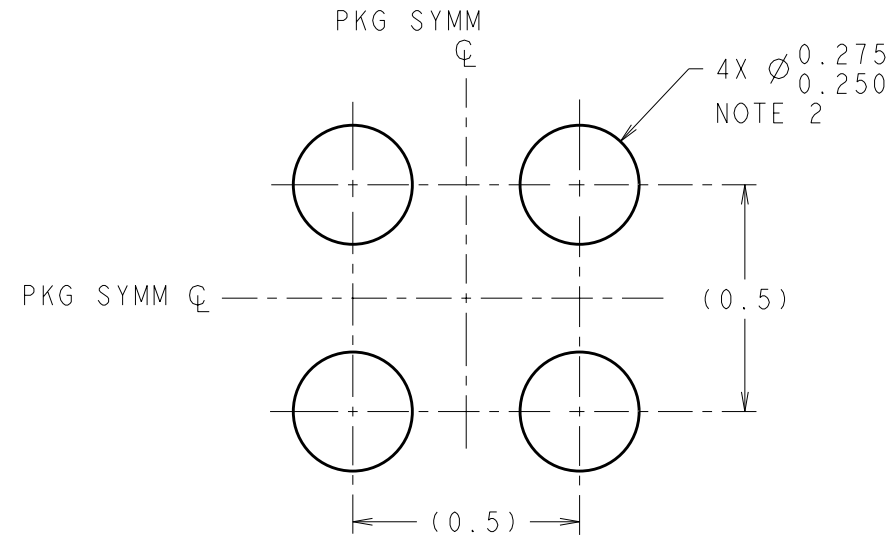
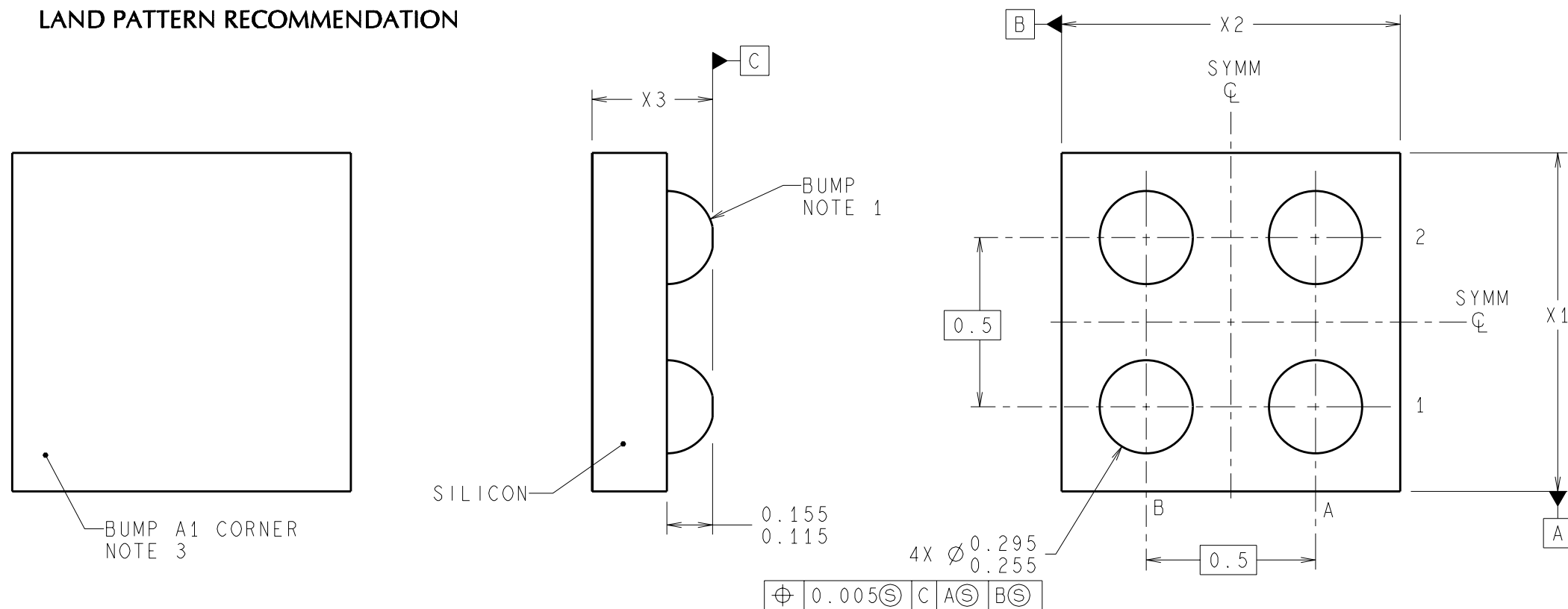


REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	1654	11/03/2004	MS/VP
B	CORRECT SILICON THICKNESS TO REFLECT THE X3 350 MICROMETERS VALUE; UPDATE NOTE 6 AND DATUM C LOCATION.	1720	01/21/2005	MS/NK
C	DIM 0.155/0.115 WAS 0.15/0.11; REMOVE TITANIUM COATING & NOTE 1; RENUMBER NOTES; UPDATE NOTE 5 & REVISE TITLE.	1748	03/04/2005	MS/VP
D	DIM $\varnothing$ 0.295/0.255 WAS 0.30/0.28; POSITIONAL GEOM TOL 0.005 WAS 0.001; UPDATE NOTE 5.	1767	05/19/2005	MS/VP



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

**LAND PATTERN RECOMMENDATION**




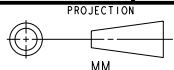
NOTES: UNLESS OTHERWISE SPECIFIED

- FOR SOLDER BUMP COMPOSITION, SEE "SOLDER INFORMATION" IN THE PACKAGING SECTION OF THE NATIONAL SEMICONDUCTOR WEB PAGE ([www.national.com](http://www.national.com)).
- 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).
- NO JEDEC REGISTRATION AS OF MAY 2005.

APPROVALS		DATE	 National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090	
DRAWN	MARTA SUCHY	11/03/2004		
DFTG. CHK.	THANH LEQUANG	05/19/2005	<b>ULTRA THIN MICRO SMD, 4 BUMP, LARGE DOME BUMPS, 0.5mm PITCH</b>	
ENGR. CHK.	VIRAJ PATWARDHAN	05/19/2005		
PROJECTION	SCALE	SIZE	DRAWING NUMBER	REV
 MM	NTS	B	(SC)MKT-URA04XXX	D
FORMERLY: N/A			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 $\pm 75\mu\text{m}$
A	975	A	975	A	350
B	1000	B	1000		
C	1026	C	1026		
D	1051	D	1051		
E	1077	E	1077		
F	1102	F	1102		
G	1128	G	1128		
H	1153	H	1153		
J	1179	J	1179		
K	1204	K	1204		
L	1230	L	1230		
M	1255	M	1255		
N	1281	N	1281		
P	1306	P	1306		
Q	1332	Q	1332		
R	1357	R	1357		
S	1383	S	1383		
T	1408	T	1408		
U	1434	U	1434		
V	1459	V	1459		
W	1485	W	1485		

APPROVALS		DATE	 2900 Semiconductor Dr., Santa Clara, CA 95052-8090			
DRAWN	<b>MARTA SUCHY</b>	11/03/2004				
DFTG. CHK.	THANH LEQUANG	05/19/2005				
ENGR. CHK.	VIRAJ PATWARDHAN	05/19/2005				
 PROJECTION MM			SCALE <b>NTS</b>	SIZE <b>B</b>	DRAWING NUMBER <b>(SC)MKT-URA04XXX</b>	REV <b>D</b>
FORMERLY: N/A			SHEET 2 of 2			

**ULTRA THIN MICRO SMD,  
4 BUMP, LARGE DOME BUMPS,  
0.5mm PITCH**