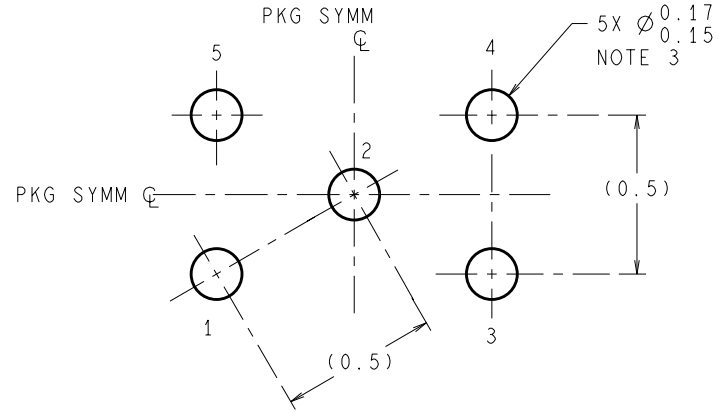
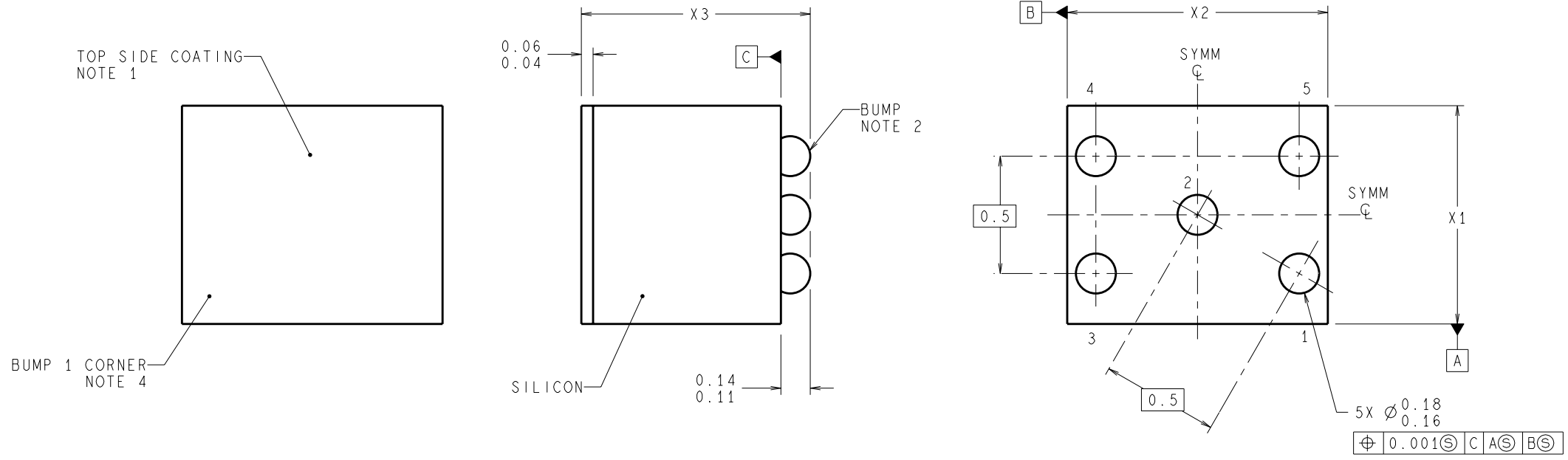


REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	12284	08/26/1999	MS/ECH



LAND PATTERN RECOMMENDATION



DIMENSIONS ARE IN MILLIMETERS


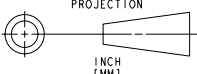
NOTES: UNLESS OTHERWISE SPECIFIED

- EPOXY COATING.
- 63Sn / 37Pb EUTECTIC BUMP.
- RECOMMEND NON-SOLDER MASK DEFINED LANDING PAD.
- PIN 1 IS ESTABLISHED BY LOWER LEFT CORNER WITH RESPECT TO TEXT ORIENTATION. REMAINING PINS ARE NUMBERED COUNTERCLOCKWISE.
- 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: BPA05GAB HAS WIDTH=930, LENGTH=1107, HEIGHT=850
- NO JEDEC REGISTRATION AS OF AUG.1999.

APPROVALS	DATE	National Semiconductor			
DRAWN MARTA SUCHY	08/26/1999	2900 Semiconductor dr., Santa Clara, CA 95052-8090			
DFTG. CHK. THANH LEQUANG	08/26/1999	MICRO SMD, 5 BUMP, 0.5mm PITCH			
ENGR. CHK. EDWIN CHEN	08/26/1999				
		SCALE	SIZE	DRAWING NUMBER	REV
		N/A	C	(SC)MKT-BPA05XXX	A
DO NOT SCALE DRAWING				SHEET 1 of 2	

REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
	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 $\pm 50\mu\text{m}$
A	777	A	1107	A	700
B	803	B	1133	B	850
C	828	C	1158	C	900
D	853	D	1184		
E	879	E	1209		
F	904	F	1234		
G	930	G	1260		
H	955	H	1285		
J	980	J	1311		
K	1006	K	1336		
L	1031	L	1361		
M	1057	M	1387		
N	1082	N	1412		
P	1107	P	1438		
Q	1133	Q	1463		
R	1158				
S	1184				
T	1209				
U	1234				
V	1260				
W	1285				
X	1311				
Y	1336				
2	1361				
3	1387				
4	1412				
5	1438				
6	1463				

APPROVALS	DATE	 National Semiconductor 2900 Semiconductor dr., Santa Clara, CA 95052-8090			
DRAWN MARTA SUCHY	08/26/1999				
DFTG. CHK. THANH LEQUANG	08/26/1999				
ENGR. CHK. EDWIN CHEN	08/26/1999	MICRO SMD, 5 BUMP, 0.5mm PITCH			
		SCALE	SIZE	DRAWING NUMBER	REV
		N/A	C	(SC)MKT-BPA05XXX	A
DO NOT SCALE DRAWING				SHEET 2 of 2	