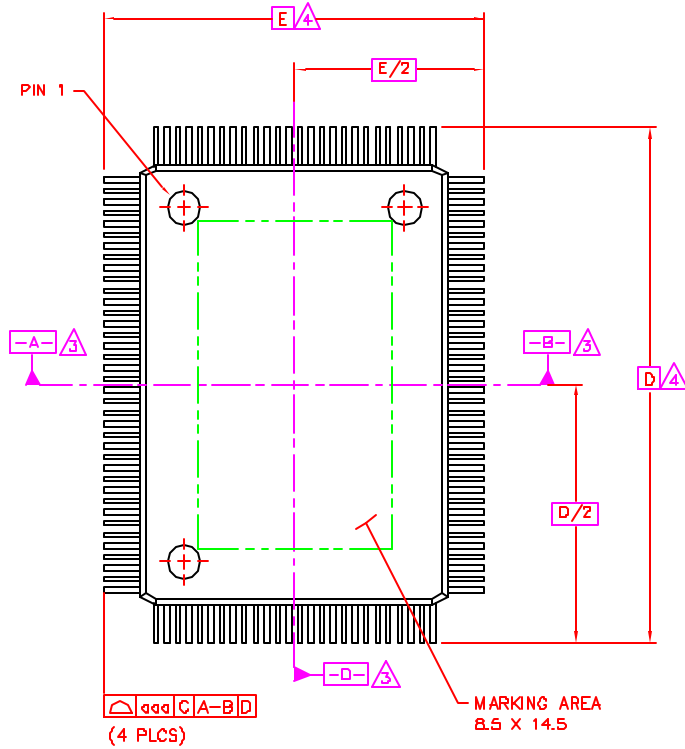


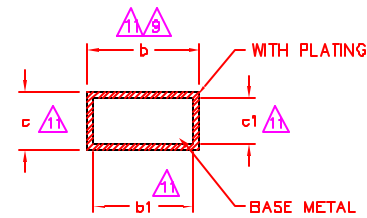
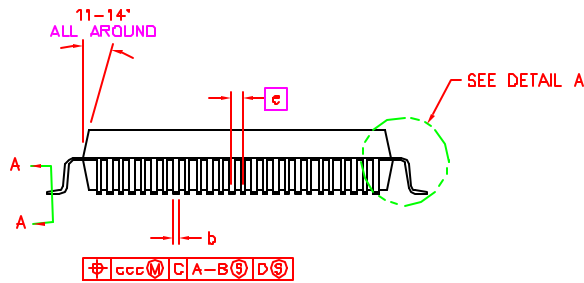
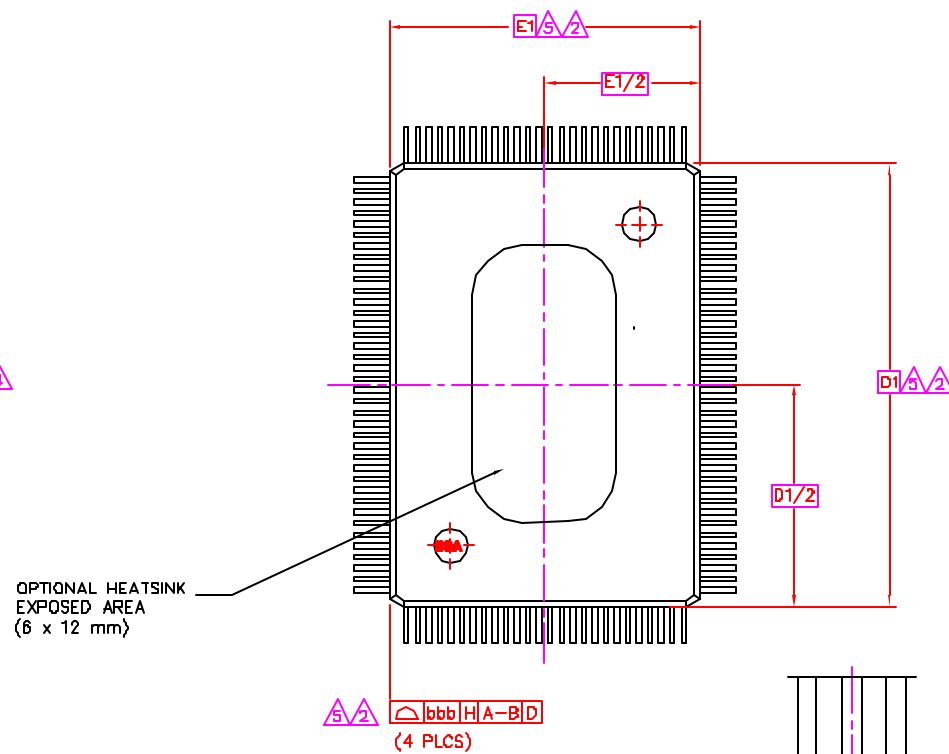
REVISION HISTORY

ECN #	REV	DATE	DESCRIPTION
06-030	A	08/08/98	NEW DRAWING
97-026	B	03/17/97	STAND-OFF(A,A1), CALL-OUT(D1,E,E1), ETC.
98-183	C	10/30/98	ADDED CALLOUT "FOR USA I.D."
	D	04/05/01	ADD HEATSINK EXPOSED AREA 6X12 MM

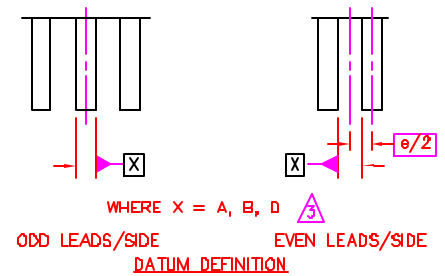
TOP VIEW



BOTTOM VIEW



SECTION A-A  
SCALE: 40:1

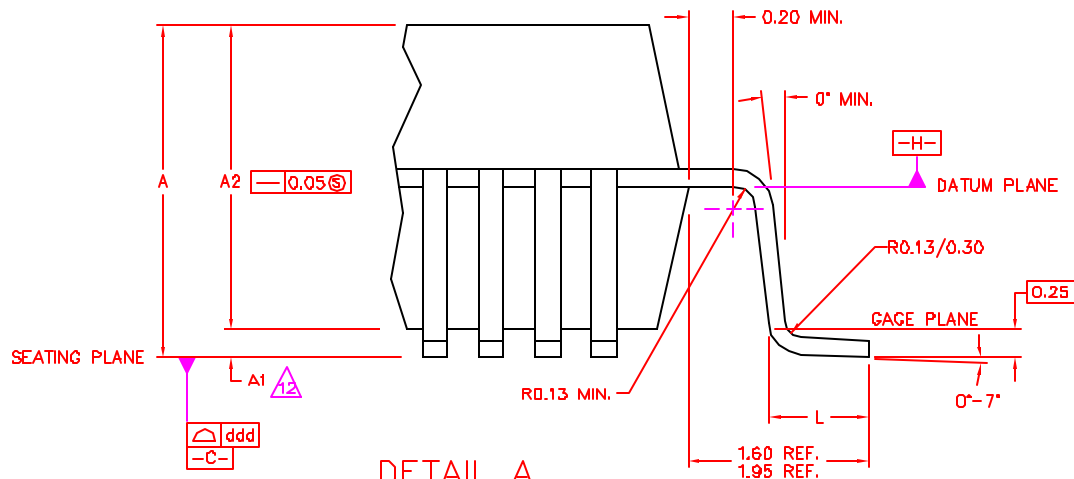


DO NOT SCALE DRAWING

ACAD FILENAME: MPO14P

DRAFTSMAN: DENNIS LEUNG	DATE 3/17/97
CHECKER: DENNIS LEUNG	DATE 10/30/98
APPROVED: CHRIS DOI	DATE 04/05/01

<p>PACKAGING CORPORATION Packaging Partnership</p>		2281 Old Oakland Road San Jose, CA 95131-1408 Phone: 408/881-3800 Fax: 408/361-3803	
TITLE: <b>MARKETING OUTLINE DRAWING</b> 14 X 20 X 2.7mm QFP			
DRAWING NO.: <b>QFP-MPO-14P-XXX-01</b>		REV. <b>D</b>	PAGE: <b>1/3</b> SCALE: <b>3:1</b>



DETAIL A  
SCALE: 15X

NOTES:

- ALL DIMENSIONS ARE IN MM. ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1982.
- THE TOP PACKAGE BODY SIZE MAY BE SMALLER THAN THE BOTTOM PACKAGE BODY SIZE BY AS MUCH AS 0.20.
- DATUMS [A-B] AND [D-] TO BE DETERMINED AT DATUM PLANE [H-].
- TO BE DETERMINED AT SEATING PLANE [C-].
- DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION IS 0.25 PER SIDE. D1 AND E1 ARE MAXIMUM PLASTIC BODY SIZE DIMENSIONS INCLUDING MOLD MISMATCH.
- SURFACE FINISH OF THE PACKAGE IS #24-27 CHARVILLE (1.6-2.3  $\mu\text{mR}_a$ ). PIN 1 AND EJECTOR PIN MAY BE LESS THAN 0.1  $\mu\text{mR}_a$ .
- DAMBAR REMOVAL: PROTRUSION DOES NOT EXCEED 0.08. INTRUSION DOES NOT EXCEED 0.03.
- BURR: BURR DOES NOT EXCEED 0.08 IN ANY DIRECTION.
- DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL NOT CAUSE THE LEAD WIDTH TO EXCEED THE MAXIMUM b DIMENSION BY MORE THAN 0.08. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN PROTRUSION AND ADJACENT LEAD IS 0.07 FOR 0.40 AND 0.50 PITCH PACKAGE.
- CORNER RADIUS OF PLASTIC BODY DOES NOT EXCEED 0.20.
- THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.25 FROM THE LEAD TIP.
- A1 IS DEFINED AS THE DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT OF THE PACKAGE BODY.
- FINISH OF LEADS IS TIN/LEAD PLATED.
- ALL SPECIFICATIONS AND DIMENSIONS ARE SUBJECTED TO IPAC'S MANUFACTURING PROCESS FLOW AND MATERIALS.
- THE PACKAGES DESCRIBED IN THIS DRAWING CONFORM TO JEDEC MS-022B AND MO-112B. WHERE DISCREPANCIES BETWEEN THE JEDEC AND IPAC DOCUMENTS EXIST, THIS DRAWING WILL TAKE THE PRECEDENCE.

**PAC** PRESENTED  
ASSEMBLY  
CORPORATION®  
Packaging Foundry

2221 Old Oakland Road  
San Jose, CA 95131-1406  
Phone: 408/361-9800  
Fax: 408/361-3603

DRAFTSMAN: DENNIS LEUNG	DATE 3/17/97	TITLE: <b>MARKETING OUTLINE DRAWING</b> 14 X 2D X 2.7mm QFP	REV.   PAGE: D   2/3
CHECKER: DENNIS LEUNG	DATE 10/30/98		
APPROVED: Dennis Leung	DATE 04/05/01	DRAWING NO.:	SCALE:
APPROVED:	DATE	<b>QFP-MPO-14P-XXX-01</b>	

DO NOT SCALE DRAWING

ACAD FILENAME: MPO14P

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	80; 3.2 FP			
	MIN.	NOM.	MAX.	
A	===	===	3.15	
A1	0.25	===	===	
A2	2.55	2.70	2.85	
D	23.20 BSC			
D1	20.00 BSC			
E	17.20 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.80 BSC			
b	0.30	===	0.45	
b1	0.30	0.35	0.40	
o	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.20			
ddd	0.10			

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	100; 3.2 FP			
	MIN.	NOM.	MAX.	
A	===	===	3.15	
A1	0.25	===	===	
A2	2.55	2.70	2.85	
D	23.20 BSC			
D1	20.00 BSC			
E	17.20 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.85 BSC			
b	0.22	===	0.38	
b1	0.22	0.30	0.34	
o	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.12			
ddd	0.10			

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	128; 3.2 FP			
	MIN.	NOM.	MAX.	
A	===	===	3.15	
A1	0.25	===	===	
A2	2.55	2.70	2.85	
D	23.20 BSC			
D1	20.00 BSC			
E	17.20 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.60 BSC			
b	0.17	===	0.30	
b1	0.17	0.22	0.27	
o	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.08			
ddd	0.08			

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	80; 3.8 FP			
	MIN.	NOM.	MAX.	
A	---	---	3.15	
A1	0.25	---	---	
A2	2.55	2.70	2.85	
D	23.90 BSC			
D1	20.00 BSC			
E	17.90 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.80 BSC			
b	0.30	---	0.45	
b1	0.30	0.35	0.40	
c	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.20			
ddd	0.10			

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	100; 3.8 FP			
	MIN.	NOM.	MAX.	
A	---	---	3.15	
A1	0.25	---	---	
A2	2.55	2.70	2.85	
D	23.90 BSC			
D1	20.00 BSC			
E	17.90 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.85 BSC			
b	0.22	---	0.38	
b1	0.22	0.30	0.34	
c	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.12			
ddd	0.10			

SYMBOL	LEAD COUNT; FOOT PRINT			NOTE
	128; 3.8 FP			
	MIN.	NOM.	MAX.	
A	---	---	3.15	
A1	0.25	---	---	
A2	2.55	2.70	2.85	
D	23.90 BSC			
D1	20.00 BSC			
E	17.90 BSC			
E1	14.00 BSC			
L	0.73	0.88	1.03	
e	0.50 BSC			
b	0.17	---	0.30	
b1	0.17	0.22	0.27	
c	0.13	===	0.23	
c1	0.13	===	0.17	
	Tolerances of form and position			
aaa	0.20			
bbb	0.20			
ccc	0.08			
ddd	0.08			



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DRAFTSMAN: DENNIS LEUNG	DATE 3/17/97
CHECKER: DENNIS LEUNG	DATE 10/30/98
APPROVED: CHRIS GOI	DATE 04/05/01
APPROVED:	DATE

TITLE:  
**MARKETING OUTLINE DRAWING**  
**14 X 20 X 2.7mm QFP**

DRAWING NO.:	REV.:	PAGE:
QFP-MPO-14P-XXX-01	D	3/3
SCALE:		

ACAD FILENAME: MPD14P