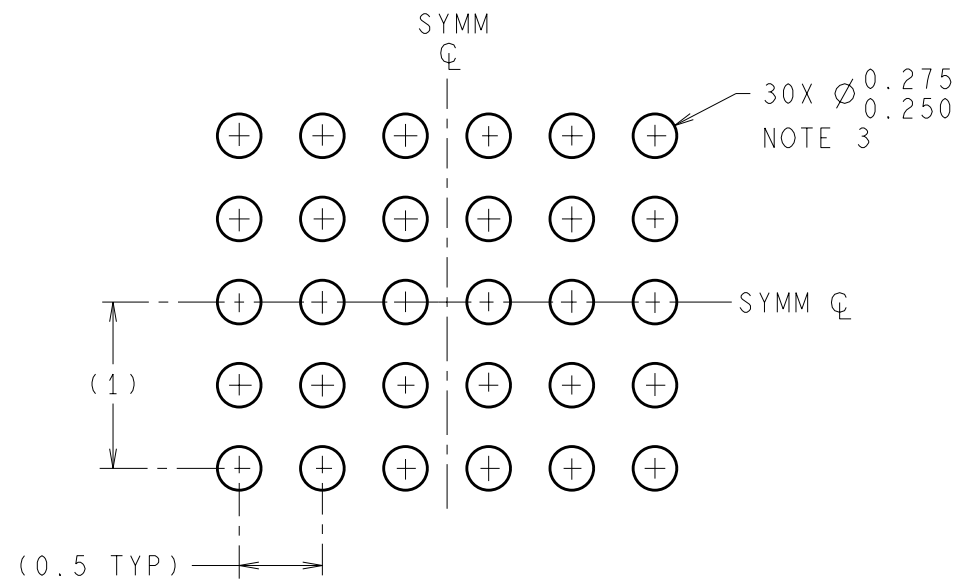
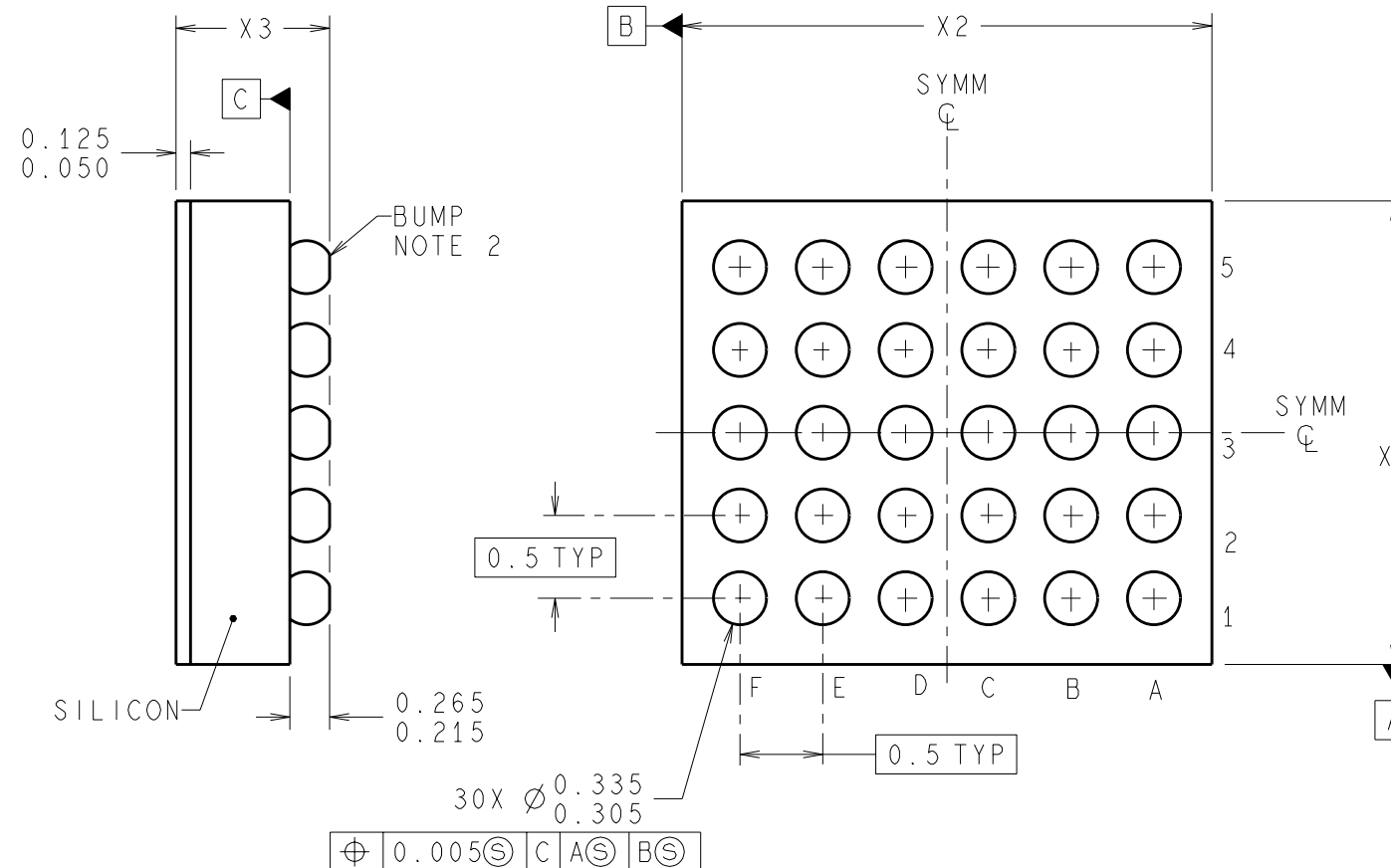
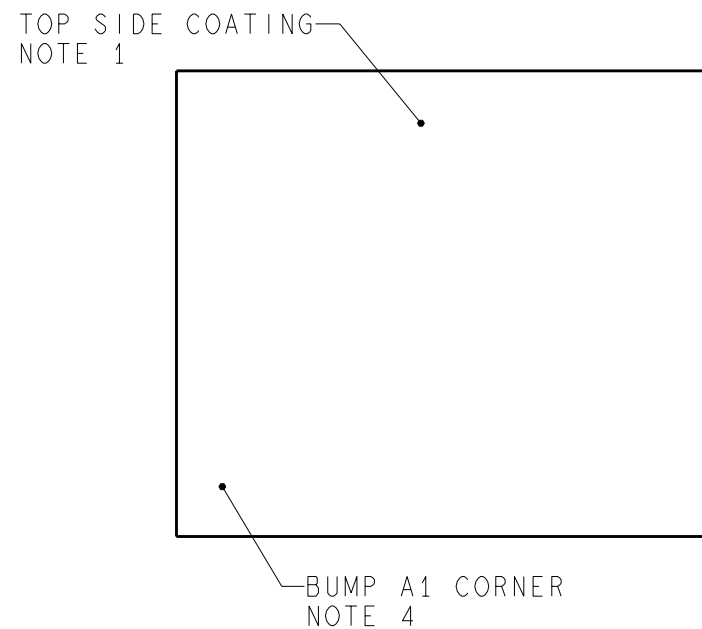


REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	679	04/10/2002	MS/VP
B	DIM 0.265/0.215 WAS 0.235/0.205; DIM 0.125/0.050 WAS 0.075/0.050; REVISE NOTE 2; ADD 'Z' 2441 & '1' 2466 TO X1 COLUMN; ADD 'Z' 2949 & '1' 2974 TO X2 COLUMN.	854	05/02/2003	MS/HN
C	DIM 0.335/0.305 WAS 0.31/0.29	1305	12/10/2003	MS/HN



DIMENSIONS ARE IN MILLIMETERS
DIMENSIONS IN () FOR REFERENCE ONLY

LAND PATTERN RECOMMENDATION





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).
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 DJ.

APPROVALS		DATE	 National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090
DRAWN	MARTA SUCHY	04/10/2002	
DFTG. CHK.	THANH LEQUANG	12/10/2003	
ENGR. CHK.	HAU NGUYEN	12/10/2003	
			THIN MICRO SMD, 30 BUMP(LARGE), 0.5mm PITCH
SCALE	SIZE	DRAWING NUMBER	
NTS	B	(SC)MKT-TLA30XXX	C
FORMERLY: N/A			SHEET 1 of 2

REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
1	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	2441	Z	2949	A	600
1	2466	1	2974		
A	2492	A	3000		
B	2517	B	3026		
C	2543	C	3051		
D	2568	D	3077		
E	2593	E	3102		
F	2619	F	3128		
G	2644	G	3153		
H	2670	H	3179		
J	2695	J	3204		
K	2720	K	3230		
L	2746	L	3255		
M	2771	M	3281		

APPROVALS		DATE	 National Semiconductor <small>2900 Semiconductor Dr., Santa Clara, CA 95052-8090</small>	THIN MICRO SMD, 30 BUMP(LARGE), 0.5mm PITCH	
DRAWN	MARTA SUCHY	04/10/2002			
DFTG. CHK.	THANH LEQUANG	12/10/2003			
ENGR. CHK.	HAU NGUYEN	12/10/2003			
		SCALE	SIZE	DRAWING NUMBER	REV
		NTS	B	(SC)MKT-TLA30XXX	C
		FORMERLY: N/A		SHEET 2 of 2	