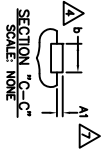
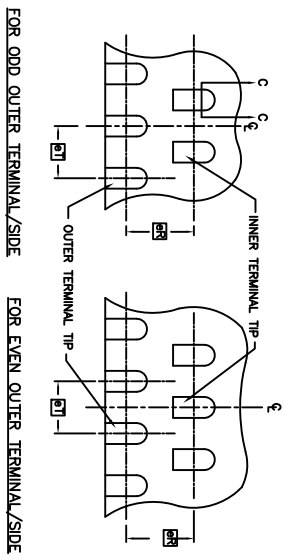
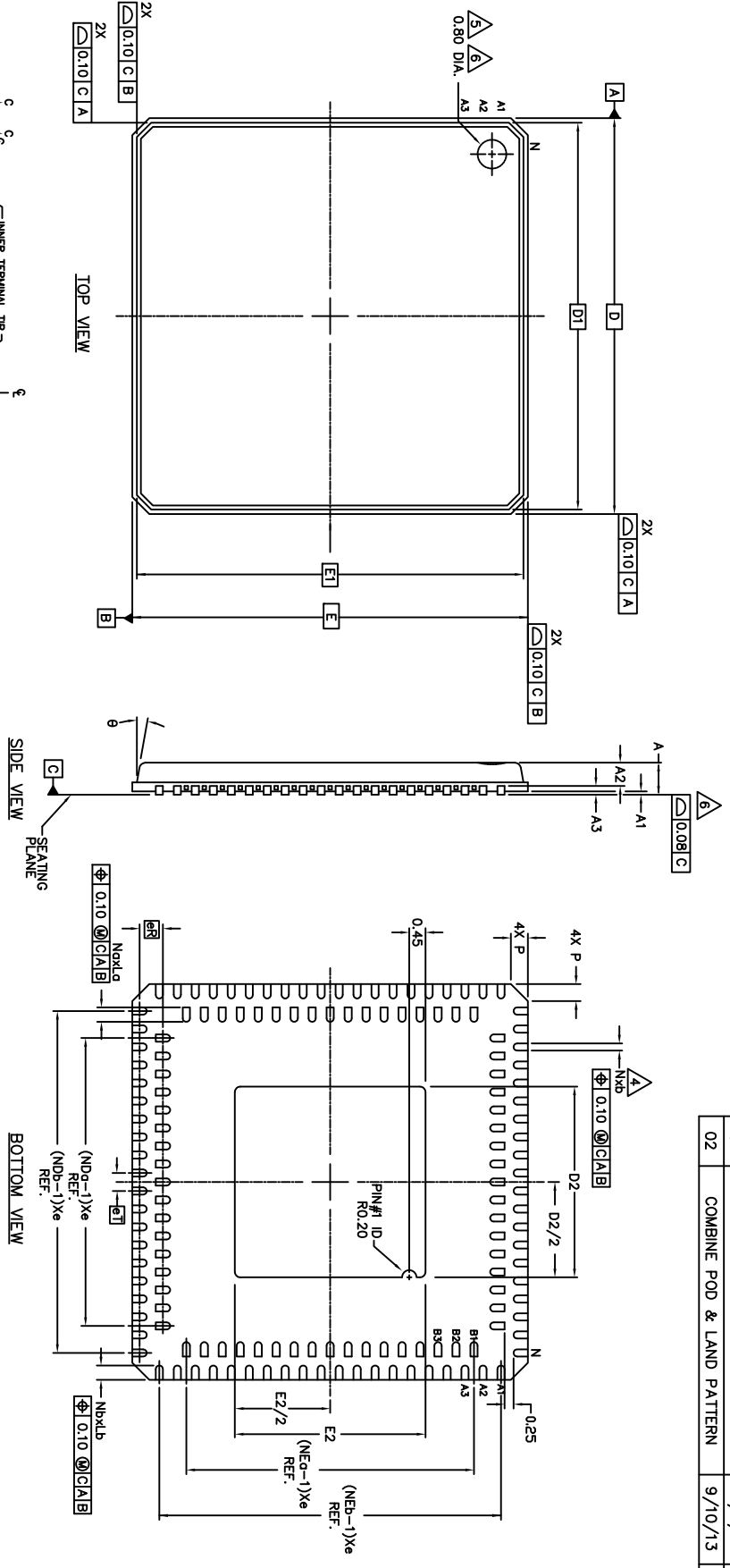



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	01/23/09	RC
01	ADD EPAD OPTION	12/3/12	RC
02	COMBINE POD & LAND PATTERN	9/10/13	KS



<b>TOLERANCES UNLESS SPECIFIED</b> DECIMAL ANGULAR XX± .05 XXX± .030		 <b>IDT</b> 6024 SILVER CREEK VALLEY ROAD, SAN JOSE, CA 95138 PHONE: (408) 284-8200 FAX: (408) 284-3572 www.IDT.com
APPROVALS DRAWN: 02/22/09 CHECKED	DATE: 01/22/09 TITLE: NQ/NOG148 PACKAGE OUTLINE 11.0 x 11.0 mm BODY 0.50 mm PITCH DUAL-ROW QFN	
SIZE: C DRAWING No.: PSC-4242	DO NOT SCALE DRAWING	REV: 02 SHEET 1 OF 3

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	01/23/09	RC
01	ADD EPAD OPTION	12/3/12	RC
02	COMBINE POD & LAND PATTERN	9/10/13	KS

EPAD OPTION:


S Y M B O L	P1			P2		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
D2	5.85	6.00	6.15	6.50	6.60	6.70
E2	5.85	6.00	6.15	6.50	6.60	6.70

S Y M B O L	COMMON DIMENSIONS			N O T E
	MIN.	NOM.	MAX.	
A	-	0.80	0.85	
A1	0.00	0.01	0.05	7
A2	-	0.65	0.70	
A3		0.15 REF.		
D		11.00 BSC		
D1		10.75 BSC		
E		11.00 BSC		
E1		10.75 BSC		

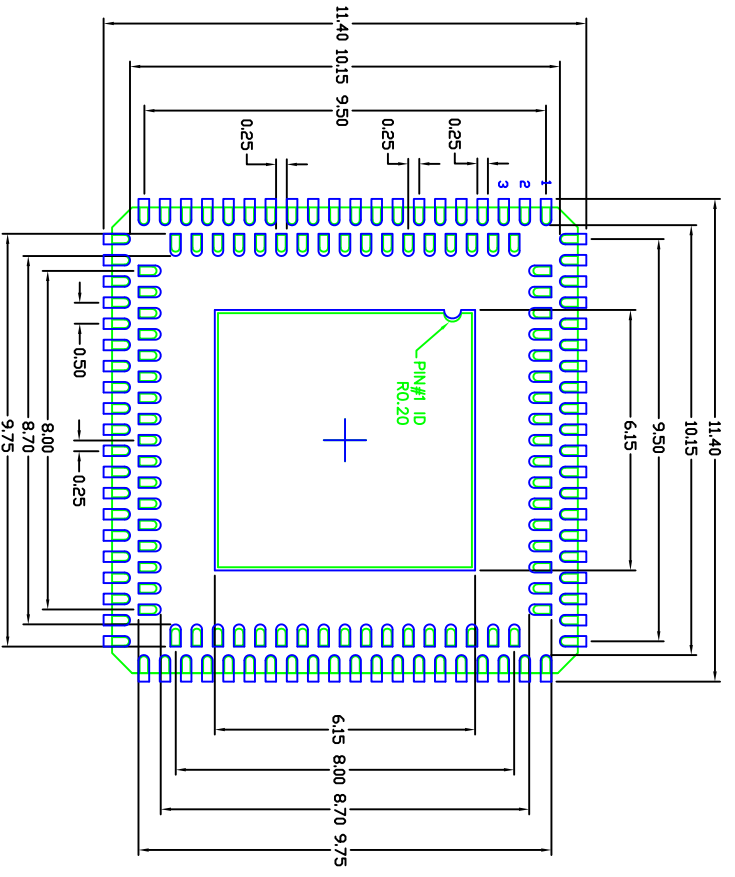
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING & TOLERANCES CONFORM TO ASME Y14.5M. - 1994.
3. N IS THE NUMBER OF TERMINALS.  
NDa, NDb ARE THE NUMBER OF TERMINALS IN X-DIRECTION & NEa, NEb ARE THE NUMBER OF TERMINALS IN Y-DIRECTION.
4. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.20 AND 0.25mm FROM TERMINAL TIP.
5. PACKAGE WARPAGE MAX 0.08mm.
6. APPLIED FOR EXPOSED PAD AND TERMINALS.  
EXCLUDE EMBEDDING PART OF EXPOSED PAD FROM MEASURING.
7. APPLIED ONLY FOR TERMINALS.

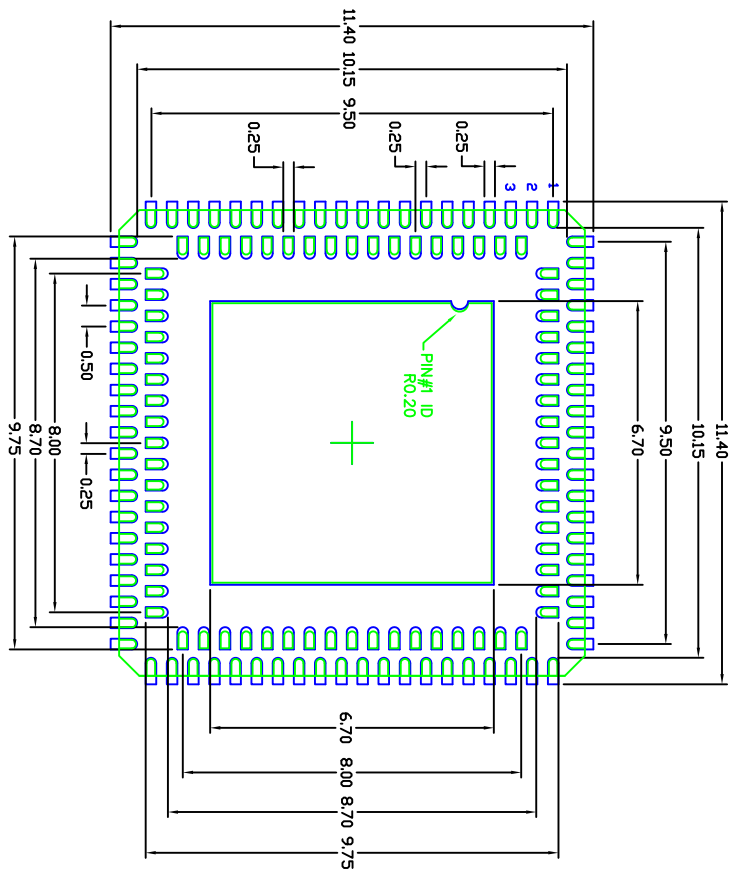
S Y M B O L	PITCH VARIATION			N O T E
	MIN.	NOM.	MAX.	
e1		0.50 BSC		
eR		0.65 BSC		
N		148		3
NDa		17		3
NDb		20		3
NEa		17		3
NEb		20		3
Ld	0.35	0.40	0.45	
Lb	0.30	0.40	0.50	
b	0.18	0.22	0.30	4
D2	SEE EPAD OPTION			
E2	SEE EPAD OPTION			
θ	-	-	12°	
P	0.24	0.42	0.60	

<b>TOLERANCES UNLESS SPECIFIED</b> DECIMAL XX±.1 ANGULAR ±1° XXX±.05 XXXX±.030		 <b>IDT™</b> 6024 SILVER CREEK VALLEY ROAD, SAN JOSE, CA 95138 PHONE: (408) 294-8200 FAX: (408) 284-3572 WWW.IDT.COM	
APPROVALS	DATE	TITLE	SIZE
DRAWN: PXP	01/22/09	NQ/NQG148 PACKAGE OUTLINE	DRAWING No. PSC-4242
CHECKED		11.0 x 11.0 mm BODY	REV 02
		0.50 mm PITCH DUAL-ROW QFN	
DO NOT SCALE DRAWING		SHEET 2 OF 3	

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	01/23/09	RC
01	ADD EPAD OPTION	12/3/12	RC
02	COMBINE PAD & LAND PATTERN	9/10/13	KS




RECOMMENDED LAND PATTERN (6.0 SQ mm EPad)



RECOMMENDED LAND PATTERN (6.6 SQ mm EPad)

- NOTES:
1. ALL DIMENSION ARE IN mm. ANGLES IN DEGREES.
  2. TOP DOWN VIEW, AS VIEWED ON PCB.
  3. COMPONENT OUTLINE SHOW FOR REFERENCE IN GREEN.
  4. LAND PATTERN IN BLUE. NSMD PATTERN ASSUMED.
  5. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

TOLERANCES UNLESS SPECIFIED		www.IDT.com	
DECIMAL	ANGULAR	 6024 Silver Creek Valley Rd San Jose, CA 95138 PHONE: (408) 284-8200 FAX: (408) 284-3572	
XX.X	.1		
XXX.X	.05	TITLE NQ/NOG148 PACKAGE OUTLINE 11 x 11mm QFN 0.5 mm PITCH DUAL ROW QFN	
APPROVALS	DATE	SIZE	DRAWING No.
DRAWN <i>gxp</i>	01/22/09	C	PSC-4242
CHECKED			
DO NOT SCALE DRAWING		SHEET	3 OF 3