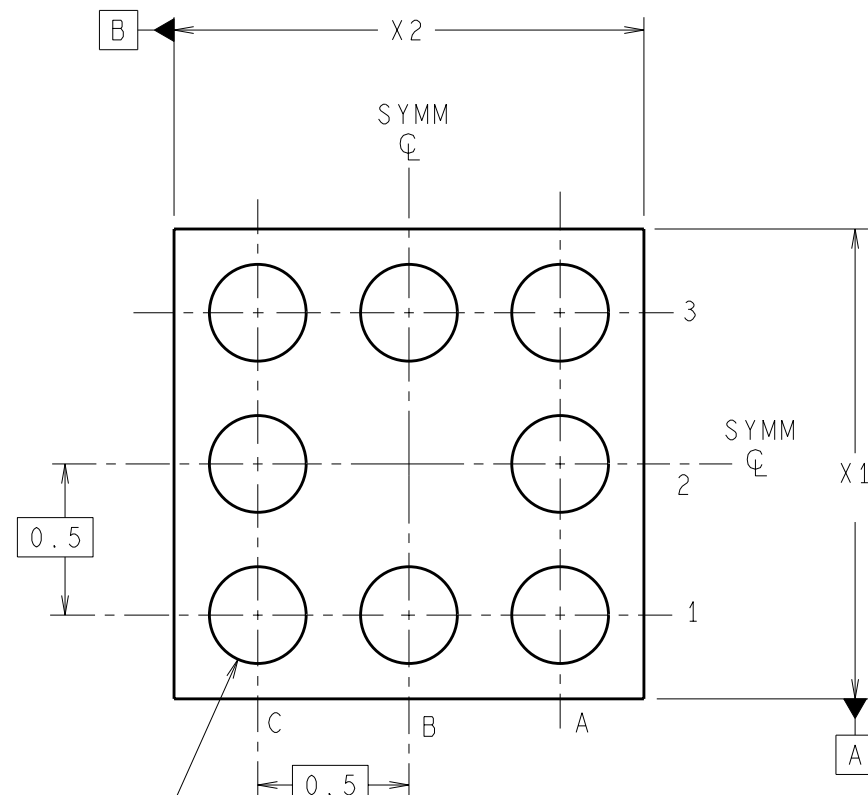
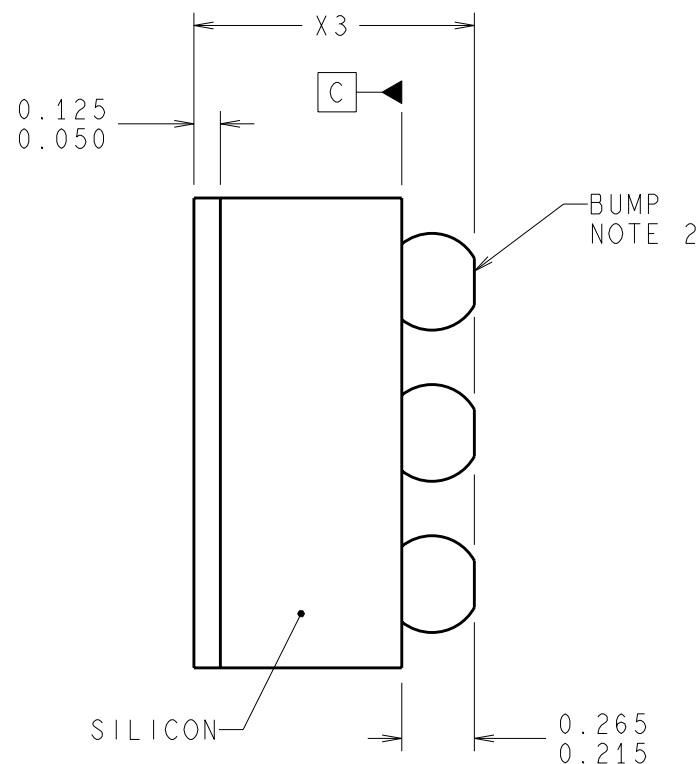
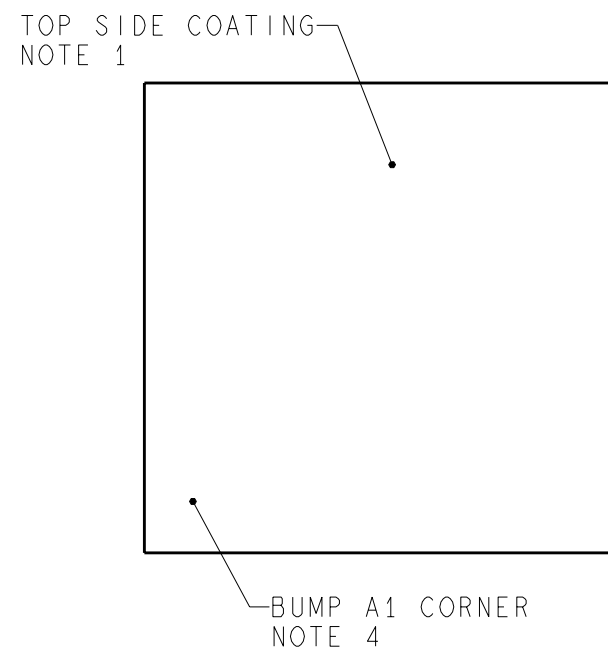


LAND PATTERN RECOMMENDATION


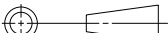


8X Ø 0.335 / 0.305
 0.005 C A B

REVISIONS				
REV	DESCRIPTION	E.C.N.	DATE	BY/APP'D
A	RELEASE TO DOCUMENT CONTROL	584	02/21/2002	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' 1463 & '1' 1488 TO X1 & X2 COLUMNS.	847	04/22/2003	MS/HN
C	BUMP DIA 0.335/ 0.305 WAS 0.31/ 0.29	1282	01/19/2004	MS/HN


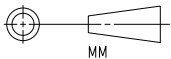
NOTES: UNLESS OTHERWISE SPECIFIED

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 DD.

APPROVALS		DATE		 <div>National Semiconductor</div> <div>2900 Semiconductor Dr., Santa Clara, CA 95052-8090</div>	
DRAWN	MARTA SUCHY	02/21/2002			
DFTG. CHK.	THANH LEQUANG	01/19/2004			
ENGR. CHK.	HAU NGUYEN	01/19/2004			
				THIN MICRO SMD, 8 BUMP(LARGE), 0.5mm PITCH	
PROJECTION		SCALE	SIZE	DRAWING NUMBER	REV
		NTS	B	(SC)MKT-TLA08XXX	C
MM		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	1463	Z	1463	A	600
1	1488	1	1488		
A	1514	A	1514		
B	1539	B	1539		
C	1565	C	1565		
D	1590	D	1590		
E	1615	E	1615		
F	1641	F	1641		
G	1666	G	1666		
H	1692	H	1692		
J	1717	J	1717		
K	1742	K	1742		
L	1768	L	1768		
M	1793	M	1793		
N	1819	N	1819		
P	1844	P	1844		
Q	1869	Q	1869		
R	1895	R	1895		
S	1920	S	1920		
T	1946	T	1946		
U	1971	U	1971		

APPROVALS		DATE	<div>National Semiconductor 2900 Semiconductor Dr., Santa Clara, CA 95052-8090</div>		
DRAWN	MARTA SUCHY	02/21/2002			
DFTG. CHK.	THANH LEQUANG	01/19/2004			
ENGR. CHK.	HAU NGUYEN	01/19/2004			
			THIN MICRO SMD, 8 BUMP(LARGE), 0.5mm PITCH		
PROJECTION		SCALE	SIZE	DRAWING NUMBER	REV
		NTS	B	(SC)MKT-TLA08XXX	C
		FORMERLY: N/A		SHEET 2 of 2	