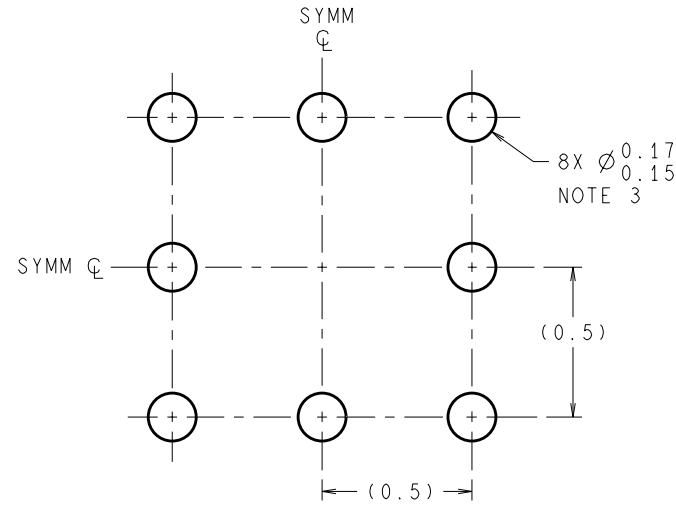
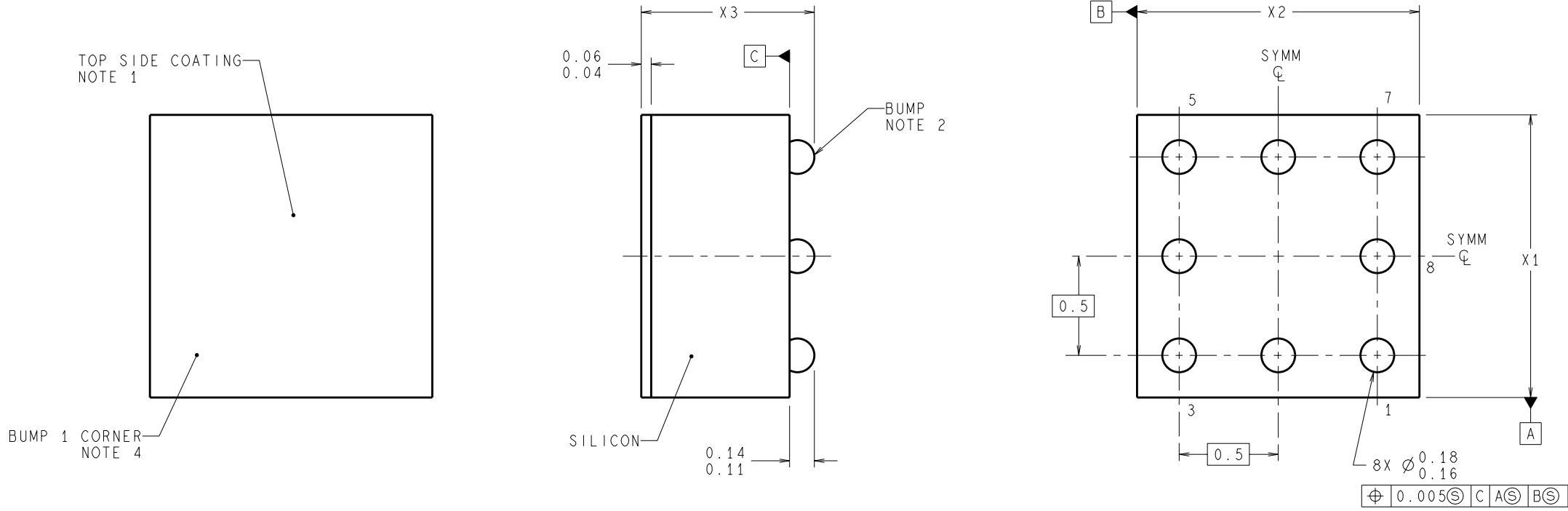


REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	12202	04/28/1999	MS/ECH



LAND PATTERN RECOMMENDATION




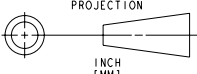
DIMENSIONS ARE IN MILLIMETERS

- NOTES: UNLESS OTHERWISE SPECIFIED
1. EPOXY COATING.
 2. 63 Sn / 37 Pb 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: BPA08EFB HAS WIDTH=1387, LENGTH=1412, HEIGHT=850
 6. REFERENCE JEDEC REGISTRATION MO-211, VARIATION BC.

APPROVALS	DATE	 National Semiconductor 2900 Semiconductor dr., Santa Clara, CA 95052-8090			
DRAWN MARTA SUCHY	04/28/1999				
DFTG. CHK. THANH LEQUANG	04/29/1999				
ENGR. CHK. EDWIN CHEN	04/30/1999	MICRO SMD, 8 BUMP, 0.5mm PITCH			
 PROJECTION INCH [MM]		SCALE N/A	SIZE C	DRAWING NUMBER (SC)MKT-BPA08XXX	REV A
DO NOT SCALE DRAWING				SHEET 1 of 2	

REVISIONS				
LTR	DESCRIPTION	E.C.N.	DATE	BY/APP'D
	SEE SHEET 1			

8 BUMP NOMINAL 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	1285	A	1285	A	700
B	1311	B	1311	B	850
C	1336	C	1336	C	900
D	1361	D	1361		
E	1387	E	1387		
F	1412	F	1412		
G	1438	G	1438		
H	1463	H	1463		
J	1488	J	1488		
K	1514	K	1514		
L	1539	L	1539		
M	1565	M	1565		
N	1590	N	1590		
P	1615	P	1615		
Q	1641	Q	1641		
R	1666	R	1666		
S	1692	S	1692		
T	1717	T	1717		
U	1742	U	1742		
V	1768	V	1768		
W	1793	W	1793		
X	1819	X	1819		
Y	1844	Y	1844		
2	1869	2	1869		
3	1895	3	1895		
4	1920	4	1920		
5	1946	5	1946		
6	1971	6	1971		

APPROVALS	DATE	 National Semiconductor 2900 Semiconductor dr., Santa Clara, CA 95052-8090			
DRAWN MARTA SUCHY	04/28/1999				
DFTG. CHK. THANH LEQUANG	04/29/1999				
ENGR. CHK. EDWIN CHEN	04/30/1999				
		MICRO SMD, 8 BUMP, 0.5mm PITCH			
		SCALE N/A	SIZE C	DRAWING NUMBER (SC)MKT-BPA08XXX	REV A
		DO NOT SCALE DRAWING		SHEET 2 of 2	