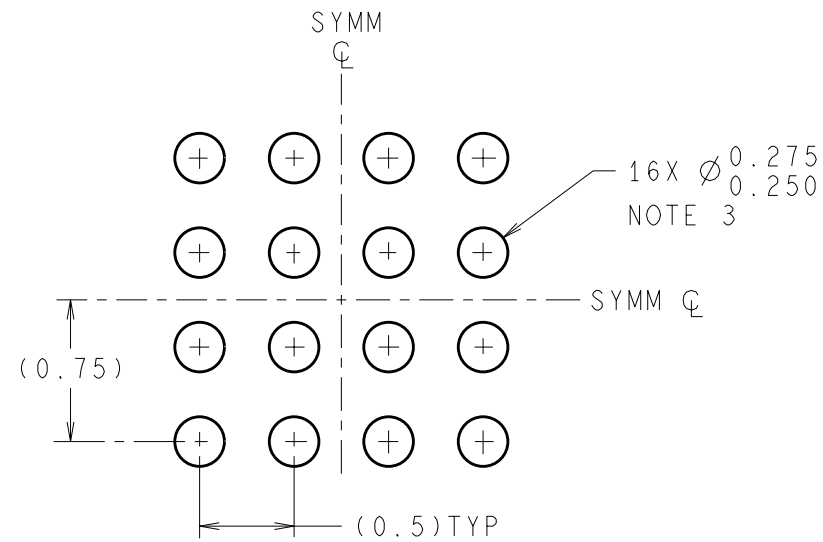
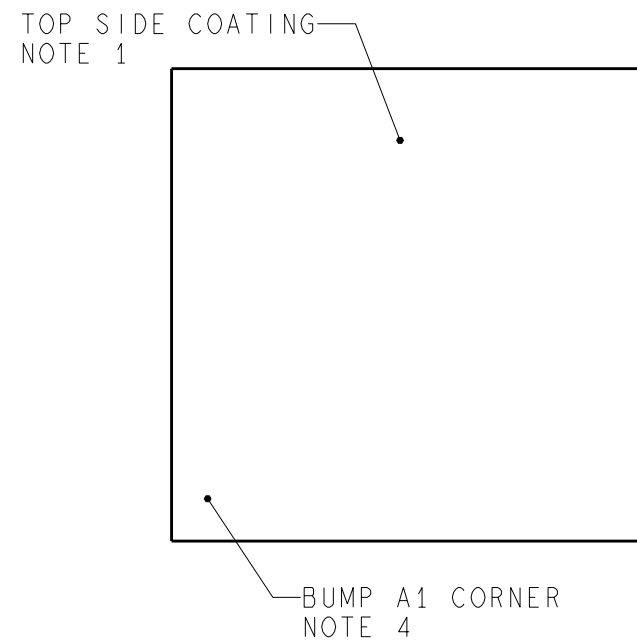


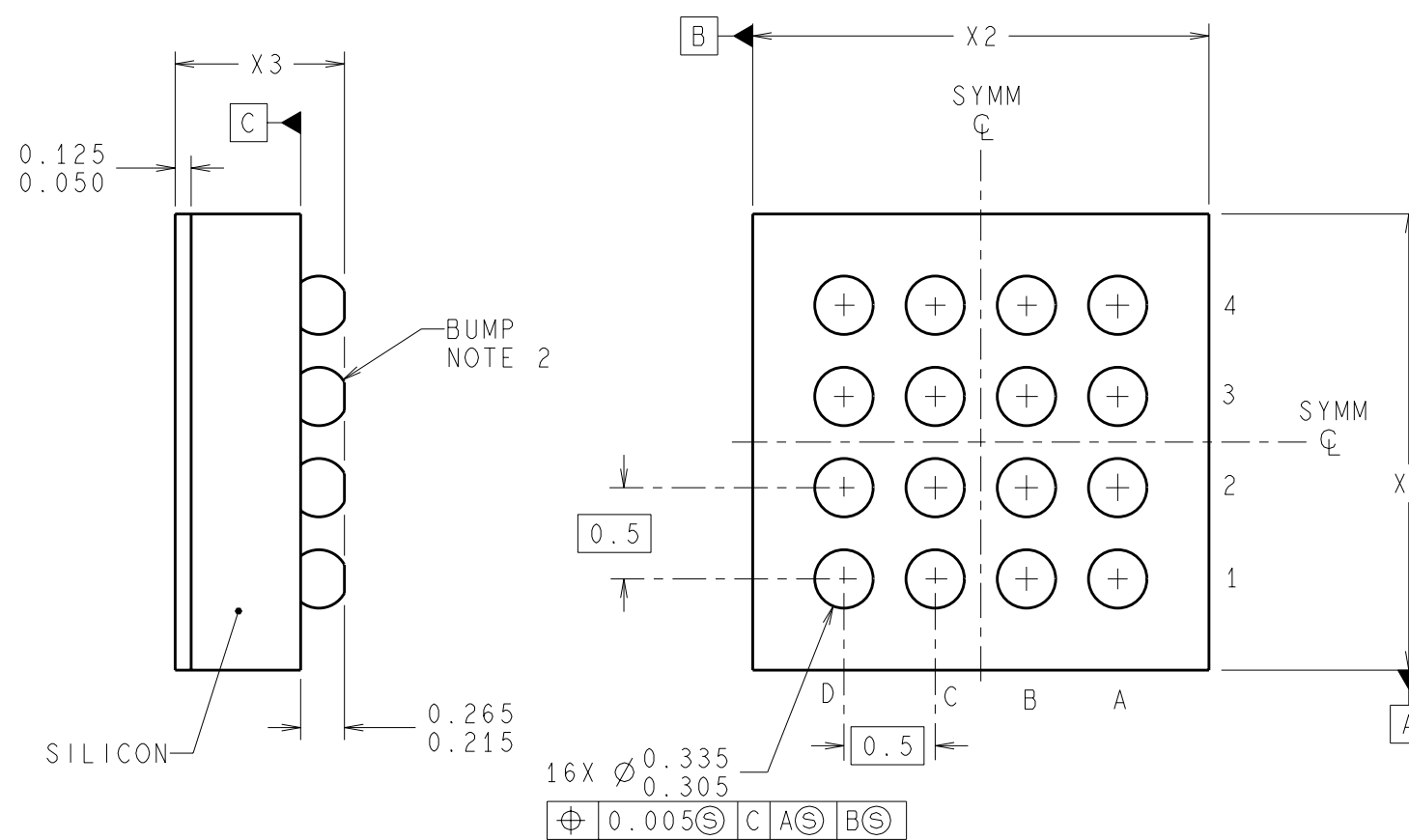
REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	587	02/26/2002	MS/VA
B	DIM 0.265/ 0.215 WAS 0.235/ 0.205; DIM 0.125/ 0.050 WAS 0.075/ 0.050; REVISE NOTE 2; ADD 'Z' 1945 & '1' 1970 TO X1 & X2 COLUMNS.	850	05/02/2003	MS/HN
C	BUMP DIA 0.335/ 0.305 WAS 0.31/ 0.29	1285	01/29/2004	MS/HN



**LAND PATTERN RECOMMENDATION**



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




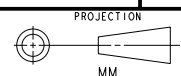
NOTES: UNLESS OTHERWISE SPECIFIED

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 DF.

APPROVALS		DATE	 National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090	<b>THIN MICRO SMD, 16 BUMP(LARGE), 0.5mm PITCH</b>		
DRAWN	<b>MARTA SUCHY</b>	02/26/2002				
DFTG. CHK.	THANH LEQUANG	01/29/2004				
ENGR. CHK.	HAU NGUYEN	01/29/2004				
PROJECTION  MM			SCALE <b>NTS</b>	SIZE <b>B</b>	DRAWING NUMBER <b>(SC)MKT-TLA16XXX</b>	REV <b>C</b>
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 $\pm 75\mu\text{m}$
Z	1945	Z	1945	A	600
1	1970	1	1970		
A	1996	A	1996		
B	2022	B	2022		
C	2047	C	2047		
D	2073	D	2073		
E	2098	E	2098		
F	2123	F	2123		
G	2149	G	2149		
H	2174	H	2174		
J	2200	J	2200		
K	2225	K	2225		
L	2250	L	2250		
M	2276	M	2276		
N	2301	N	2301		
P	2327	P	2327		
Q	2352	Q	2352		
R	2377	R	2377		
S	2403	S	2403		
T	2428	T	2428		
U	2454	U	2454		
V	2479	V	2479		

APPROVALS		DATE	 <b>National Semiconductor</b> <small>2900 Semiconductor Dr., Santa Clara, CA 95052-8090</small>			
DRAWN	<b>MARTA SUCHY</b>	02/26/2002				
DFTG. CHK.	THANH LEQUANG	01/29/2004				
ENGR. CHK.	HAU NGUYEN	01/29/2004				
 PROJECTION MM			SCALE <b>NTS</b>	SIZE <b>B</b>	DRAWING NUMBER <b>(SC)MKT-TLA16XXX</b>	REV <b>C</b>
FORMERLY: N/A			SHEET 2 of 2			

**THIN MICRO SMD,  
16 BUMP(LARGE),  
0.5mm PITCH**