mm

SEE DETAIL-D

⟨2⟩ 3.0 x 45°

Z

M

M1

M3 [N1-1] PLCS

SEE DETAIL-K
REQUIRED

H

4X R2.54

M2 [N2-1] PLCS

SEE DETAIL-K
OPTIONAL

2X
34.3

2X 255.3

J   J

315.0

(322.6)

⟨5⟩
SEE DETAIL-C

SEE DETAIL-B
OPTIONAL

⟨1⟩

⟨4⟩

8X R2.54
MAXIMUM

E   E

4X 25.4

SEE DETAIL-B
REQUIRED

3X R1.6

H

X

4X 2.54 ⟨5⟩

2X 12.7

Z

2X 92.1

(1.27)

6.35

135.9

7.62

A   0.80 Ⓢ

L. SIDE
VIEW

PLAN VIEW

FRONT VIEW

Title: THIN MATRIX TRAY FOR HANDLING AND
SHIPPING SMALL OUTLINE J LEAD PACKAGES

Issue
A

Date
APR
1996

CO-032

1
Of 7

mm

XXXX (N4) △13
TRAY DESIGNATOR
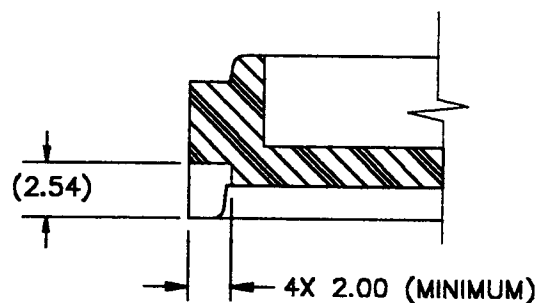
DETAIL~ K

XXX°C MAX. △12
TEMP. RATING

DETAIL~ B

3.8
2.5
1.3
7° TYP
30°±1°
2.0
3.5
7° TYP
2X R0.3 ALL AROUND

DETAIL~ D

0.76

R4.75
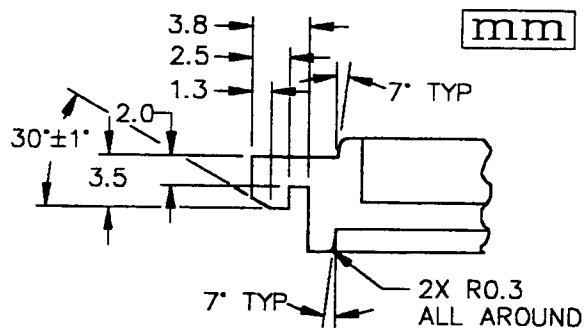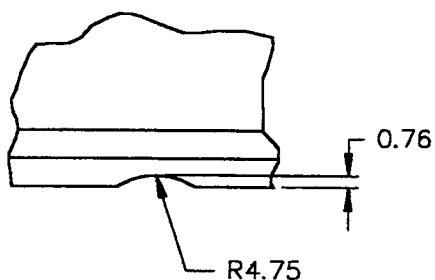
DETAIL~ C

NOTE: SCALLOP IS CENTERED ON SIDE OF TRAY.

(2.54)

4X 2.00 (MINIMUM)

SECTION~ E—E
ROTATED 90° CCW

$311.15 ^{+0.25}_{-0.13}$
⊕ 0.20 Ⓜ A X Ⓜ

$311.66 ^{+0.25}_{-0.13}$
⊕ 0.20 Ⓜ A Ⓜ X
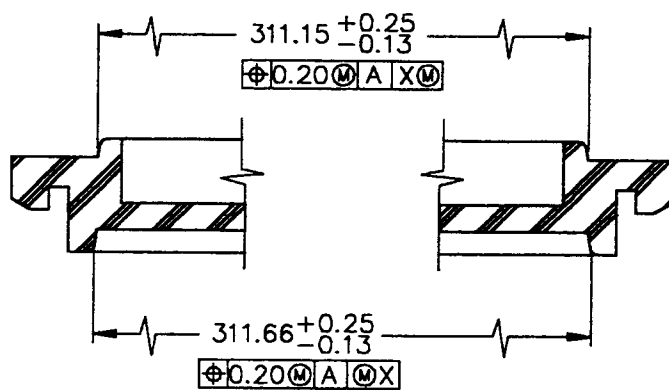
SECTION~ H—H
ROTATED 90° CCW

$132.08 ^{+0.25}_{-0.13}$
⊕ 0.20 Ⓜ A Z Ⓜ

7° TYP

7° TYP

$132.59 ^{+0.25}_{-0.13}$
⊕ 0.20 Ⓜ A Z Ⓜ
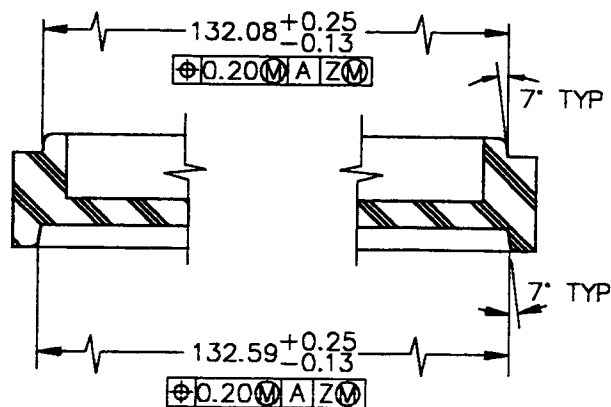
SECTION~ J—J

TRAY STACKING DETAIL

JEDEC Solid State Product Outline	Title: THIN MATRIX TRAY FOR HANDLING AND SHIPPING SMALL OUTLINE J LEAD PACKAGES	Issue	Date	CO-032	Sheet
		A	APR 1996		2 Of 7

NOTES:

△1 THESE SURFACES TO BE FREE OF SEAMS.

△2 CHAMFER DENOTES PACKAGE PIN 1 ORIENTATION.

3 TRAY VACUUM PICKUP METHOD ALLOWS TWO SEPARATE PICKUP AREAS, RESULTING IN TWO CLOSED CELLS PER TRAY. OPTIONAL VACUUM PICKUP CELL LOCATIONS ARE N5.

△4 TRAY VACUUM PICKUP METHOD REQUIRES A 28mm SQUARE (MINIMUM) WALLED PICKUP AREA, LOCATED AS CLOSE TO THE CENTER OF THE TRAY AS IS PRACTICAL. CENTER VACUUM PICKUP CELL LOCATIONS ARE N6.

△5 THE SCALLOP ALLOWS THE USE OF A PIN TO MECHANICALLY BIAS THE TRAY ORIENTATION.

6 N REFERS TO PACKAGE LEADCOUNTS SUPPORTED.

7 TOTAL USABLE CELLS N3 = N1 x N2

8 PACKAGE INTERFACE CONTROLLED BY PACKAGE DESIGN AND LEAD FORM.

9 NON—TABULATED DIMENSIONS HAVE A TOLERANCE OF .X=±0.25 .XX=±0.13, ANGLES ±0.5°

10 ALL DIMENSIONS ARE IN MILLIMETERS.

11 INTERPRET DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH ASME Y14.5M—1994.

△12 XXX IS THE MAXIMUM OPERATING TEMPERATURE THE EMPTY TRAY CAN BE SUBJECTED TO FOR 48 CONTINUOUS HOURS WITHOUT VIOLATING THE DIMENSIONAL TOLERANCE OF THE TRAY.

△13 N4 INDICATES PACKAGE TYPE ACCOMMODATED.

14 DIMENSIONS M, M1, M2, AND M3 DEFINE THE CENTER LINES FOR THE CELL SITES.

△15 BOTTOM SIDEWALL NOTCHES REQUIRE A 2.00mm (MINIMUM) DEPTH TO FACILITATE AUTO HANDLING EQUIPMENT.

JEDEC Solid State Product Outline	Title: THIN MATRIX TRAY FOR HANDLING AND SHIPPING SMALL OUTLINE J LEAD PACKAGES	Issue	Date	CO—032	Sheet
		A	APR 1996		3 Of 7

VARIATION DIMENSIONS ARE IN MILLIMETERS

VARIATION	PACKAGE BODY SIZE	TRAY MATRIX
AA	.300" X .625"	12 X 17
AB	.300" X .675"	12 X 16
AC	.300" X .725"	12 X 15
AD	.300" X .825"	12 X 13
AE	.300" X 1.075"	12 X 10
BA	.400" X .725"	9 X 15
BB	.400" X .825"	9 X 13
BC	.400" X .875"	9 X 12
BD	.400" X .925"	9 X 12
BE	.400" X 1.025"	9 X 11
BF	.400" X 1.075"	9 X 10
BG	.400" X 1.125"	9 X 10

JEDEC Solid State Product Outline	Title: THIN MATRIX TRAY FOR HANDLING AND SHIPPING SMALL OUTLINE J LEAD PACKAGES	Issue A	Date APR 1996	CO−032	Sheet 4 Of 7

VARIATION DIMENSIONS ARE IN MILLIMETERS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS AA			NOTE	DIMENSIONS ARE IN MILLIMETERS AB			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX	
M		10.20 BSC		14		10.20 BSC		14
M1		14.30 BSC		14		13.50 BSC		14
M2		17.90 BSC		14		19.20 BSC		14
M3		10.50 BSC		14		10.50 BSC		14
N		24		6		20,24		6
N1		12 COLUMNS				12 COLUMNS		
N2		17 ROWS				16 ROWS		
N3		204		7		192		7
N4		.300" X .625"		13		.300" X .675"		13
N5		ROW/COLUMN [2/6] [16/7]		4		ROW/COLUMN [2/6] [15/7]		4
N6		[8/5,6,7,8][9/5,6,7,8][10/5,6,7,8]		3		[8/5,6,7,8][9/5,6,7,8]		3
NOTES	9, 10 , 11, 14				9, 10 , 11, 14			
REF	ITEM 11.5-446				ITEM 11.5-446			
ISSUE	A				A			

VARIATION DIMENSIONS ARE IN MILLIMETERS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS AC			NOTE	DIMENSIONS ARE IN MILLIMETERS AD			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX	
M		10.20 BSC		14		10.20 BSC		14
M1		14.70 BSC		14		19.80 BSC		14
M2		20.40 BSC		14		22.95 BSC		14
M3		10.50 BSC		14		10.50 BSC		14
N		28		6		32		6
N1		12 COLUMNS				12 COLUMNS		
N2		15 ROWS				13 ROWS		
N3		180		7		156		7
N4		.300" X .725"		13		.300" X .825"		13
N5		ROW/COLUMN [2/6] [14/7]		4		ROW/COLUMN [2/6] [12/7]		4
N6		[7/5,6,7,8][8/5,6,7,8][9/5,6,7,8]		3		[6/5,6,7,8][7/5,6,7,8][8/5,6,7,8]		3
NOTES	9, 10 , 11, 14				9, 10 , 11, 14			
REF	ITEM 11.5-446				ITEM 11.5-446			
ISSUE	A				A			

JEDEC Solid State Product Outline	Title: THIN MATRIX TRAY FOR HANDLING AND SHIPPING SMALL OUTLINE J LEAD PACKAGES	Issue A	Date APR 1996	CO-032	Sheet 5 Of 7

VARIATION DIMENSIONS ARE IN MILLIMETERS

<table>
<tr><th rowspan="2">S Y M B O L</th><th colspan="3">DIMENSIONS ARE IN MILLIMETERS
AE</th><th rowspan="2">N O T E</th><th colspan="3">DIMENSIONS ARE IN MILLIMETERS
BA</th><th rowspan="2">N O T E</th></tr>
<tr><th>MIN</th><th>NOM</th><th>MAX</th><th>MIN</th><th>NOM</th><th>MAX</th></tr>
<tr><td>M</td><td colspan="3">10.20 BSC</td><td>14</td><td colspan="3">15.15 BSC</td><td>14</td></tr>
<tr><td>M1</td><td colspan="3">25.65 BSC</td><td>14</td><td colspan="3">14.70 BSC</td><td>14</td></tr>
<tr><td>M2</td><td colspan="3">29.30 BSC</td><td>14</td><td colspan="3">20.40 BSC</td><td>14</td></tr>
<tr><td>M3</td><td colspan="3">10.50 BSC</td><td>14</td><td colspan="3">13.20 BSC</td><td>14</td></tr>
<tr><td>N</td><td colspan="3">42</td><td>6</td><td colspan="3">24,28</td><td>6</td></tr>
<tr><td>N1</td><td colspan="3">12 COLUMNS</td><td></td><td colspan="3">9 COLUMNS</td><td></td></tr>
<tr><td>N2</td><td colspan="3">10 ROWS</td><td></td><td colspan="3">15 ROWS</td><td></td></tr>
<tr><td>N3</td><td colspan="3">120</td><td>7</td><td colspan="3">135</td><td>7</td></tr>
<tr><td>N4</td><td colspan="3">.300" X 1.075"</td><td>13</td><td colspan="3">.400" X .725"</td><td>13</td></tr>
<tr><td>N5</td><td colspan="3">ROW/COLUMN [2/6] [9/7]</td><td>4</td><td colspan="3">ROW/COLUMN [2/5] [14/5]</td><td>4</td></tr>
<tr><td>N6</td><td colspan="3">ROW/COLUMN [5/5,6,7,8] [6/5,6,7,8]</td><td>3</td><td colspan="3">ROW/COLUMN [7/4,5,6][8/4,5,6][9/4,5,6]</td><td>3</td></tr>
<tr><td>NOTES</td><td colspan="3">9, 10 , 11, 14</td><td></td><td colspan="3">9, 10 , 11, 14</td><td></td></tr>
<tr><td>REF</td><td colspan="3">ITEM 11.5−446</td><td></td><td colspan="3">ITEM 11.5−446</td><td></td></tr>
<tr><td>ISSUE</td><td colspan="3">A</td><td></td><td colspan="3">A</td><td></td></tr>
</table>

VARIATION DIMENSIONS ARE IN MILLIMETERS

<table>
<tr><th rowspan="2">S Y M B O L</th><th colspan="3">DIMENSIONS ARE IN MILLIMETERS
BB</th><th rowspan="2">N O T E</th><th colspan="3">DIMENSIONS ARE IN MILLIMETERS
BC</th><th rowspan="2">N O T E</th></tr>
<tr><th>MIN</th><th>NOM</th><th>MAX</th><th>MIN</th><th>NOM</th><th>MAX</th></tr>
<tr><td>M</td><td colspan="3">15.15 BSC</td><td>14</td><td colspan="3">15.15 BSC</td><td>14</td></tr>
<tr><td>M1</td><td colspan="3">19.80 BSC</td><td>14</td><td colspan="3">23.85 BSC</td><td>14</td></tr>
<tr><td>M2</td><td colspan="3">22.95 BSC</td><td>14</td><td colspan="3">24.30 BSC</td><td>14</td></tr>
<tr><td>M3</td><td colspan="3">13.20 BSC</td><td>14</td><td colspan="3">13.20 BSC</td><td>14</td></tr>
<tr><td>N</td><td colspan="3">32</td><td>6</td><td colspan="3">34</td><td>6</td></tr>
<tr><td>N1</td><td colspan="3">9 COLUMNS</td><td></td><td colspan="3">9 COLUMNS</td><td></td></tr>
<tr><td>N2</td><td colspan="3">13 ROWS</td><td></td><td colspan="3">12 ROWS</td><td></td></tr>
<tr><td>N3</td><td colspan="3">117</td><td>7</td><td colspan="3">108</td><td>7</td></tr>
<tr><td>N4</td><td colspan="3">.400" X .825"</td><td>13</td><td colspan="3">.400" X .875"</td><td>13</td></tr>
<tr><td>N5</td><td colspan="3">ROW/COLUMN [2/5] [12/5]</td><td>4</td><td colspan="3">ROW/COLUMN [2/5] [11/5]</td><td>4</td></tr>
<tr><td>N6</td><td colspan="3">[6/4,5,6][7/4,5,6][8/4,5,6]</td><td>3</td><td colspan="3">ROW/COLUMN [6/4,5,6][7/4,5,6]</td><td>3</td></tr>
<tr><td>NOTES</td><td colspan="3">9, 10 , 11, 14</td><td></td><td colspan="3">9, 10 , 11, 14</td><td></td></tr>
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<tr><td>ISSUE</td><td colspan="3">A</td><td></td><td colspan="3">A</td><td></td></tr>
</table>

VARIATION DIMENSIONS ARE IN MILLIMETERS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS BD			NOTE	DIMENSIONS ARE IN MILLIMETERS BE			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX	
M		15.15 BSC		14		15.15 BSC		14
M1		17.25 BSC		14		17.50 BSC		14
M2		25.50 BSC		14		28.00 BSC		14
M3		13.20 BSC		14		13.20 BSC		14
N		36		6		40		6
N1		9 COLUMNS				9 COLUMNS		
N2		12 ROWS				11 ROWS		
N3		108		7		99		7
N4		.400" X .925"		13		.400" X 1.025"		13
N5		ROW/COLUMN [2/5] [11/5]		4		ROW/COLUMN [2/5] [10/5]		4
N6		ROW/COLUMN [6/4,5,6][7/4,5,6]		3		ROW/COLUMN [6/4,5,6]		3
NOTES	9, 10 , 11, 14				9, 10 , 11, 14			
REF	ITEM 11.5−446				ITEM 11.5−446			
ISSUE	A				A			

VARIATION DIMENSIONS ARE IN MILLIMETERS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS BF			NOTE	DIMENSIONS ARE IN MILLIMETERS BG			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX	
M		14.75 BSC		14		15.15 BSC		14
M1		24.75 BSC		14		19.80 BSC		14
M2		29.50 BSC		14		30.60 BSC		14
M3		13.30 BSC		14		13.20 BSC		14
N		42		6		44		6
N1		9 COLUMNS				9 COLUMNS		
N2		10 ROWS				10 ROWS		
N3		90		7		90		7
N4		.400" X 1.075"		13		.400" X 1.125"		13
N5		ROW/COLUMN [2/5] [9/5]		4		ROW/COLUMN [2/5] [9/5]		4
N6		ROW/COLUMN [5/4,5,6][6/4,5,6]		3		ROW/COLUMN [5/4,5,6][6/4,5,6]		3
NOTES	9, 10 , 11, 14				9, 10 , 11, 14			
REF	ITEM 11.5−446				ITEM 11.5−446			
ISSUE	A				A			

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