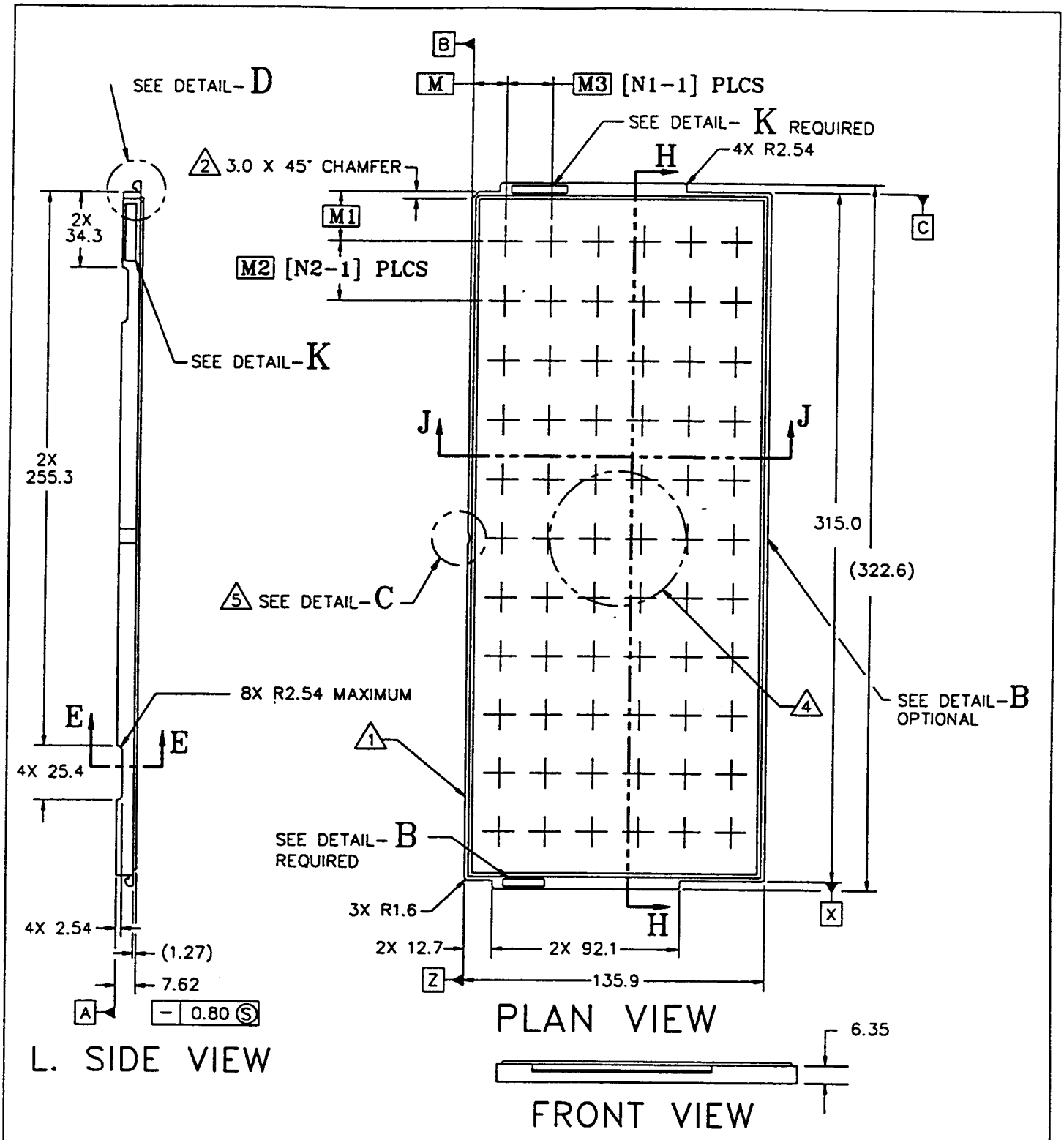


FIGURE 1

JEDEC Solid State Product Outlines	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: MQFP HIGH DENSITY THIN MATRIX TRAY FOR SHIPPING AND HANDLING		Issue B	Date MAR 1996	CO-027	SHT 1 OF 4

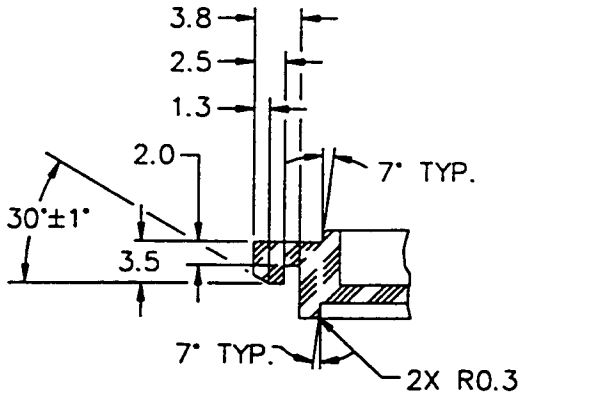
SK54343C.DWG

XXXX (N4) ⚠13
TRAY DESIGNATOR

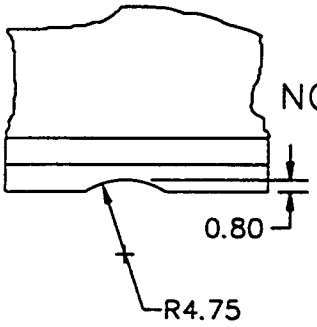
DETAIL~ K

XXX°C MAX. ⚠12
TEMP. RATING

DETAIL~ B

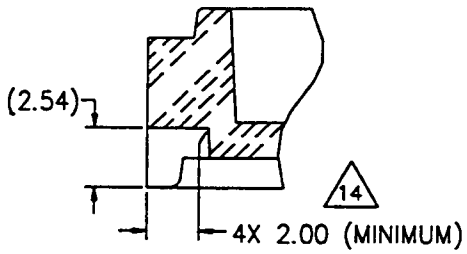


DETAIL~ D



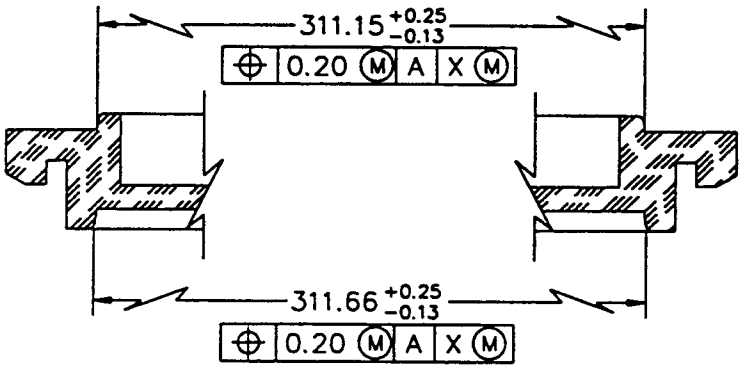
NOTE: SCALLOP IS CENTERED ON SIDE OF TRAY.

DETAIL~ C



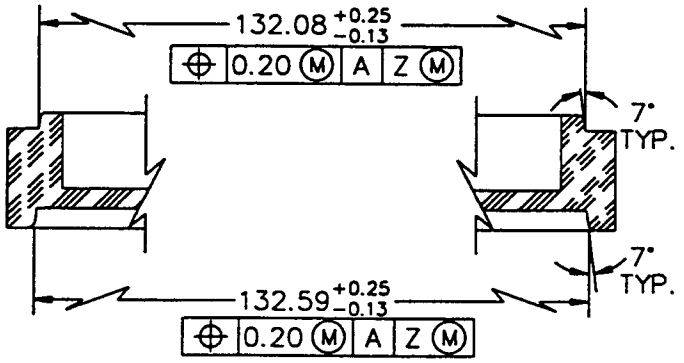
SECTION~ E–E

ROTATED 90° CCW



SECTION~ H–H

ROTATED 90° CCW



SECTION~ J–J

TRAY STACKING DETAIL

FIGURE 2

JEDEC Solid State Product Outline	Title: MQFP HIGH DENSITY THIN MATRIX TRAY FOR SHIPPING AND HANDLING	Issue B	Date MAR 1996	CO-027	SHT 2 OF 4

NOTES:

1. THESE SURFACES TO BE FREE OF SEAMS.
2. CHAMFER DENOTES PACKAGE PIN 1 ORIENTATION.
3. TRAY VACUUM PICKUP METHOD REQUIRES TWO SEPARATE PICKUP AREAS, RESULTING IN TWO CLOSED CELLS PER TRAY. VACUUM PICKUP CELL LOCATIONS ARE N5.
4. TRAY VACUUM PICKUP METHOD REQUIRES A 28 mm SQUARE (MINIMUM) WALLED PICKUP AREA, LOCATED AS CLOSE TO THE CENTER OF THE TRAY AS IS PRACTICABLE. CENTER VACUUM PICKUP CELL LOCATIONS ARE N6.
5. THIS SCALLOP ALLOWS THE USE OF A PIN TO MECHANICALLY BIAS THE TRAY ORIENTATION.
6. THE SYMBOL N REFERS TO PACKAGE LEADCOUNT SUPPORTED
7. TOTAL USABLE CELLS N3 = N1 X N2
8. DIMENSIONS M, M1, M2 AND M3 DEFINE THE CENTER LINES FOR THE CELL SITES. 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. 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. BOTTOM SIDEWALL NOTCHES REQUIRE A 2.00 mm (MINIMUM) DEPTH TO FACILITATE AUTO HANDLING EQUIPMENT.
15. ALL TRAY MEASUREMENTS ARE TO BE MADE WITH THE TRAY UNRESTRAINED.
16. ALL EXTERNAL TRAY SURFACES THAT MAY COME IN CONTACT WITH THE DRY PACK BAGS SHALL BE FREE OF SHARP EDGES.

SUMMARY TABLE

*VARIATION	SIZE	ROWS	COLUMNS	TOTAL
AC	10 mm x 10 mm	20	08	160
AE	14 mm x 14 mm	15	06	90
AF	14 mm x 20 mm	12	06	72

* VARIATIONS AA, AB, AD, AG, AND AH HAVE BEEN REMOVED FROM THIS MO-027 REGISTRATION. THESE VARIATIONS CAN NOW BE FOUND IN STANDARD CS-004.

VARIATIONS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS AC MIN.	AC NOM.	AC MAX.	NOTE	DIMENSIONS ARE IN MILLIMETERS AE MIN.	AE NOM.	AE MAX.	NOTE
M		13.00 BSC		14		15.45 BSC		14
M1		13.10 BSC		14		15.40 BSC		14
M2		15.20 BSC		14		20.30 BSC		14
M3		15.70 BSC		14		21.00 BSC		14
N		44-52-64-80		6		52-64-80-100-120		6
N1		8 COLUMNS				6 COLUMNS		
N2		20 ROWS				15 ROWS		
N3		160		7		90		7
N4		10 mm X 10 mm		13		14 mm X 14 mm		13
N5		ROW/COLUMN [2/4], [19/5]		3		ROW/COLUMN [2/3], [14/4]		3
N6		ROW/COLUMN [10/4,5], [11/4,5]		4		ROW/COLUMN [7/3,4], [8/3,4], [9/3,4]		4
REF	11.5-363				11.5-363			
ISSUE	A				A			
NOTES	8, 9, 10, 11, 15, 16				8, 9, 10, 11, 15, 16			

VARIATIONS

SYMBOL	DIMENSIONS ARE IN MILLIMETERS AF MIN.	AF NOM.	AF MAX.	NOTE
M		15.45 BSC		14
M1		17.80 BSC		14
M2		25.40 BSC		14
M3		21.00 BSC		14
N		80-100-128		6
N1		6 COLUMNS		
N2		12 ROWS		
N3		72		7
N4		14 mm X 20 mm		13
N5		ROW/COLUMN [2/3], [11/4]		3
N6		ROW/COLUMN [6/3,4], [7/3,4]		4
REF	11.5-363			
ISSUE	A			
NOTES	8, 9, 10, 11, 15, 16			

JEDEC Solid State Product Outline	Title: MQFP HIGH DENSITY THIN MATRIX TRAY FOR SHIPPING AND HANDLING	Issue B	Date MAR 1996	MO-027	SHT 4 OF 4