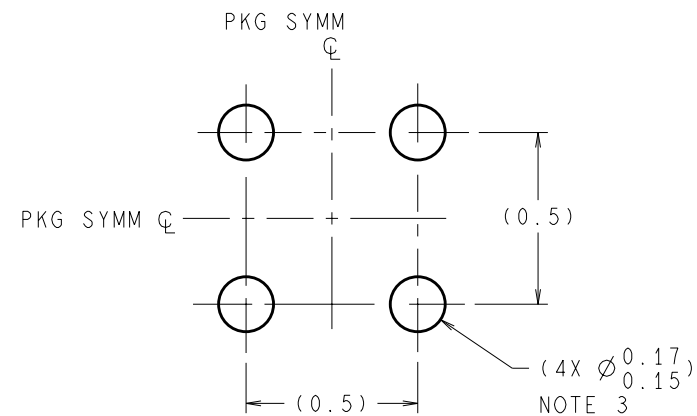
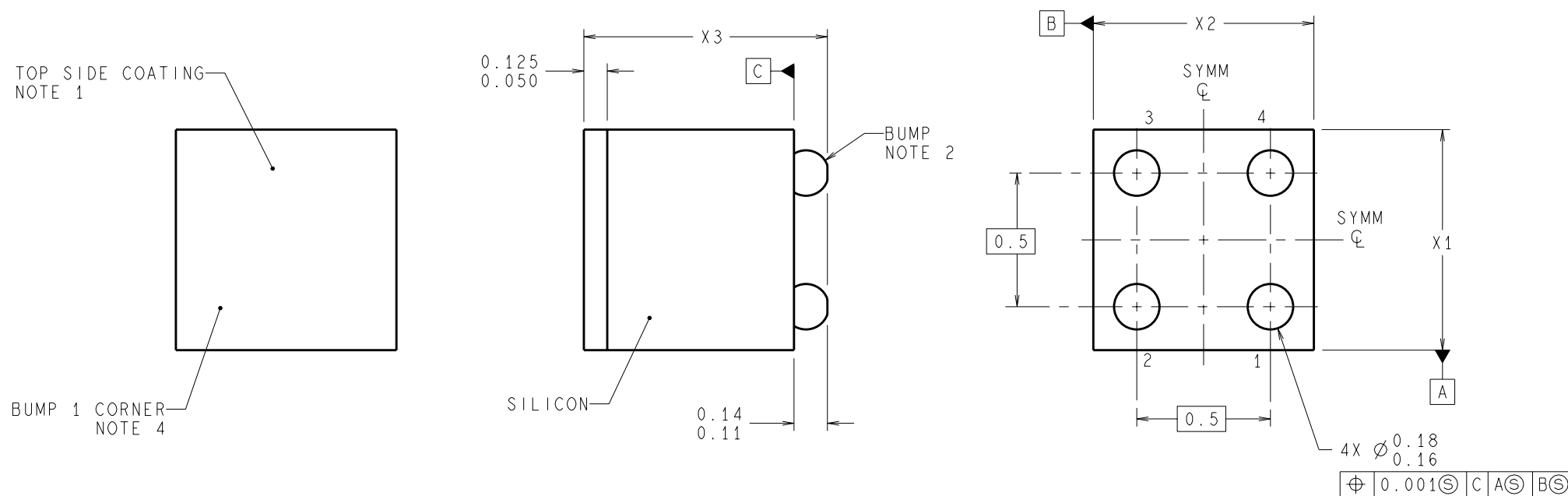


REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	12201	04/28/1999	MS/ECH
B	ADD "D" & "450" TO TABLE AT X3 COLUMNS	12287	08/26/1999	MS/NK
C	DIM 0.125/0.05 WAS 0.06/0.04; FLATTEN BUMP HEIGHT BY 0.005mm; X3 TOL 100 WAS 50.	172	10/04/2000	MS/VA



**LAND PATTERN RECOMMENDATION**



**DIMENSIONS ARE IN MILLIMETERS**


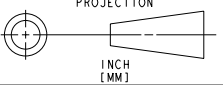
NOTES: UNLESS OTHERWISE SPECIFIED

1. EPOXY COATING.
2. 63Sn / 37Pb EUTECTIC BUMP.
3. RECOMMEND NON-SOLDER MASK DEFINED LANDING PAD.
4. PIN 1 IS ESTABLISHED BY LOWER LEFT CORNER WITH RESPECT TO TEXT ORIENTATION. REMAINING PINS ARE NUMBERED COUNTERCLOCKWISE.
5. 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
6. REFERENCE JEDEC REGISTRATION MO-211, VARIATION BA.

APPROVALS	DATE	National Semiconductor			
DRAWN <b>MARTA SUCHY</b>	04/28/1999	2900 Semiconductor Dr., Santa Clara, CA 95052-8090			
DFTG. CHK. THANH LEQUANG	10/04/2000	<b>MICRO SMD, 4 BUMP, 0.5mm PITCH</b>			
ENGR. CHK. VIVEK ARORA	10/04/2000				
PROJECTION 		SCALE <b>N/A</b>	SIZE <b>C</b>	DRAWING NUMBER <b>(SC)MKT-BPA04XXX</b>	REV <b>C</b>
		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	 <i>National Semiconductor</i> 2900 Semiconductor Dr., Santa Clara, CA 95052-8090		
DRAWN	<b>MARTA SUCHY</b>	04/28/1999	<b>MICRO SMD, 4 BUMP, 0.5mm PITCH</b>		
DFTG. CHK.	THANH LEQUANG	10/04/2000			
ENGR. CHK.	VIVEK ARORA	10/04/2000			
 PROJECTION <small>INCH [MM]</small>		SCALE	SIZE	DRAWING NUMBER	REV
		N/A	C	(SC)MKT-BPA04XXX	C
DO NOT SCALE DRAWING				SHEET 2 of 2	