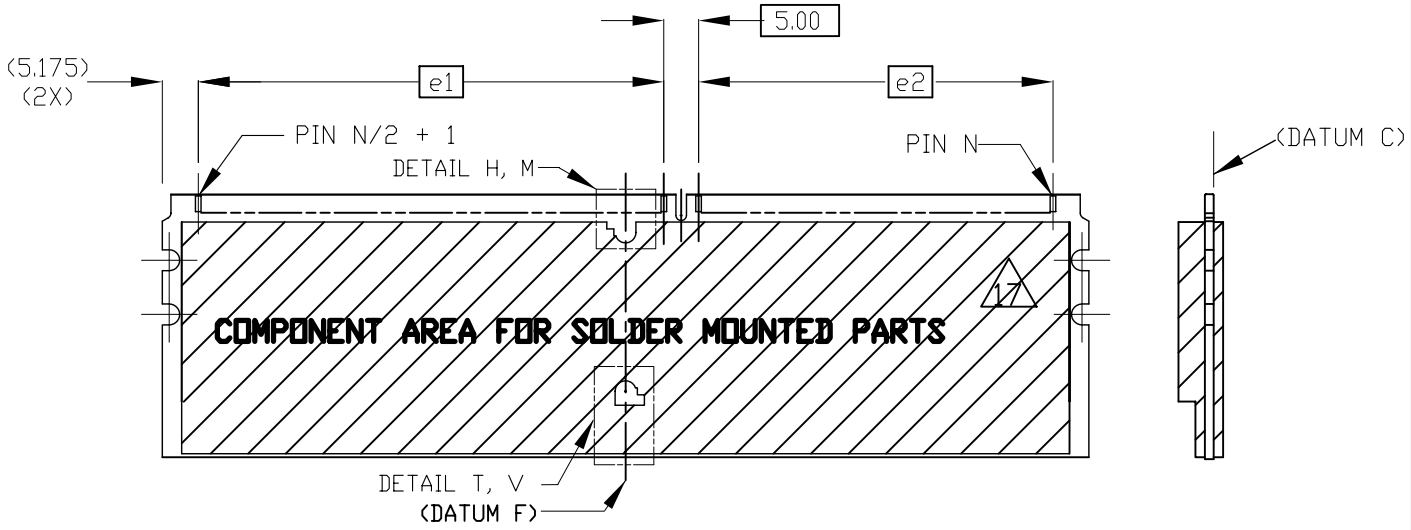
BACK SIDE FOR VARIATION A, B, E
CENTER KEY CONFIGURATION

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: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	DESIGNATOR:	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 1 OF 22



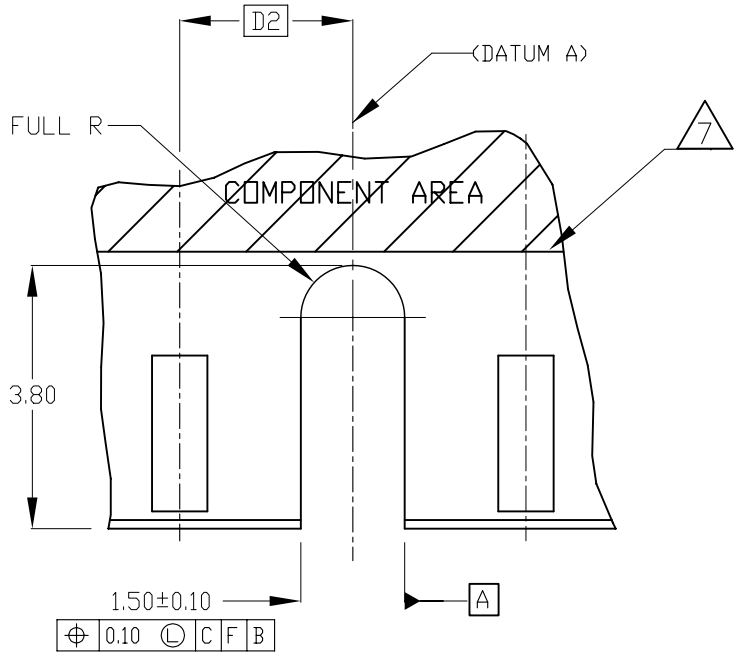
FRONT SIDE FOR VARIATION C, D, F



BACK SIDE FOR VARIATION C, D, F

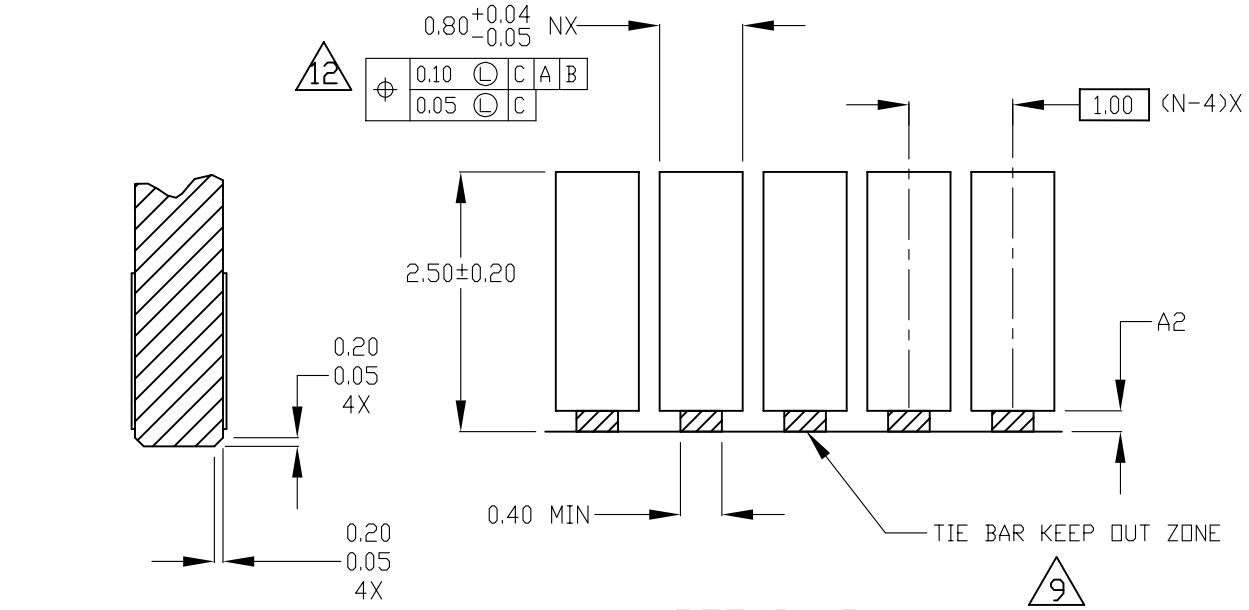
CENTER KEY CONFIGURATION

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 2 OF 22



4

DETAIL A: CENTER KEY ZONE



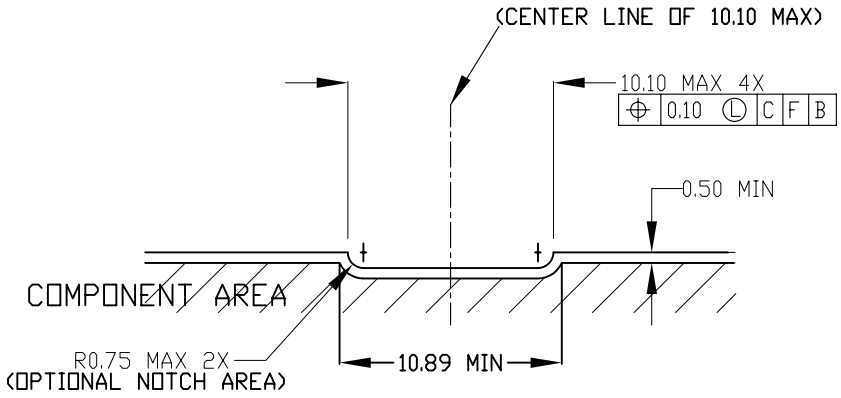
CROSS SECTION A-A

11

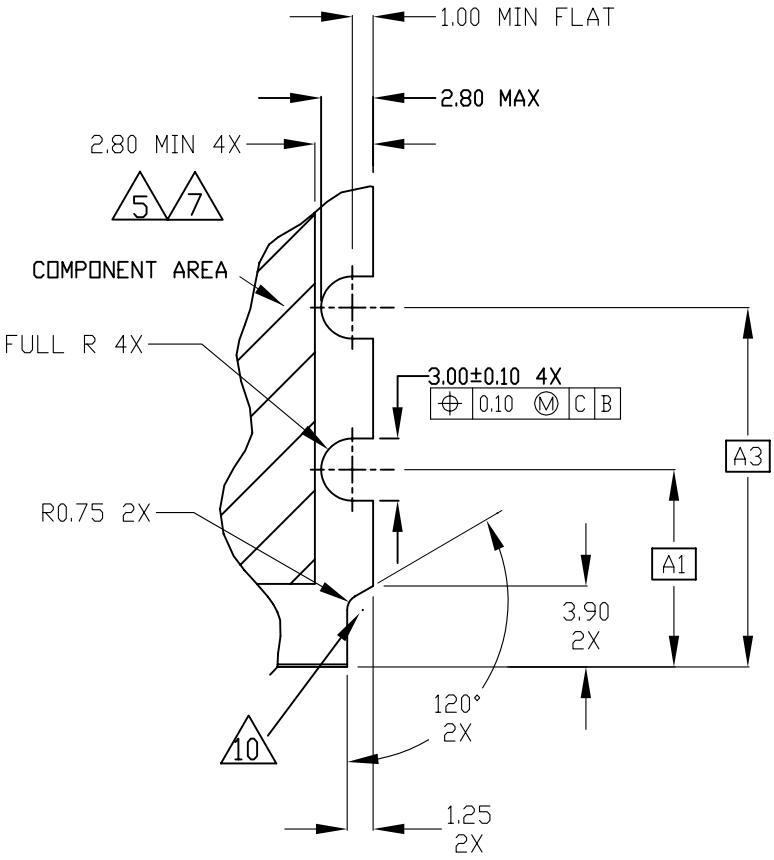
DETAIL D

9

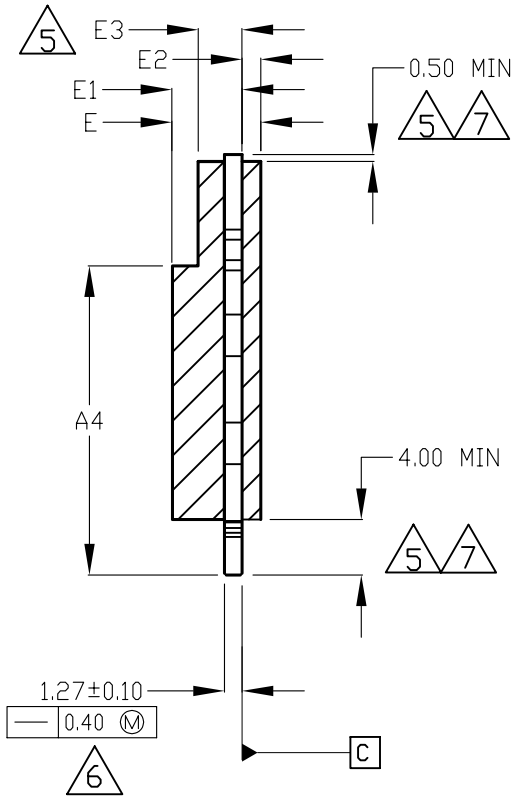
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 3 OF 22



DETAIL AA 15

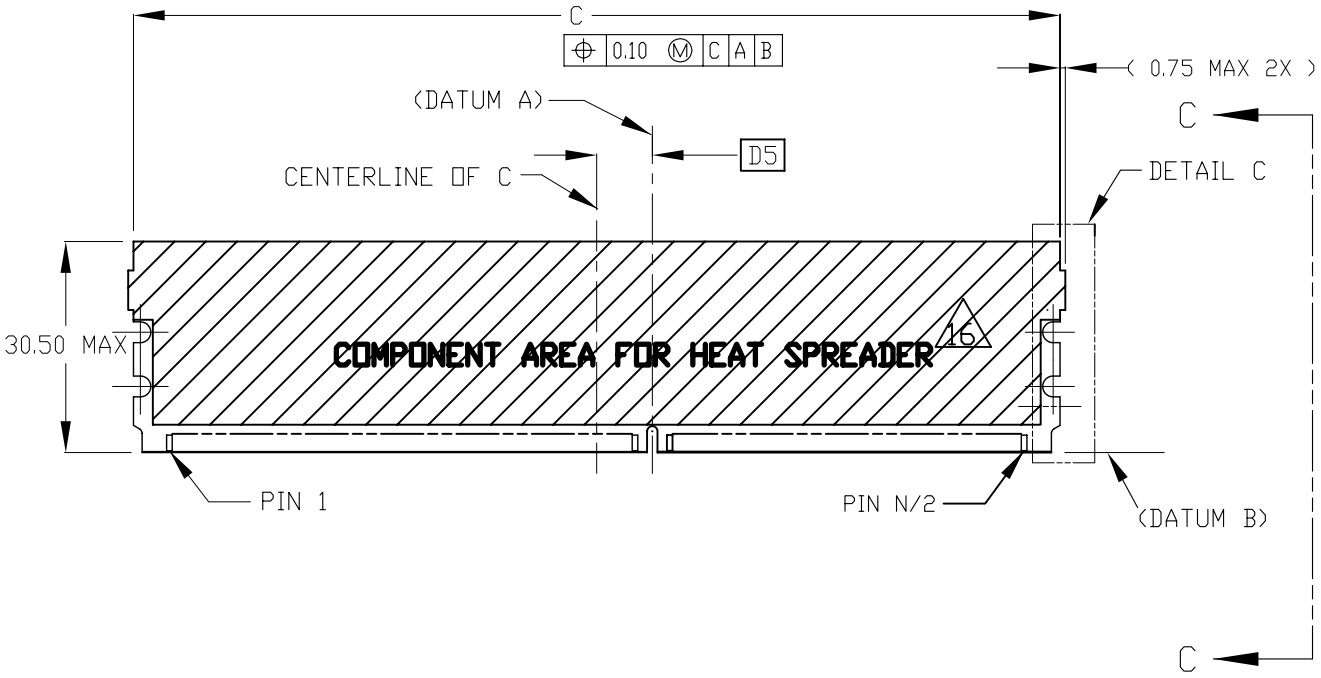


DETAIL E

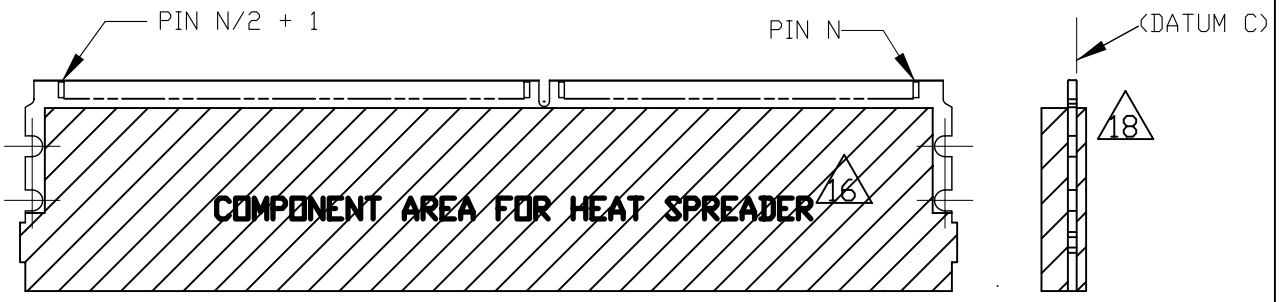


VIEW B-B 13

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 4 OF 22

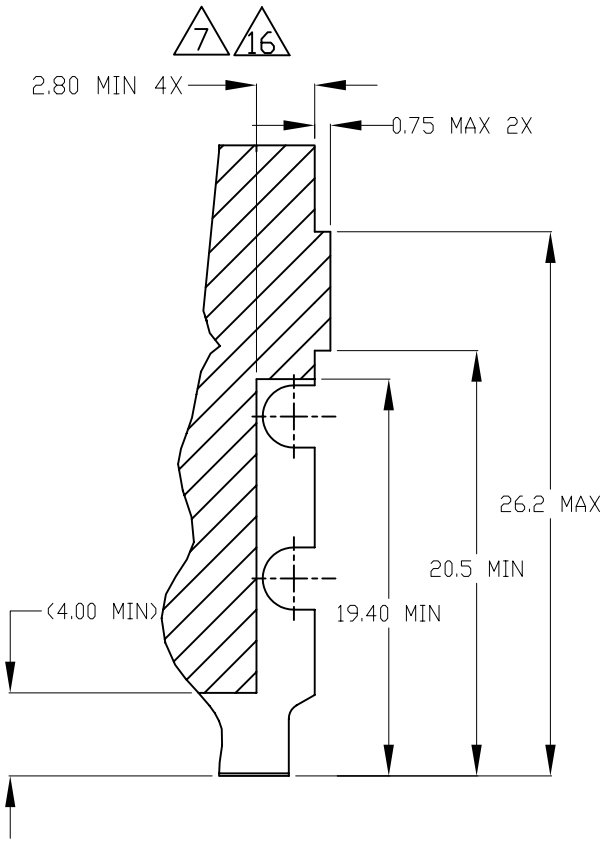


FRONT SIDE FOR VARIATION A, B, E

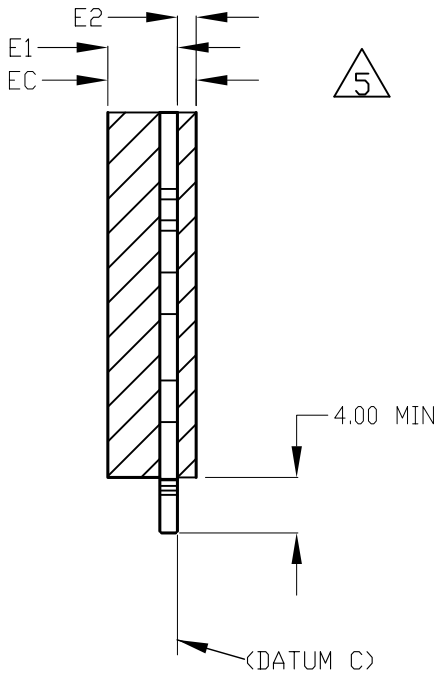


BACK SIDE FOR VARIATION A, B, E
CENTER KEY CONFIGURATION

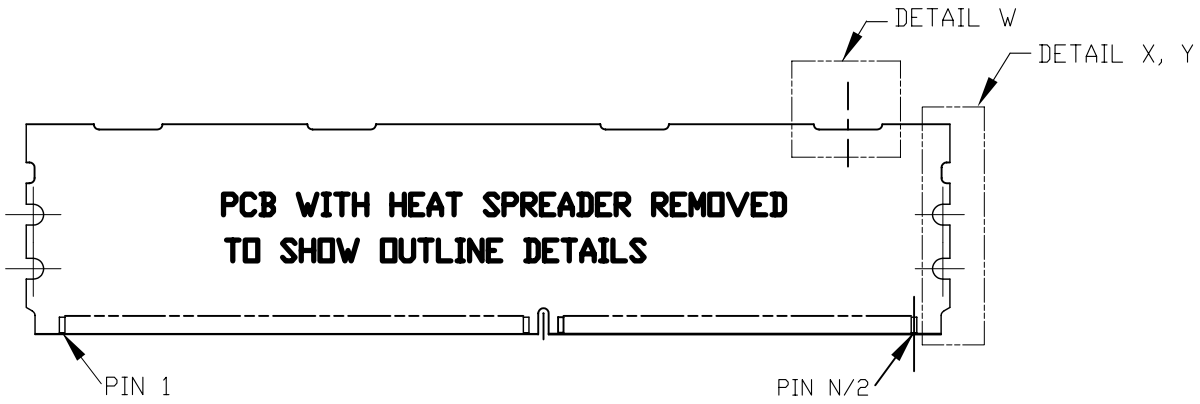
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 5 OF 22



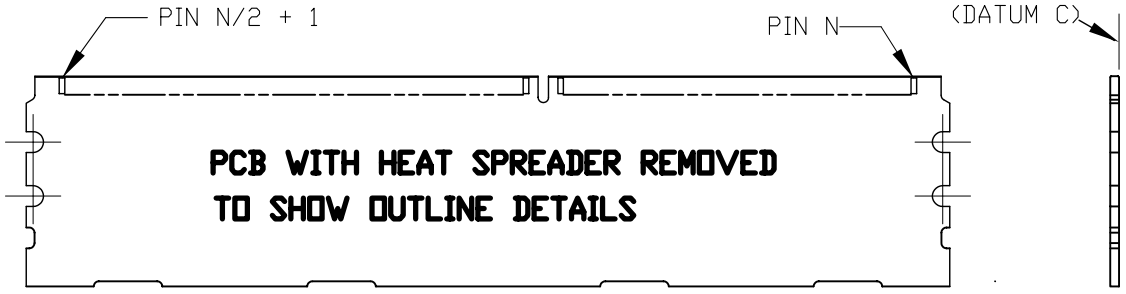
DETAIL C



VIEW C-C

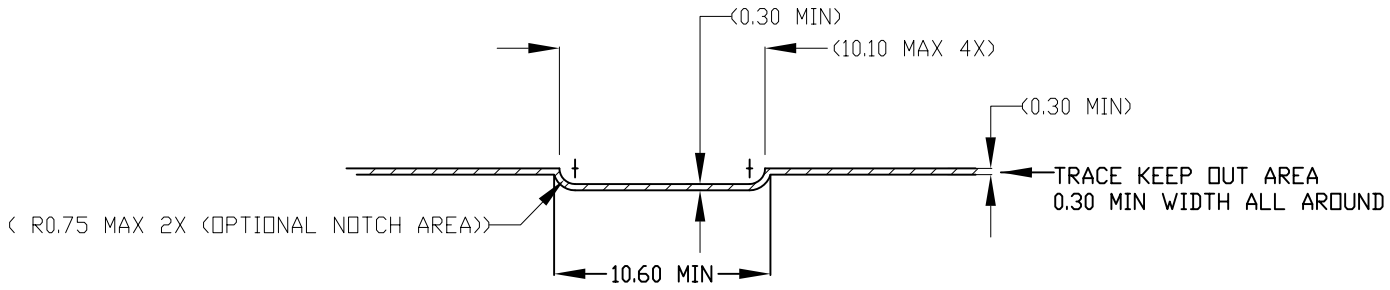


FRONT SIDE FOR VARIATION A, B, E



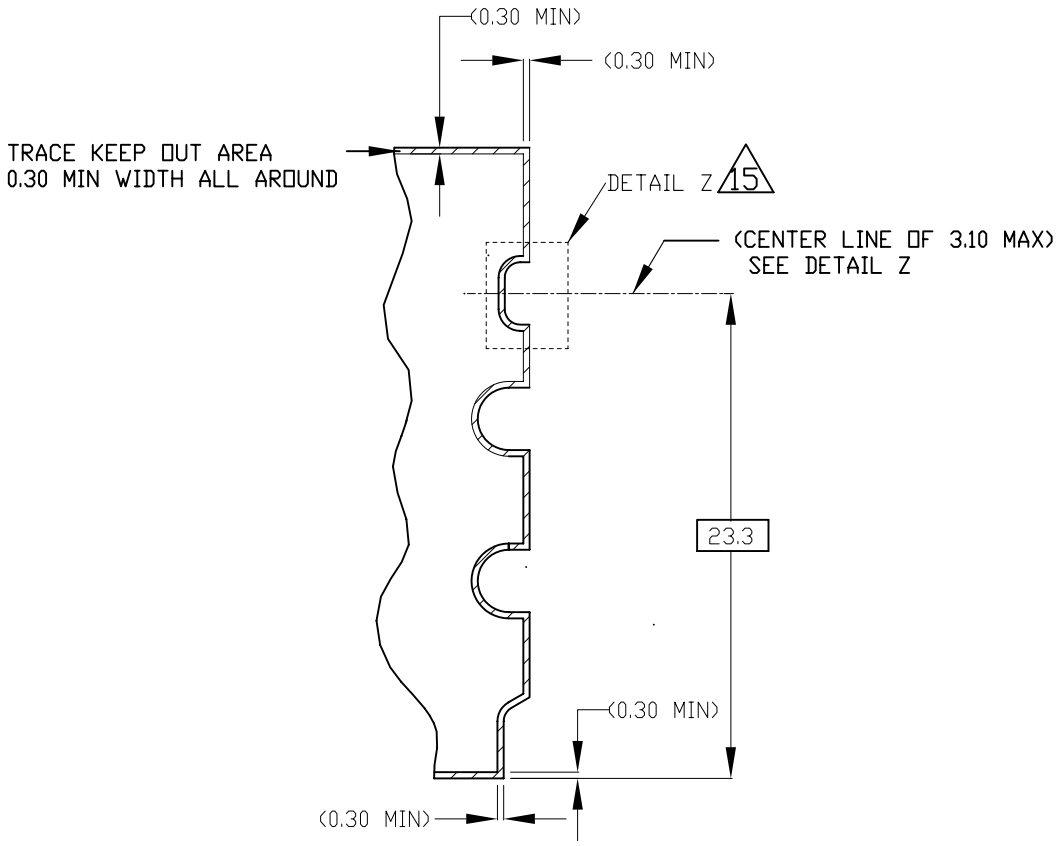
BACK SIDE FOR VARIATION A, B, E

TRACE KEEP OUT AREA



DETAIL W 15

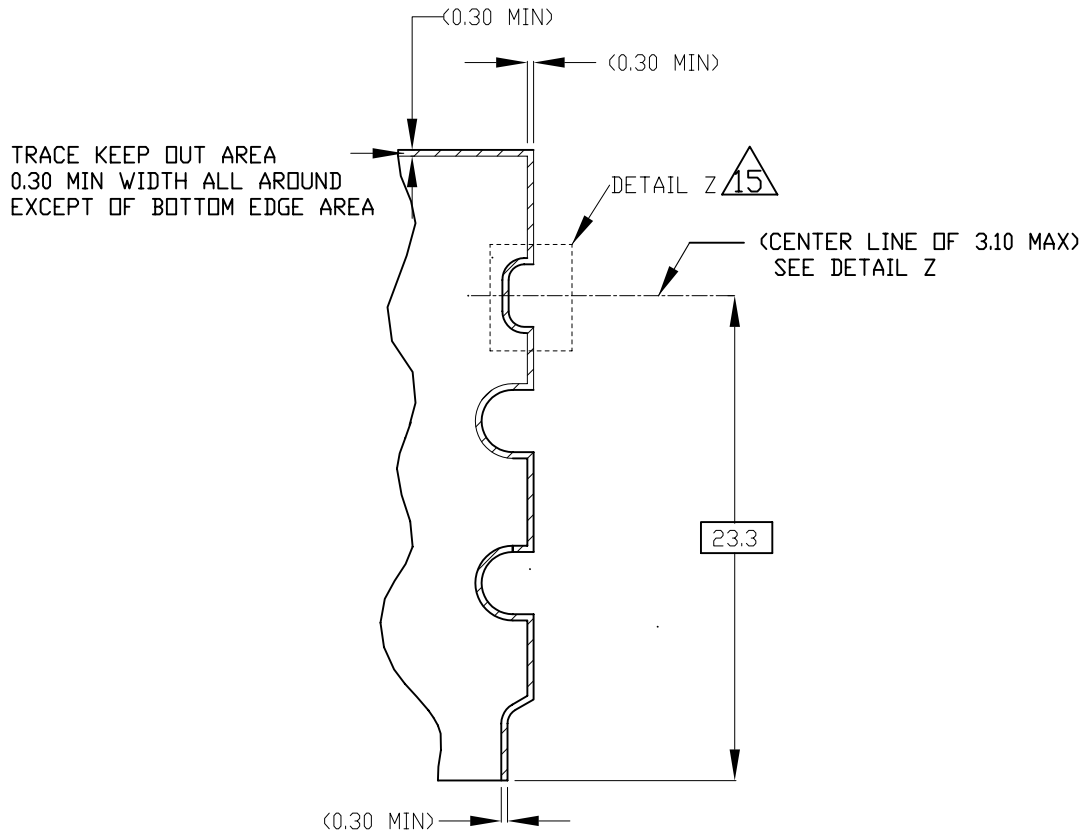
PCB ALL LAYERS, TOP EDGE AREA



DETAIL X

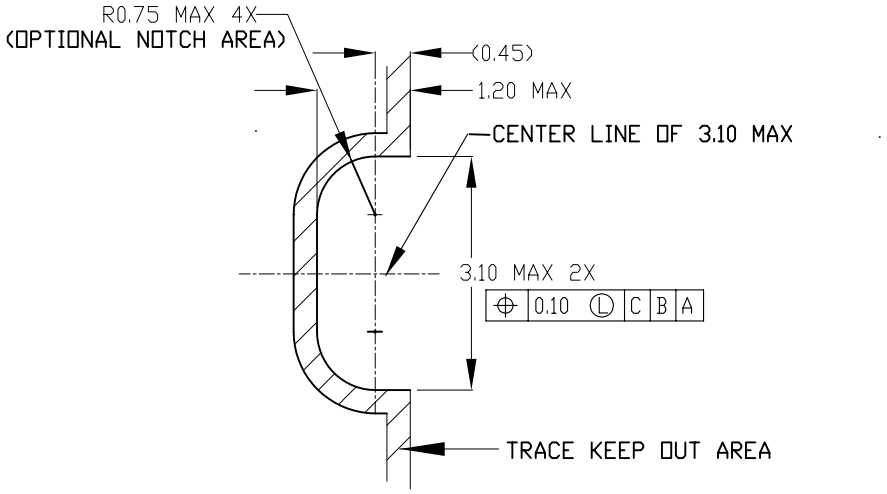
PCB INNER LAYERS, SIDE EDGE AREA

TRACE KEEP OUT AREA



DETAIL Y

PCB FRONT AND BACK SIDE, SIDE EDGE AREA

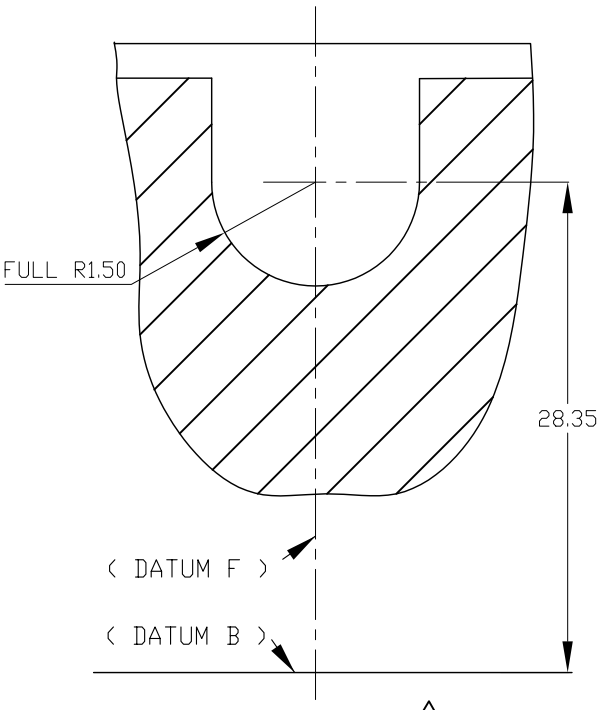


DETAIL Z 15

PCB ALL LAYERS, SIDE EDGE AREA

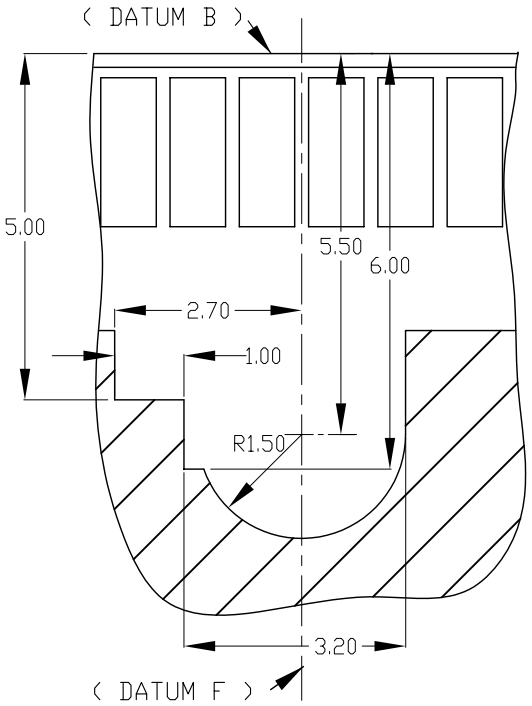
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 9 OF 22

COMPONENT AREA



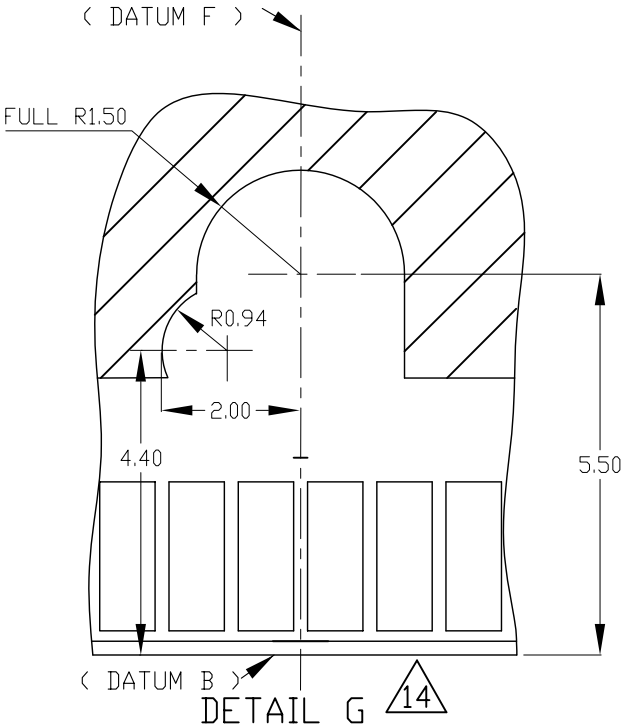
DETAIL F 14

FRONT SIDE, TOP EDGE AREA



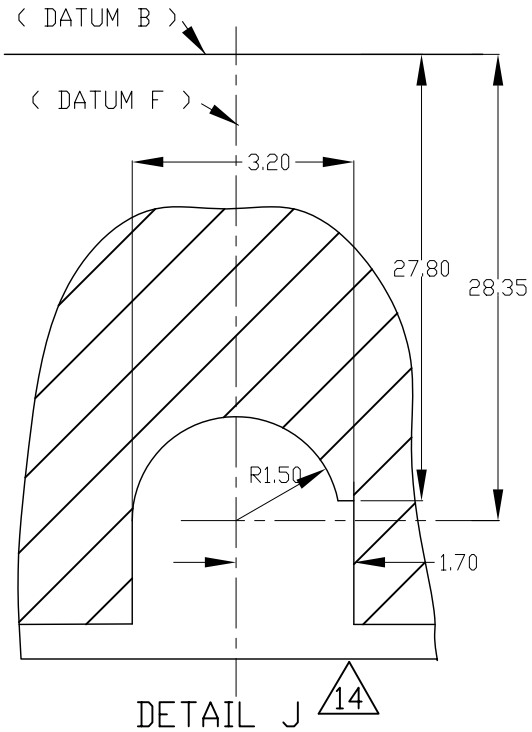
DETAIL H 14

BACK SIDE, BOTTOM EDGE AREA



DETAIL G 14

FRONT SIDE, BOTTOM EDGE AREA

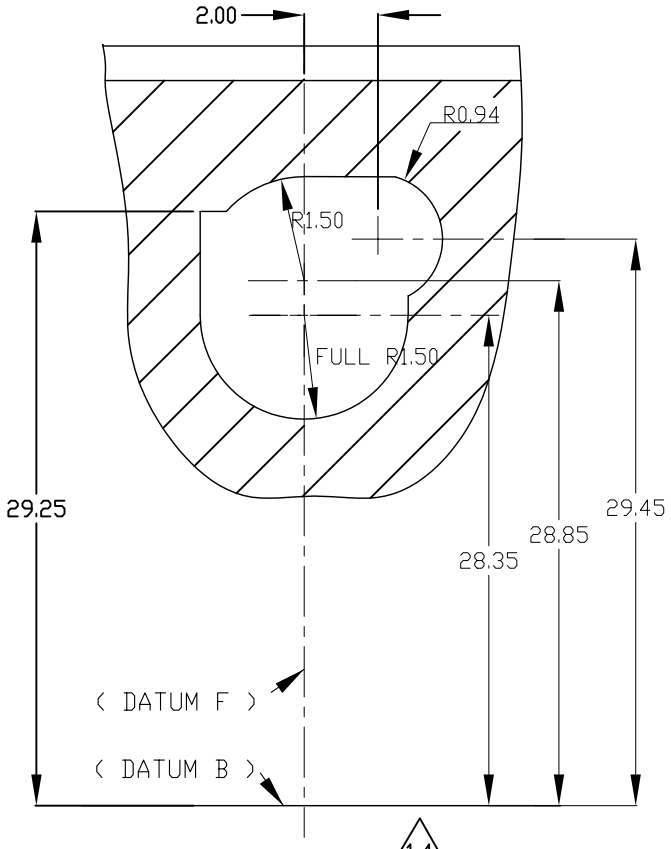


DETAIL J 14

BACK SIDE, TOP EDGE AREA

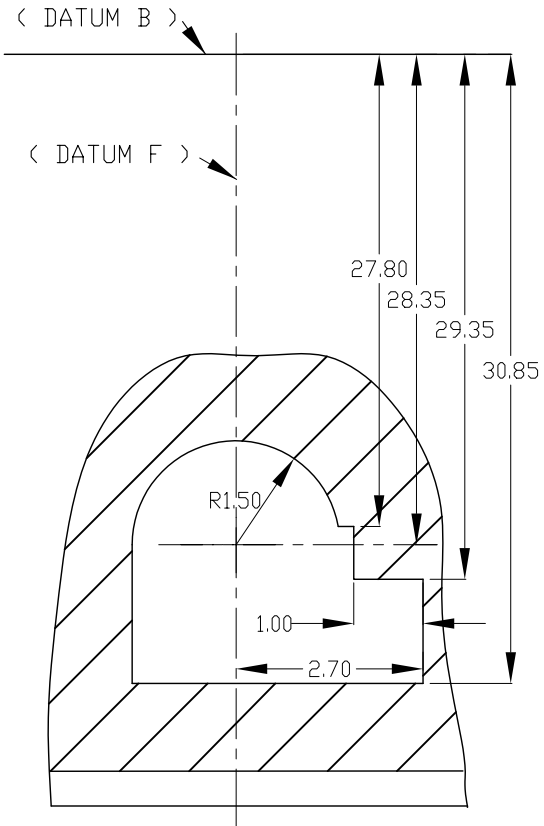
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 10 OF 22

COMPONENT AREA



DETAIL S 14

FRONT SIDE, TOP EDGE AREA

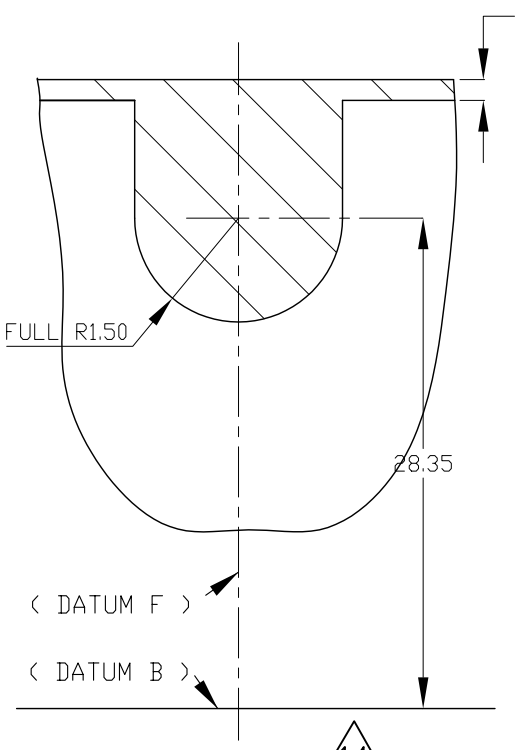


DETAIL T 14

BACK SIDE, TOP EDGE AREA

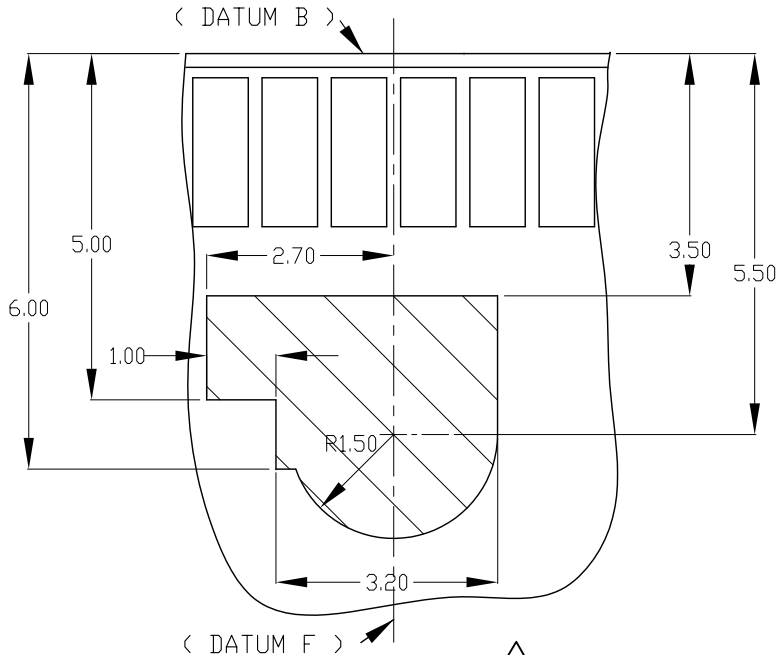
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 11 OF 22

TRACE KEEP OUT AREA



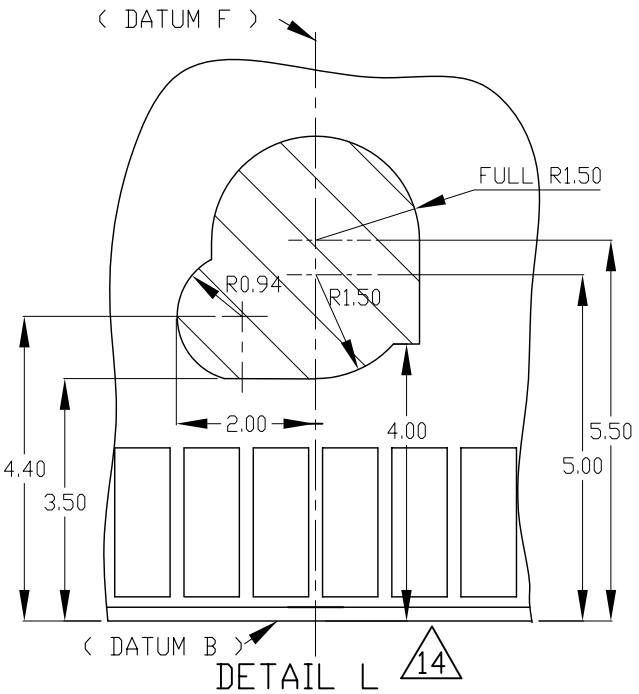
DETAIL K 14

FRONT SIDE, TOP EDGE AREA



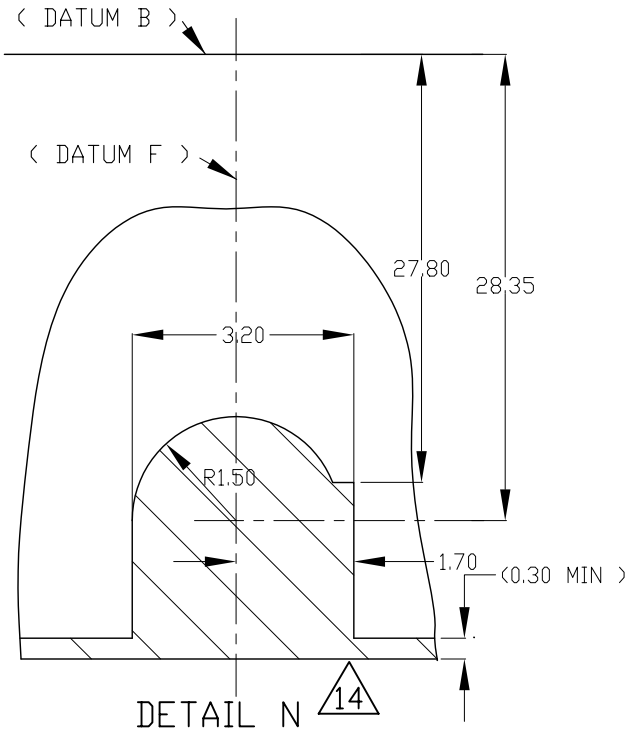
DETAIL M 14

BACK SIDE, BOTTOM EDGE AREA



DETAIL L 14

FRONT SIDE, BOTTOM EDGE AREA

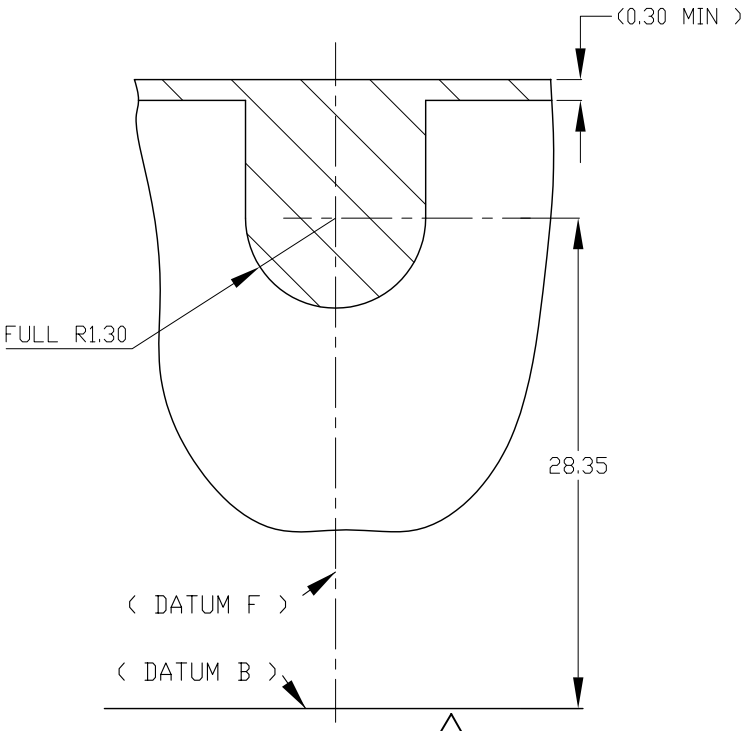


DETAIL N 14

BACK SIDE, TOP EDGE AREA

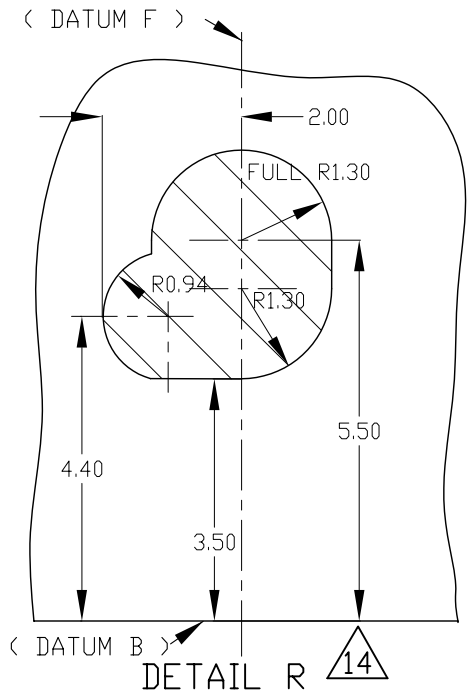
JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 12 OF 22

TRACE KEEP OUT AREA



DETAIL P

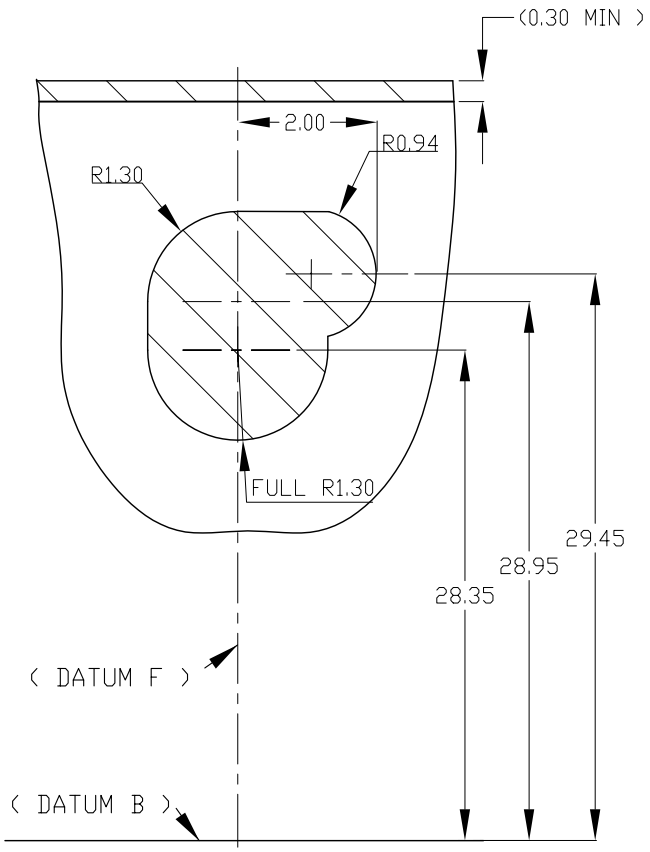
INNER LAYERS (PERSPECTIVE FROM FRONT SIDE), TOP EDGE AREA



DETAIL R

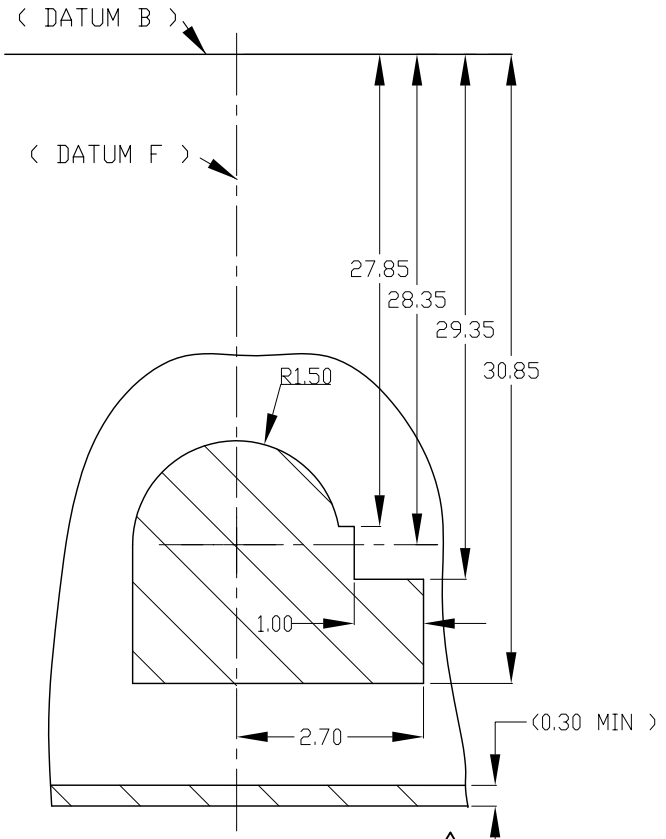
INNER LAYERS (PERSPECTIVE FROM FRONT SIDE), BOTTOM EDGE AREA

TRACE KEEP OUT AREA



DETAIL U 14

FRONT SIDE AND INNER LAYERS
(PERSPECTIVE FROM FRONT SIDE),
TOP EDGE AREA

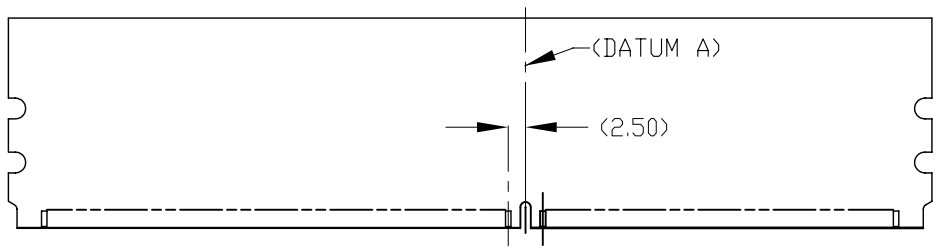


DETAIL V 14

BACK SIDE, TOP EDGE AREA

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE: FBDIMM (DUAL INLINE MEMORY MODULE) FAMILY 1.00 mm CONTACT CENTERS	ISSUE: F	DATE: Jun 07	MO-256	PAGE: 14 OF 22

MECHANICAL KEYING (FRONT VIEWS)

VDD	CENTER KEY POSITION 4
1.8 V	

COMMON DIMENSION TABLE

SYMBOL	MIN	NOM	MAX	NOTES
A1		9.50 BASIC		
A2	0.05	0.20	0.35	
A3		17.30 BASIC		
C	133.20	133.35	133.50	
D	133.20	133.35	133.50	
D3		21.15 BASIC		
D4		52.00 BASIC		
e1		67.00 BASIC		
e2		51.00 BASIC		
N		240		8
NOTES	1, 2, 3			
REF	14-TBD			
ISSUE	TBD			

VARIATIONS

VAR / SYMBOL	A			B			C			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	
A	30.20	30.35	30.50	30.20	30.35	30.50	37.85	38.00	38.15	
A4	–	–	29.70	–	–	29.70	–	–	29.70	
D1	8.00 BASIC			8.00 BASIC			8.00 BASIC			4
D2	2.50 BASIC			2.50 BASIC			2.50 BASIC			4
D5	8.00 BASIC			8.00 BASIC			8.00 BASIC			4
E	–	–	8.20	–	–	8.80	–	–	8.20	
E1	–	–	5.20	–	–	5.80	–	–	5.20	
E2	–	–	3.00	–	–	3.00	–	–	3.00	
E3	–	–	4.40	–	–	4.40	–	–	4.40	
EC	–	–	8.20	–	–	8.80	–	–	8.20	
NOTES	1, 2, 3									
REF										
ISSUE										

VAR / SYMBOL	D			E			F			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	
A	37.85	38.00	38.15	30.20	30.35	30.50	37.85	38.00	38.15	
A4	–	–	29.70	–	–	29.70	–	–	37.35	
D1	8.00 BASIC			8.00 BASIC			8.00 BASIC			4
D2	2.50 BASIC			2.50 BASIC			2.50 BASIC			4
D5	8.00 BASIC			8.00 BASIC			8.00 BASIC			4
E	–	–	8.80	–	–	23.00	–	–	23.00	
E1	–	–	5.80	–	–	12.70	–	–	12.70	
E2	–	–	3.00	–	–	10.30	–	–	10.30	
E3	–	–	4.40	–	–	–	–	–	–	
EC	–	–	8.80	–	–	23.00	–	–	23.00	
NOTES	1, 2, 3									
REF										
ISSUE										

NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5M-1994.
2. TOLERANCES ON ALL DIMENSIONS ±0.15 UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS ARE IN MILLIMETERS (mm).

4 THE JC-45.4 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. PCB THICKNESS NOT TO BE EXCEEDED OUTSIDE COMPONENT AREA.

6 CARD THICKNESS APPLIES ACROSS TABS AND INCLUDES PLATING AND/OR METALLIZATION. 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 LEADING EDGE OF CONTACT PADS SPECIFIED BY THE KEEPOUT ZONE SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS. FOR OPTIMUM PERFORMANCE. THE TIE BAR IS TO BE ON AN INTERNAL LAYER SO THAT THE REMNANT CANNOT CAUSE CONTACT DAMAGE.

10 BOTH END NOTCHES MUST BE USED FOR MODULE KEYING.

APPLICATION NOTES:

11 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.

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 VIEW B-B MODULE THICKNESS INCLUDES AMB AND HEAT SPREADER ASSEMBLY.

14 OPTIONAL COMPONENT KEEP-OUT DETAILS F, G, H, J, S AND T SHOW AREAS INTENDED GENERALLY FOR USE BY AMB BUFFER HEAT SPREADER RETENTION FEATURES; DETAILS ARE APPLICABLE TO MO VARIATIONS Ax, Bx, Cx AND Dx. THROUGH-HOLES OR NOTCHES MAY BE LOCATED IN THESE AREAS. COMPONENT ENCROACHMENT IS ALLOWED IN THE AREAS WHEN COMPATIBLE WITH RETENTION FEATURES.

15 THE NOTCH IS OPTIONAL. THE MAXIMUM AREA FOR NOTCH IS SHOWN. ANY NOTCH FEATURE IS ALLOWED WITHIN THE NOTCH AREA.

16 DEFINITION OF COMPONENT AREA FOR HEAT SPREADER IS AREA FOR HEAT SPREADER (INCLUDING FULL MODULE HEAT SPREADER) AND HEAT SPREADER CLIPS.

17 DEFINITION OF COMPONENT AREA FOR SOLDER MOUNTED PARTS IS AREA FOR SOLDER MOUNTED PARTS, NOT INCLUDING HEAT SPREADER AND HEAT SPREADER CLIPS.

18 ADEQUATE CLEARANCE MUST BE MAINTAINED BETWEEN THE HEAT SPREADER AND ANY COMPONENT WITH THE EXPOSED LEADS TO PREVENT SHORTING. SPACING MUST ACCOUNT FOR WARPING OR TWISTING DURING HANDLING.

Change Record

If the changes involves any words added or deleted (excluding deletion of accidentally repeated words), the change is included. Punctuation chages may or may not be included.

Initial Issue:	Date: September 2004	Item: JC11.14-066

Revision History:

Issue: B	Date: February 2005	Item: JC11.14-073

Location	Change from:	Change to:
Page 3 of 8, View B-B	The only E, E1 and E2 existed for DIMM thickness	Added E3 for DRAM thickness and A4 for AMB area
Page 5 of 8, Table for Variations Ax	E, E1 and E2 existed for thickness	Changed E, E1 and added E3
Page 6 of 8, Table for Variations Bx	E, E1 and E2 existed for thickness	Changed E, E1 and added E3
Page 6 of 8, Table for Variations Cx	No table for Variations Cx existed	Table for Variations Cx was added
Page 7 of 8, Table for Variations Dx	No table for Variations Dx existed	Table for Variations Dx was added

Issue: C	Date: November 2005	Item: JC11.14-081

Location	Change from:	Change to:
Page 1, Front/Back side drawing	No component area detail for HS retention feature	Added Detail F, G, H, J, K, L, M, N, P and R for HS retention feature
Page 1, side view drawing	Datum C	(Datum C)
Page 2	No Front/Back drawing for variations Cx, Dx	Added Front/Back side drawing for Variation Cx, Dx
Page 4 in issue B	Common footprint drawing	Deleted the page
Page 5	No Detail F, G, H and J	Added Detail F, G, H, and J
Page 6	No Detail S and T	Added Detail S and T
Page 7	No Detail K, L, M and N	Added Detail K, L, M and N
Page 8	No Detail P and R	Added Detail P and R
Page 9	No Detail U and V	Added Detail U and V
Page 10	No mechanical keying table	Added table for mechanical keying
Page 11, E1, E2, E3 in Variation Ax	E1=6.80, E2=1.40, E3=2.80 (MAX)	E1=5.20, E2=3.00, E3=4.40 (MAX)
Page 12, E, E1 in Variation Bx	E=9.80, E1=6.80 (MAX)	E=8.80, E1=5.80 (MAX)
Page 12, E1, E2, E3 in Variation Cx	E1=6.80, E2=1.40, E3=2.80 (MAX)	E1=5.20, E2=3.00, E3=4.40 (MAX)
Page 13, E, E1 in Variation Dx	E=9.80, E1=6.80 (MAX)	E=8.80, E1=5.80 (MAX)
Page 14, Note 12	THE JC-45.4 COMMITTEE ...	COMMON FOOTPRINT.... DELETED
Page 14, Note 14	... HEAT SPREADER	... HEAT SPREADER ASSEMBLY
Page 15, Note 15	No Note 15 existed	Added Note 15

Change Record

If the changes involves any words added or deleted (excluding deletion of accidentally repeated words), the change is included. Punctuation chages may or may not be included.

Revision History:		
Issue: D	Date: April 2006	Item: JC11.14–089

Location	Change from:	Change to:
Page 1	PCB flat top edge	Optional notch for FMHS is added
	View C–C	CROSS SECTION A–A
	Detail W	Detail AA
Page 1, 2	COMPOENT AREA	COMPOENT AREA FOR MOUNTED PARTS
	—	Added Note 15, 17
Page 3, 4	View C–C	CROSS SECTION A–A, Moved to page 3
	Detail D	Move to Page3, Changed pad size
Page 5	—	New page of Compoent Area for HS
Page 6		New page for Detail C, View C–C
Page 7	—	New page for PCB HS removed, Detail W, X and Y
Page 8, 9	Trace Keepout Area (Page 10,11)	Move to Page 8, 9 Added Detail Z
Page 10, Detail F, G	(Double dimension)	Corrected to single dimension
Page 11, Detail S	—	Added a dimension
Page 12, Detail K, L	(Double dimension)	Corrected to single dimension
Page 13, Detail P	(Double dimension)	Corrected to single dimension
Page 14, Detail U	—	Added a dimension
Page 15, Mechanical Keying	—	Deleted the xA, xC variation
Page 16, Common Dimension table	—	Added C on table
Page 17, Variations	AA,AB,AC,BA,.....CC,DA,DB,DC	Changed to A, B, C, D. Added D5
	—	Added EC for HS thickness
Page 18	—	Note 10 moved to Application note
Page 19	—	Added Note 15, 16 and 17

Issue: E	Date: January 2007	Item: JC11.14–107

Location	Change from:	Change to:
Page 5, Page 19	—	Added Note 18

Change Record

If the changes involves any words added or deleted (excluding deletion of accidentally repeated words), the change is included. Punctuation chages may or may not be included.

Initial Issue:	Date: September 2004	Item: JC11.14–066

Revision History:

Issue: F	Date: June 2007	Item: JC11.14–108

Location	Change from:	Change to:
Page 1, two places	... VARIATION A, B	... VARIATION A, B, E
Page 2, two places	... VARIATION C, D	... VARIATION C, D, F
Page 5, two places	... VARIATION A, B	... VARIATION A, B, E
Page 7, two places	... VARIATION A, B	... VARIATION A, B, E
Page 17, Variations Table	Variations A, B, C, D defined.	Added Variations E and F for taller heatsink option to both sides, all current module sizes.