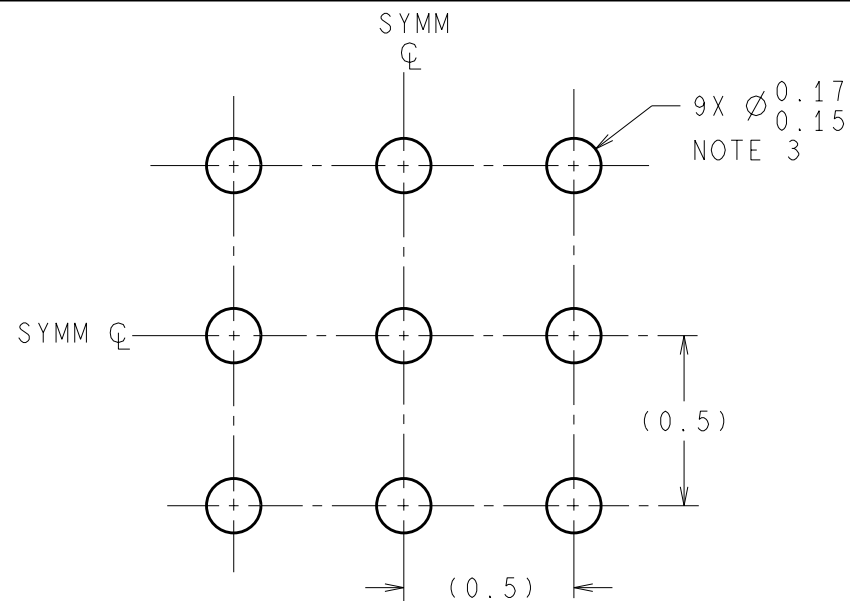
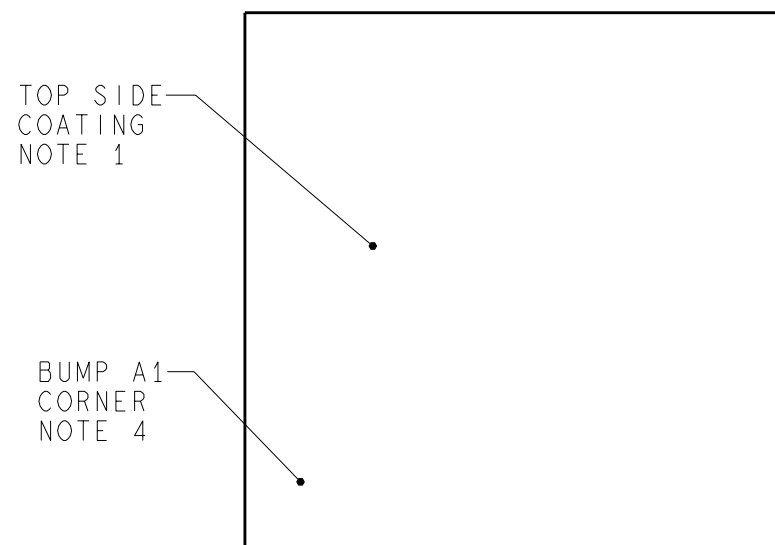


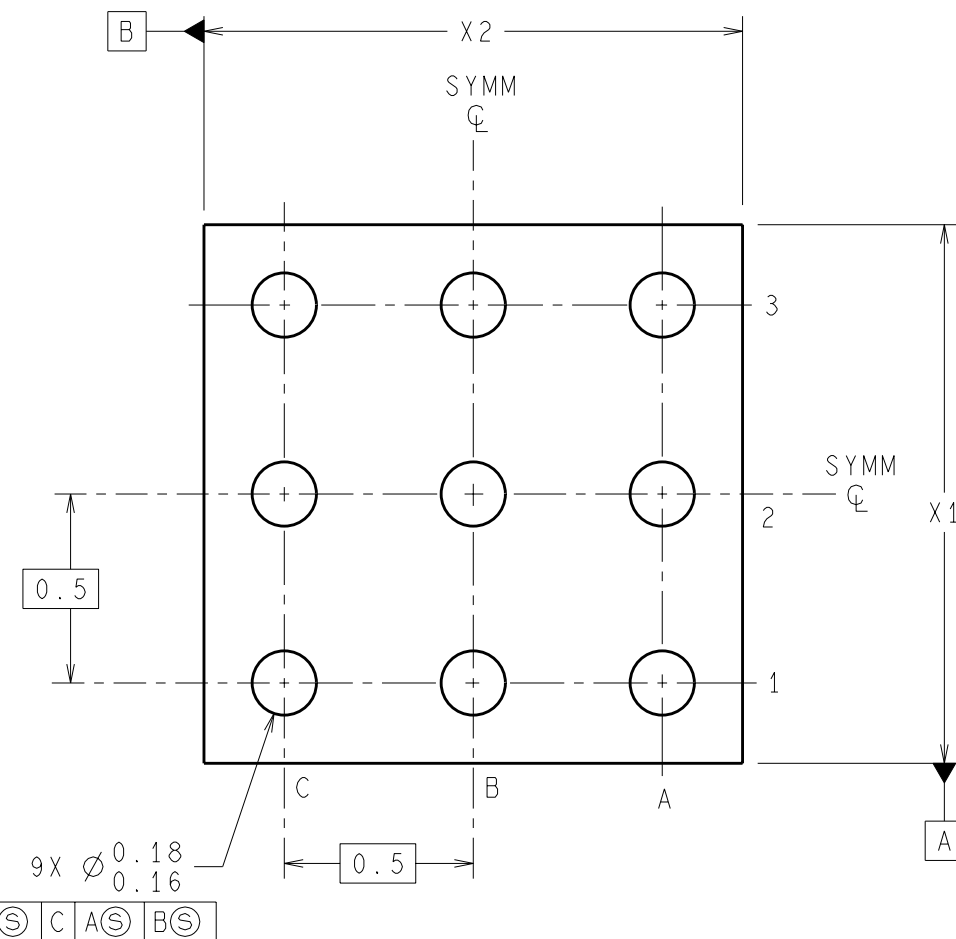
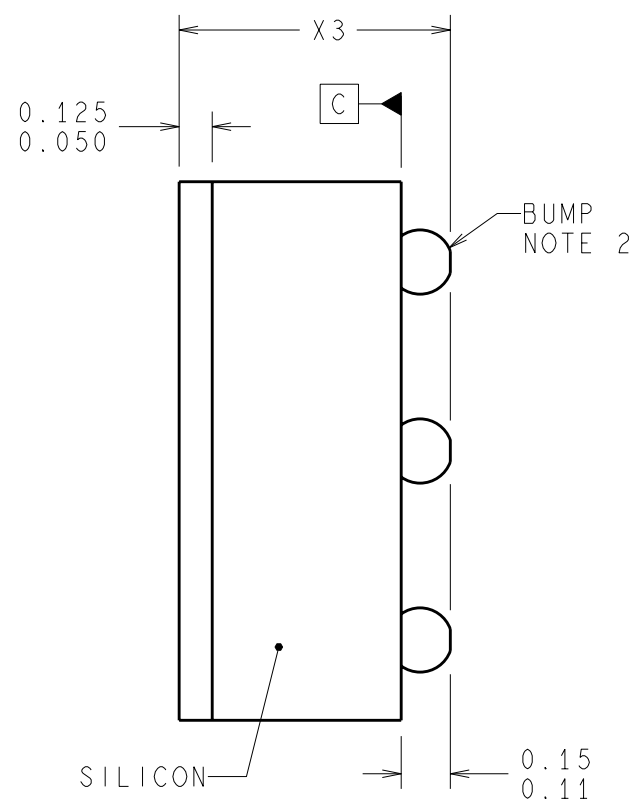
REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	609	03/15/2002	MS/VA
B	DIM 0.15/0.11 WAS 0.14/0.11; DIM 0.125/0.050 WAS 0.075/0.050; REVISE NOTE 2; ADD 'Z' 1234 & '1' 1259 TO X1 & X2 COLUMNS.	862	09/08/2003	MS/HN



**LAND PATTERN RECOMMENDATION**



**DIMENSIONS ARE IN MILLIMETERS**  
DIMENSIONS IN ( ) FOR REFERENCE ONLY



NOTES: UNLESS OTHERWISE SPECIFIED



1. EPOXY COATING.
2. FOR SOLDER BUMP COMPOSITION, SEE "SOLDER INFORMATION" IN THE PACKAGING SECTION OF THE NATIONAL SEMICONDUCTOR WEB PAGE ([www.national.com](http://www.national.com)).
3. RECOMMEND NON-SOLDER MASK DEFINED LANDING PAD.
4. PIN A1 IS ESTABLISHED BY LOWER LEFT CORNER WITH RESPECT TO TEXT ORIENTATION.
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).
6. REFERENCE JEDEC REGISTRATION MO-211, VARIATION BC.

⊕	0.005(S)	C	A(S)	B(S)
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APPROVALS		DATE	 National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090
DRAWN	MARTA SUCHY	03/15/2002	
DFTG. CHK.	THANH LEQUANG	09/08/2003	
ENGR. CHK.	HAU NGUYEN	09/08/2003	
THIN MICRO SMD, 9 BUMP, 0.5mm PITCH			
PROJECTION	SCALE	SIZE	DRAWING NUMBER
 MM	NTS	B	(SC)MKT-TPA09XXX
FORMERLY: N/A			REV B
			SHEET 1 of 2

REVISIONS				
REV	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 ( $\pm 75\mu\text{m}$ )
Z	1234	Z	1234	A	500
1	1259	1	1259		
A	1285	A	1285		
B	1311	B	1311		
C	1336	C	1336		
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	 2900 Semiconductor Dr., Santa Clara, CA 95052-8090	<b>THIN MICRO SMD, 9 BUMP,</b> <b>0.5mm PITCH</b>
DRAWN <b>MARTA SUCHY</b>	03/15/2002		
DFTG. CHK. <b>THANH LEQUANG</b>	09/08/2003		
ENGR. CHK. <b>HAU NGUYEN</b>	09/08/2003		
PROJECTION	SCALE	SIZE	DRAWING NUMBER
	NTS	B	(SC)MKT-TPA09XXX
MM	FORMERLY: N/A		REV B
			SHEET 2 of 2