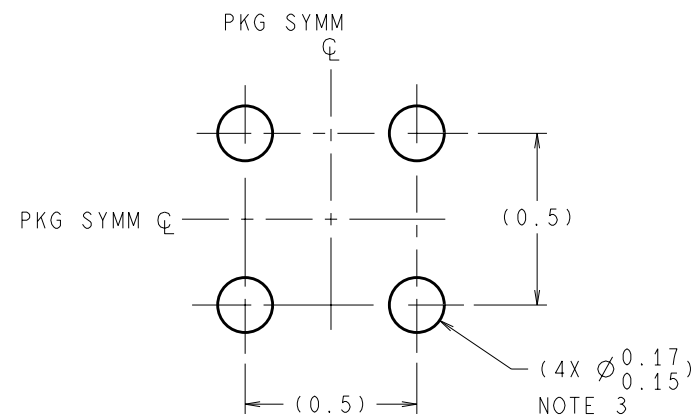
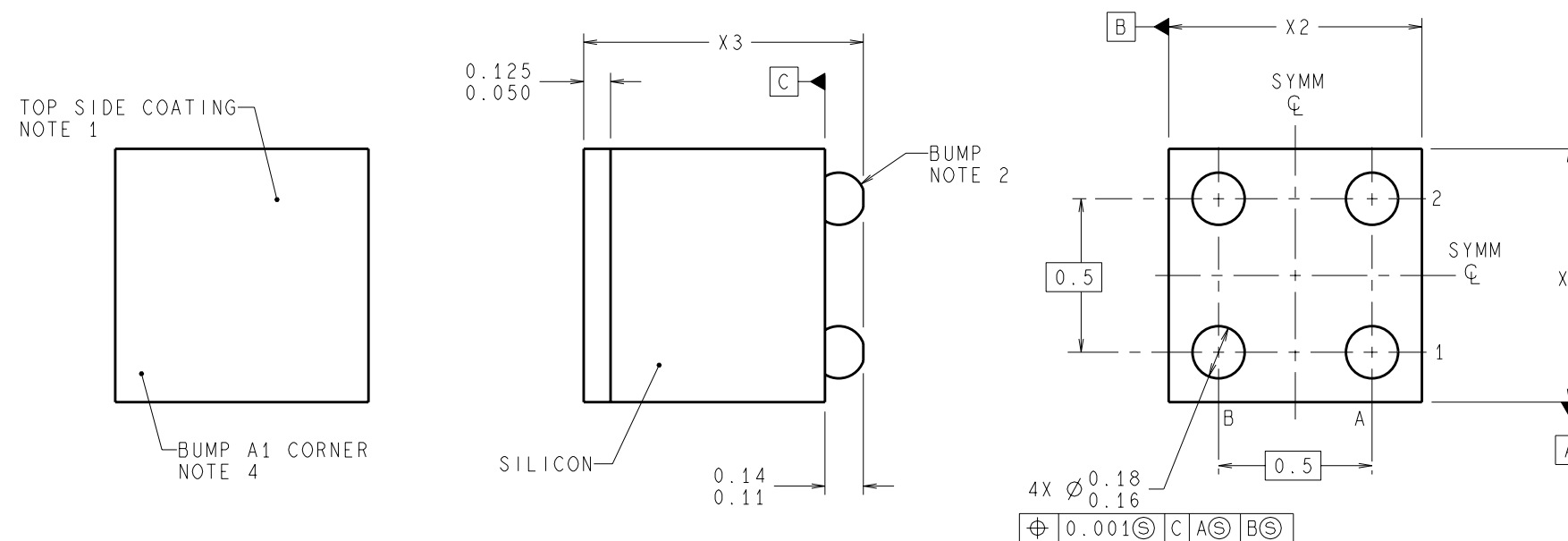


REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	12201	04/28/1999	MS/ECH
B	ADD "D" & "450" TO TABLE AT X3 COLUMNS	12287	08/26/1999	MS/NK
C	DIM 0.125/0.05 WAS 0.06/0.04; FLATTEN BUMP HEIGHT BY 0.005mm; X3 TOL 100 WAS 50.	172	10/04/2000	MS/VA
D	CHANGE BUMPS NUMBERING ORDER PER JEDEC; UPDATE NOTE 4.	521	02/11/2002	MS/VP



DIMENSIONS ARE IN MILLIMETERS

LAND PATTERN RECOMMENDATION




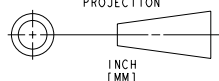
NOTES: UNLESS OTHERWISE SPECIFIED

- EPOXY COATING.
- 63Sn / 37Pb EUTECTIC BUMP.
- RECOMMEND NON-SOLDER MASK DEFINED LANDING PAD.
- PIN A1 IS ESTABLISHED BY LOWER LEFT CORNER WITH RESPECT TO TEXT ORIENTATION.
- XXX IN DRAWING NUMBER REPRESENTS PACKAGE SIZE VARIATION WHERE X1 IS PACKAGE WIDTH, X2 IS PACKAGE LENGTH AND X3 IS PACKAGE HEIGHT (SEE TABLE, SHEET 2).
EXAMPLE: BPA04AFA HAS WIDTH=777, LENGTH=904, HEIGHT=700
- REFERENCE JEDEC REGISTRATION MO-211, VARIATION BA.

APPROVALS	DATE	National Semiconductor			
DRAWN MARTA SUCHY	04/28/1999	2900 Semiconductor Dr., Santa Clara, CA 95052-8090			
DFTG. CHK. THANH LEQUANG	02/11/2002	MICRO SMD, 4 BUMP, 0.5mm PITCH			
ENGR. CHK. VIRAJ PATWARDHAN	02/11/2002				
PROJECTION 		SCALE	SIZE	DRAWING NUMBER	REV
		N/A	C	(SC)MKT-BPA04XXX	D
DO NOT SCALE DRAWING				SHEET 1 of 2	

REVISIONS			
LTR	DESCRIPTION	E.C.N.	DATE
	SEE SHEET 1		

PACKAGE DIMENSIONS					
X1 DESIGNATOR	X1 PACKAGE WIDTH $\pm 30\mu\text{m}$	X2 DESIGNATOR	X2 PACKAGE LENGTH $\pm 30\mu\text{m}$	X3 DESIGNATOR	X3 PACKAGE HEIGHT $\pm 100\mu\text{m}$
A	777	A	777	A	700
B	803	B	803	B	850
C	828	C	828	C	900
D	853	D	853	D	450
E	879	E	879		
F	904	F	904		
G	930	G	930		
H	955	H	955		
J	980	J	980		
K	1006	K	1006		
L	1031	L	1031		
M	1057	M	1057		
N	1082	N	1082		
P	1107	P	1107		
Q	1133	Q	1133		
R	1158	R	1158		
S	1184	S	1184		
T	1209	T	1209		
U	1234	U	1234		
V	1260	V	1260		
W	1285	W	1285		
X	1311	X	1311		
Y	1336	Y	1336		
2	1361	2	1361		
3	1387	3	1387		
4	1412	4	1412		
5	1438	5	1438		
6	1463	6	1463		

APPROVALS		DATE	 National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090		
DRAWN MARTA SUCHY		04/28/1999			
DFTG. CHK. THANH LEQUANG		02/11/2002	MICRO SMD, 4 BUMP, 0.5mm PITCH		
ENGR. CHK. VIRAJ PATWARDHAN		02/11/2002			
 PROJECTION <small>INCH [MM]</small>		SCALE	SIZE	DRAWING NUMBER	REV
		N/A	C	(SC)MKT-BPA04XXX	D
DO NOT SCALE DRAWING				SHEET 2 of 2	