

VARIATIONS AX

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
144 PIN DDR1/DDR2/DDR3
16b/32b SODIMM, 0.80MM PITCH

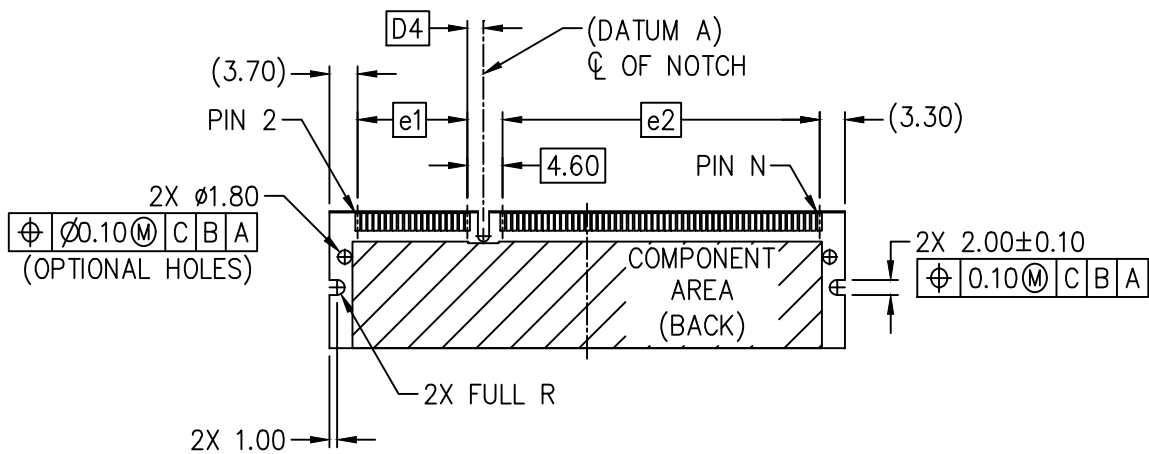
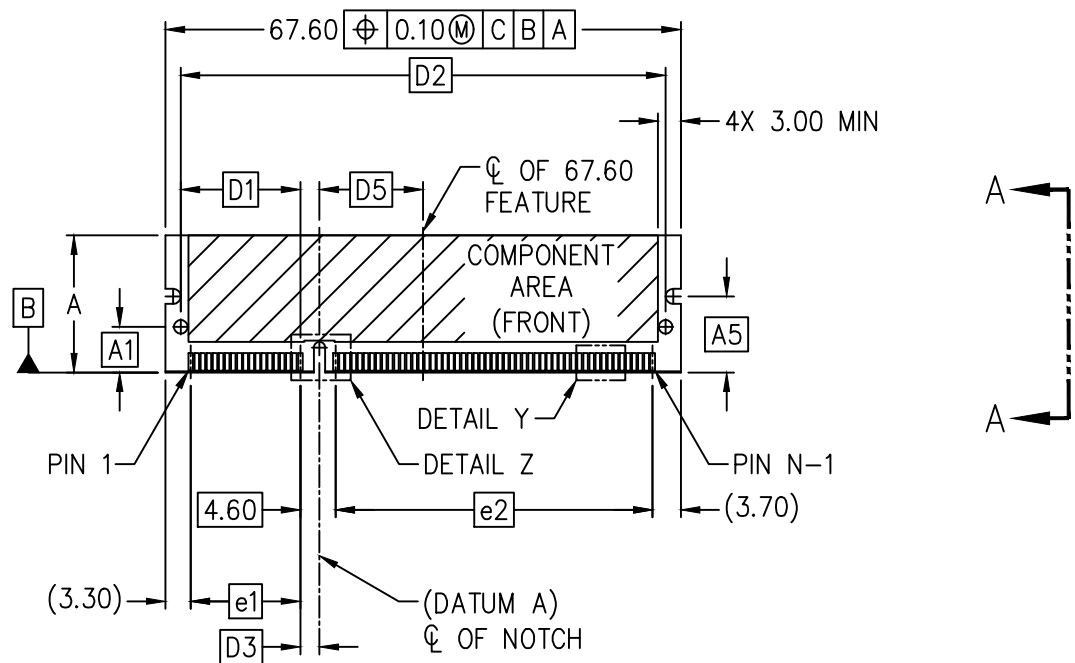
PACKAGE DESIGNATOR
DIMM

NUMBER
MO-274

ISSUE
D

DATE
OCT 2014

SHEET
1 OF 9



VARIATIONS BX

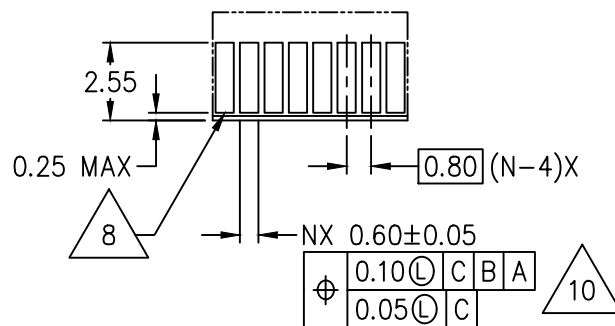
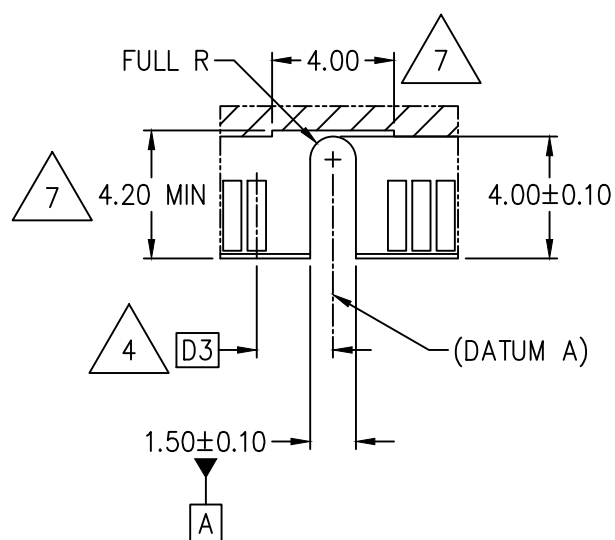
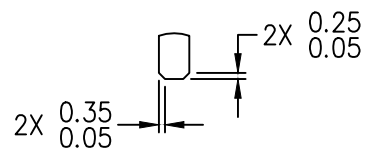
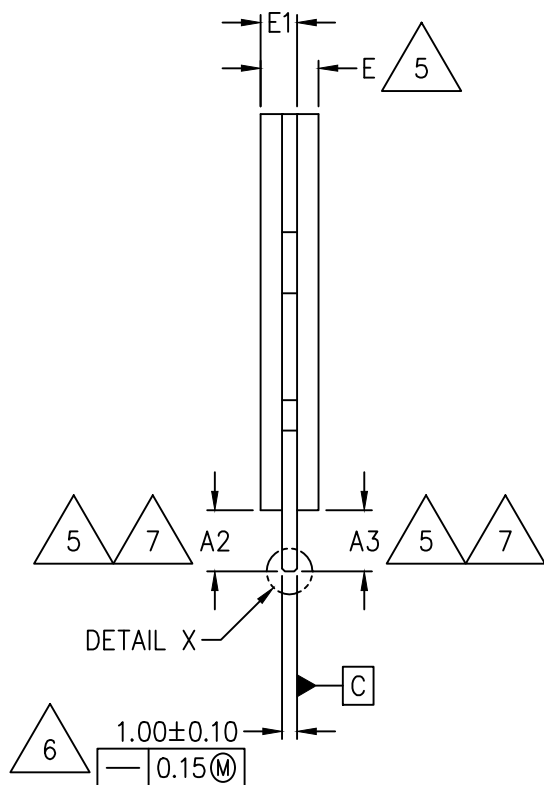


TABLE 1

COMMON DIMENSIONS				
SYMBOL	MIN	NOM	MAX	NOTES
A1	6.00 BASIC			
A2	4.00	---	---	5, 7
A3	4.00	---	---	5, 7
A5	10.00 BASIC			
D1	15.70 BASIC			
D2	63.60 BASIC			
E	---	---	3.80	
E1	---	---	2.45	5
e1	14.40 BASIC			
e2	41.60 BASIC			
N	144			
ISSUE	D			
REF	14-086, 14-150, 14-171			
NOTES	1, 2, 3			

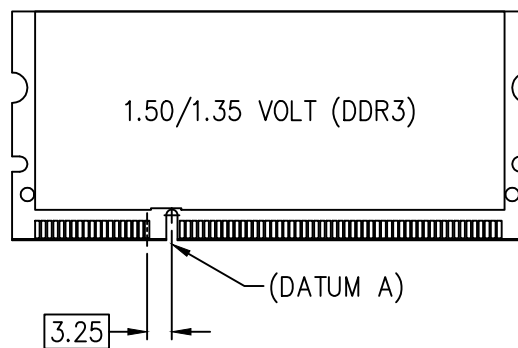
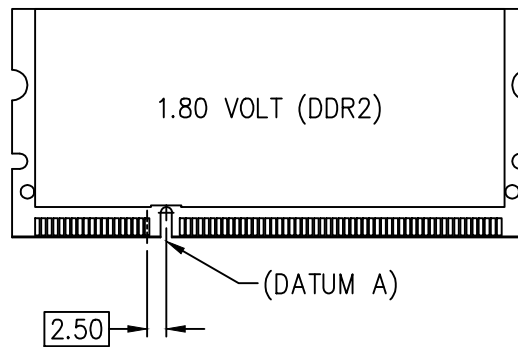
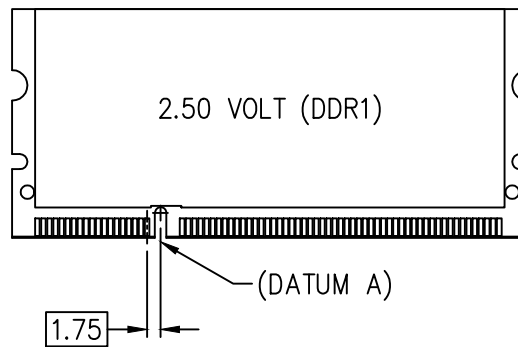
TABLE 2

VARIATIONS							
SYMBOL	AA			AB			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	31.60	31.75	31.90	29.85	30.00	30.15	
A4	20.00 BASIC			20.00 BASIC			4
D3	1.75 BASIC			2.50 BASIC			4
D4	1.35 BASIC			2.10 BASIC			4
D5	14.35 BASIC			13.60 BASIC			4
ISSUE	D						
REF	14–084, 14–171						
NOTES	1, 2, 3						

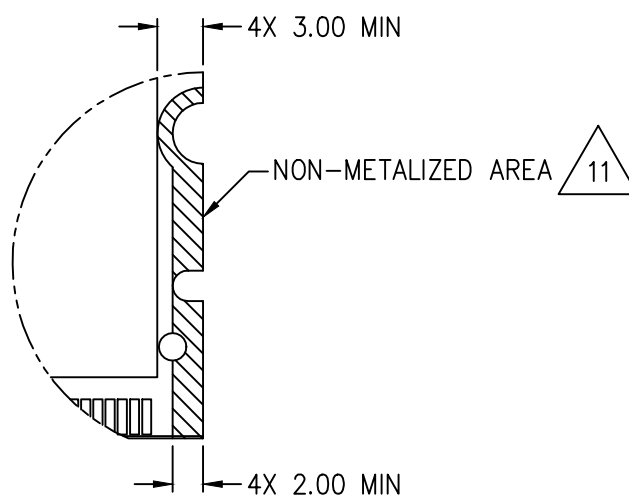
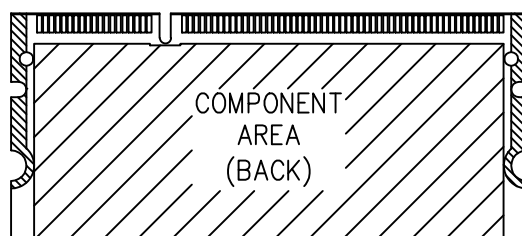
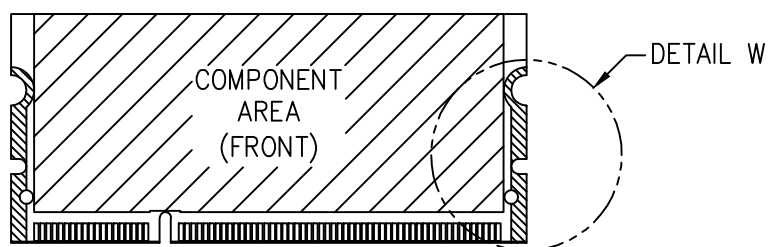
TABLE 2 CONTINUED

VARIATIONS							
SYMBOL	AC			BA			NOTES
	MIN	NOM	MAX	MIN	NOM	MAX	
A	29.85	30.00	30.15	17.90	18.00	18.10	4
A4	20.00 BASIC			---			4
D3	3.25 BASIC			3.25 BASIC			4
D4	2.85 BASIC			2.85 BASIC			4
D5	12.85 BASIC			12.85 BASIC			4
ISSUE	A			D			
REF	14–140			14–171			
NOTES	1, 2, 3			1, 2, 3			

MECHANICAL KEYING
FRONT VIEW

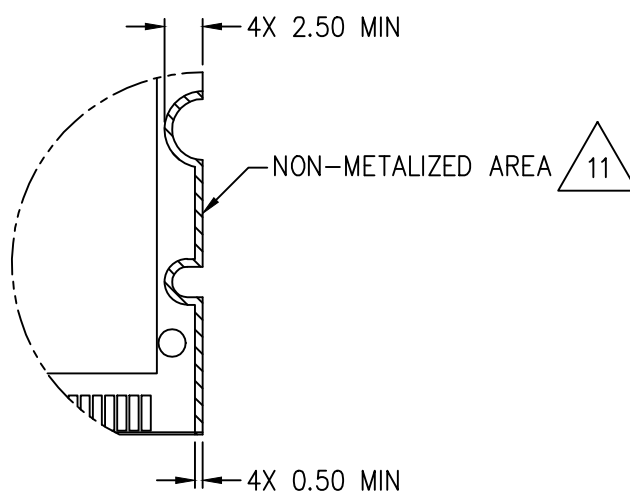
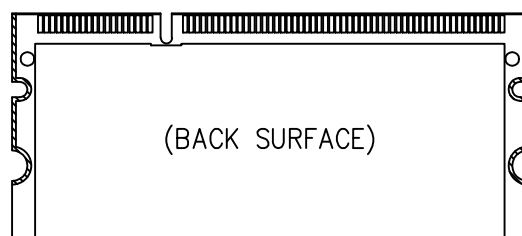
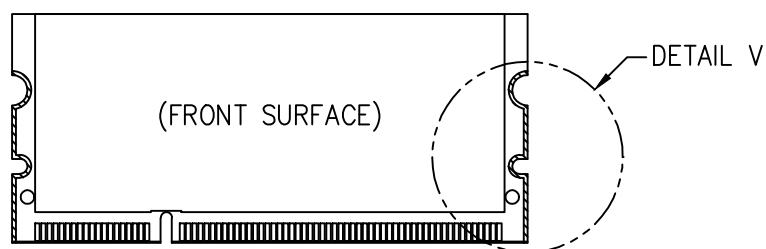


NON-METALIZED DEFINITION FOR OUTER LAYERS



DETAIL W

NON-METALIZED DEFINITION FOR ALL INNER LAYERS



DETAIL V

NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5–2009.
2. TOLERANCES ON ALL DIMENSIONS ± 0.15 UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE IN MILLIMETERS.



THE POSITION OF THE NOTCH IDENTIFIES THE OPERATIONAL VOLTAGE:
2.50 VOLT (xA)
1.80 VOLT (xB)
1.50/1.35 VOLT (xC)
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 METALIZED AREAS.



BORDER OF COMPONENT AREA.



EDGE OF CONTACT PADS AND TIE BARS, IF PRESENT, SHALL BE FREE OF BURRS.

APPLICATION NOTES:



THE ADDITION OF THIS BEVEL IS A FABRICATION OPTION AND IS NOT REQUIRED.
THE BEVEL IS NOT TO HIT THE PLATED CONTACTS.



RECOMMENDED PLATING FOR CONTACT PADS ARE:

- 1) GOLD PLATING 0.76 MICROMETERS MINIMUM OVER 2.00 MICROMETERS MINIMUM NICKEL.
- 2) GOLD PLATING 0.05 MICROMETERS MINIMUM OVER 2.00 MICROMETERS MINIMUM NICKEL.

MODULE PLATING RECOMMENDATIONS TESTED PER INDUSTRY STANDARD EIA 364–1000.
RELIABILITY TESTING REQUIRES TEST MODULE, CONNECTOR, AND IDENTIFICATION OF TEST CONDITIONS.



'METALIZED' IS DEFINED AS ANY METAL SURFACE THAT HAS A RETURN PATH TO POWER SUPPLY OR GROUND, THROUGH A COMPONENT OR CONDUCTIVE PLANE VCC OR VDD, BLIND OR PLATED THROUGH HOLE (PTH), AS WELL AS NARROW OR WIDE TRACES. ANY SURFACE METALS SUCH AS CONNECTOR PIN IDENTIFICATION, PCB VENDER CODE, ETC. THAT DO NOT HAVE A METALS AS A RETURN PATH ARE ACCEPTABLE.
'NON-METALIZED' IS DEFINED AS THE OPPOSITE TO 'METALIZED' AND DOES NOT INCLUDE ANY METAL OR CONDUCTIVE ELEMENTS THAT MAY CAUSE ELECTRICAL SHORT CIRCUIT. HOWEVER, ANY SURFACE METALS SUCH AS CONNECTOR PIN IDENTIFICATION, PCB VENDOR NAME OR CODE, ETC. THAT DOES NOT HAVE CONDUCTIVE RETURN PATH TO VCC OR VDD IS ACCEPTABLE.

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 2006	ITEM NUMBER: 14-084
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CHANGE RECORD HISTORY:

ISSUE: B	DATE: OCTOBER 2012	ITEM NUMBER: 14-140
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LOCATION:	CHANGED FROM:	CHANGED TO:
SHEET 1: TITLE BLOCK	NEW REQUIREMENT	ADDED JEDEC COPYRIGHT
SHEET 1: COMPONENT VIEW	MISSING DIMENSION	ADDED 3.00MIN(2X)
SHEET 2: DETAIL Y	MISSING NOTE REFERENCE	ADDED NOTE 10 IN TRIANGLE
SHEET 3: DRAM VARIATION BA	BA	AA
SHEET 3: DRAM VARIATION	ADDED NEW TABLE FOR DDR3	VARIATION TABLE AC
SHEET 3: VARIATION TABLE	TABLE FOR AA, AB, AC	COMMON DIMENSION TABLE AND VARIATIONS TABLE
SHEET 4, 3.25 KEY LOCATION	X.X V, (TBD)	1.50/1.35V, (DDR3)
SHEET 7, NOTE 10	FOR OPTIMUM PERFORMANCE.. CANNOT CAUSE DAMAGE	DELETED THIS PORTION OF NOTE 10
SHEET 7, NOTE 11	"PREFERABLE PLATING"	DELETED THIS PORTION OF NOTE 11
SHEET 7, NOTE 11.2 L1	"ALTERNATE PLATING"	DELETED THIS PORTION OF NOTE 11
SHEET 7, NOTE 11.2 L2-3	"MUST USE ON ELECTRONICS CONTACT GRADE CORROSIVE BARRIER LUBRICANT"	DELETED THIS PORTION OF NOTE 11
SHEET 1: NOTCH DIMENSION	2X 2.00±0.10	2XØ 2.00±0.10
SHEET 1: NOTCH DIMENSION	2X 4.00±0.10	2XØ 4.00±0.10
SHEET 1: PATENT NOTE	IT HAS BEEN STATED	NOTE DELETED
SHEET 1, TITLE	DDR1/DDR2/DDR3 16B/32B SMALL OUTLINE DUAL IN LINE	144 PIN DDR1/DDR2/DDR3 16b/32b SODIMM 0.8mm PITCH
SHEET 2	VIEW BB	SECTION BB
SHEET 2: DETAIL Z	4.20	4.20 MIN
SHEET 5, DETAIL W	2.5±0.10 2.0±0.1	3.00 MIN 2.00 MIN
SHEET 6: DETAIL V	2.5±0.1	2.50 MIN
SHEET 6: DETAIL V	0.5±0.1	0.50 MIN

JEDEC SOLID STATE PRODUCT OUTLINE Copyright © 2014 JEDEC	TITLE 144 PIN DDR1/DDR2/DDR3 16b/32b SODIMM, 0.80MM PITCH	NUMBER MO-274	ISSUE D	DATE OCT 2014	SHEET i
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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 7: NOTE 4	X.X VOLT	1.50/1.35 VOLT
SHEET 7: NOTE 4	JC 42.3	JC 45.3
SHEET 7, NOTE 10	LEADING EDGE OF CONTACT PADS SPECIFIED BY THE KEEP OUT ZONE SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS	DELETED THIS PORTION OF NOTE 11
SHEET 7: NOTE 11	11.2 GOLD PLATING 0.05–0.75	11.2 GOLD PLATING 0.05 MIN

ISSUE: C	DATE: DECEMBER 2012	ITEM NUMBER: 14–150
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LOCATION:	CHANGED FROM:	CHANGED TO:
SHEET 1:	D 3.00 MIN 4X 3.30 2X 3.70 2X 2.00 MIN 4X FULL R AND 2X R	67.60 4X 3.00 MIN (3.30) AND (3.70) (3.70) AND (3.30) REMOVE Ø FROM NOTCH 2X 2.00 MIN 2X FULL R
SHEET 2:		ADDED DELTA 5 & 7 TO A2 ADDED (N–4)X TO PITCH ADDED NX AND DELTA 10 TO 0.60±0.05
SHEET 3:	TABLE HAD SYMBOL D	ADDED TABLE NUMBER ADDED ISSUE, REF, AND NOTES
SHEET 4:		ADDED TABLE NUMBER
SHEET 7:		REMOVED R2.5 MIN
SHEET 8	NOTE 4: ... JC45–3...	NOTE 4: ... JC45... MOVED NOTES 8 & 9 TO APPLICATION NOTES AND RENUMBERED AS REQUIRED
ALL SHEETS::		REDRAWN TO FIT INTO FORMAT

CHANGE RECORD

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ISSUE: D	DATE: OCTOBER 2014	ITEM NUMBER: 14-171
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LOCATION	CHANGED FROM:	CHANGED TO:
SHEET 1:		ADDED OUTLINE VAR. AX
SHEET 2:	NEW	ADDED VAR. BX OUTLINE
SHEET 3 THRU 9:	WAS SHEET 2 THRU 8	SHEET 3 THRU 9
SHEET 4:		REMOVED A4 DIMENSION FROM TABLE 1
SHEET 5:		ADDED A4 DIMENSION TO TABLE 2.
		ADDED VARIATION BA