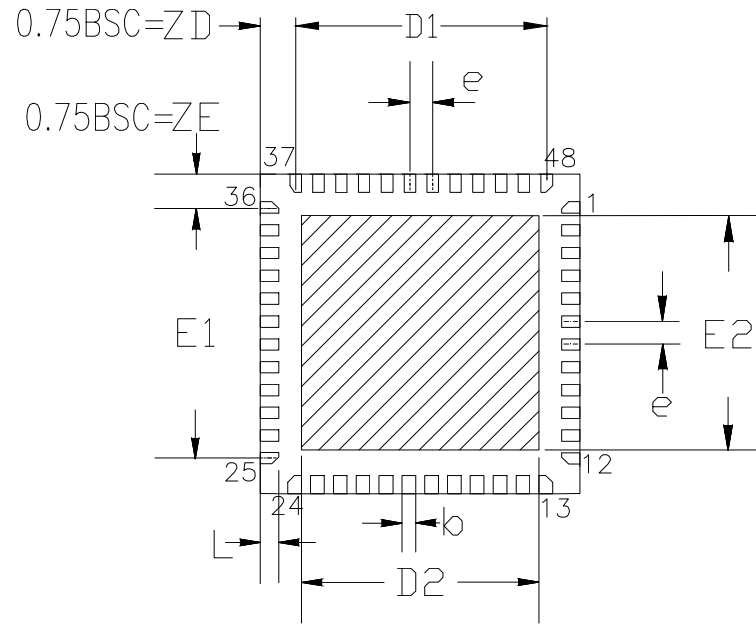
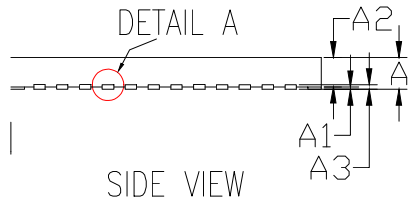


TOP VIEW



BOTTOM VIEW

DETAIL A



SIDE VIEW

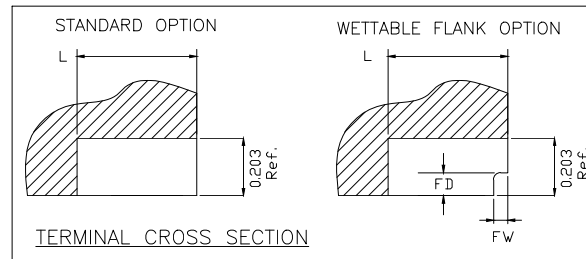


Table 1: Dimensions of wettable flank

Symbol	Unit (mm)	
	MIN	MAX
FD	0.100	-
FW	0.001	0.075

REVISIONS

REV	DESCRIPTION	DATE	AUTHOR
00	INITIAL RELEASE	10/18/07	MA
01	Change Dim on "A"	07/07/09	MA
02	ADD EPAD & LEAD OPTION	11/29/12	RC
03	COMBINE PDD & LAND PATTERN	06/17/13	KS
04	REMOVE DIMPLE REPLACE WITH HATCH	8/30/13	KS
05	ADD EPAD, LEAD OPTION AND DETAIL A	6/16/16	CM
06	ADD EPAD, LEAD OPTION b	6/28/16	RVR
07	REVISED L TOLERANCE	8/11/16	CM
08	CHANGE PIN 1 IDENTIFIER, QFN to VFQFPN, RECALCULATE LAND PATTERN CORRECT SUFFIX DEFINITION T1, S1	2/22/18	JH
09	COMBINE THE EPAD OPTION TABLE TO ONE, REMOVE '2 OPTION'	4/3/18	RC
10	ADD EPAD OPTION "P3"	7/31/18	RC
11	ADD EPAD OPTION "P2"	7/17/19	RC
12	CORRECT LEAD LENGTH P3	8/20/19	JH/RC
13	UPD. DIMENSIONS OF WETTABLE FLANK	7/30/21	JHTAN

NOTE: REFER TO DCP FOR OFFICIAL RELEASE DATE

TOLERANCES UNLESS SPECIFIED DECIMAL ANGULAR XX± ± XXX± ± XXXX± ±	6024 Silver Creek Valley Road San Jose, CA 95138 PHONE: (408) 284-8200 FAX: (408) 284-8591	
	RENESAS	
TITLE	NLG48 Package Outline Drawing 7.0 x 7.0 x 0.85 mm Body 0.5mm Pitch VFQFPN	
SIZE	DRAWING No.	REV
C	PSC-4203	13
DO NOT SCALE DRAWING		SHEET 1 OF 4

COMMON DIMENSION

SYMBOL	DIMENSION		
D	7.00 BSC		
E	7.00 BSC		
D1	5.50 BSC		
E1	5.50 BSC		
D2	SEE EPAD OPTION		
E2	SEE EPAD OPTION		
L	SEE LEAD OPTION		
e	0.50 BSC		
N	48		
A	0.80	0.85	0.90
A1	0.00	0.02	0.05
A3	0.2 REF		
b	SEE LEAD OPTION		

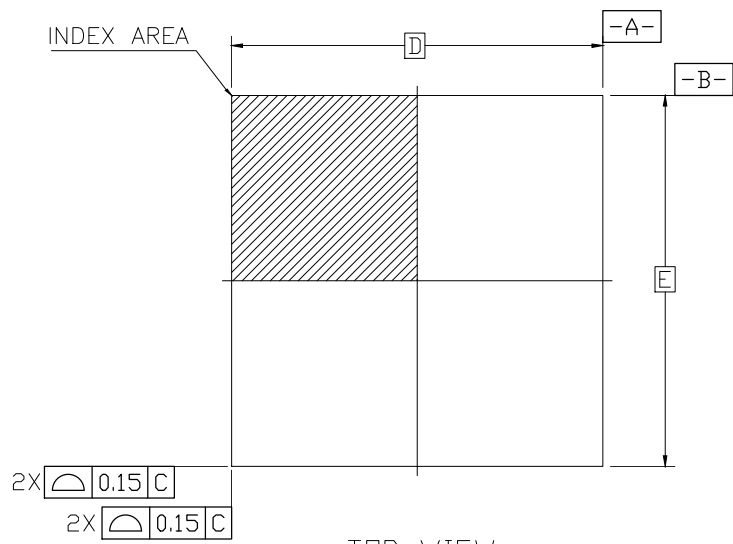
EPAD OPTION:

SYMBOL	P1			P2			P3			T1(LEAD DIMENSION)			S1(WETTABLE FLANK)		
	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX	MIN	NOM	MAX
D2	5.50	5.65	5.80	5.10	5.20	5.30	5.20	5.30	5.40	3.00	3.10	3.20	5.20	5.30	5.40
E2	5.50	5.65	5.80	5.10	5.20	5.30	5.20	5.30	5.40	3.00	3.10	3.20	5.20	5.30	5.40
L	0.35	0.40	0.45	0.45	0.50	0.55	0.35	0.40	0.45	0.50	0.60	0.70	0.45	0.50	0.55
L1	-	-	-	-	-	-	-	-	-	0.65	0.75	0.85	-	-	-
L2	-	-	-	-	-	-	-	-	-	-	0.40	-	-	-	-
b	0.18	0.25	0.30	0.20	0.25	0.30	0.20	0.25	0.30	0.18	0.25	0.30	0.20	0.25	0.30

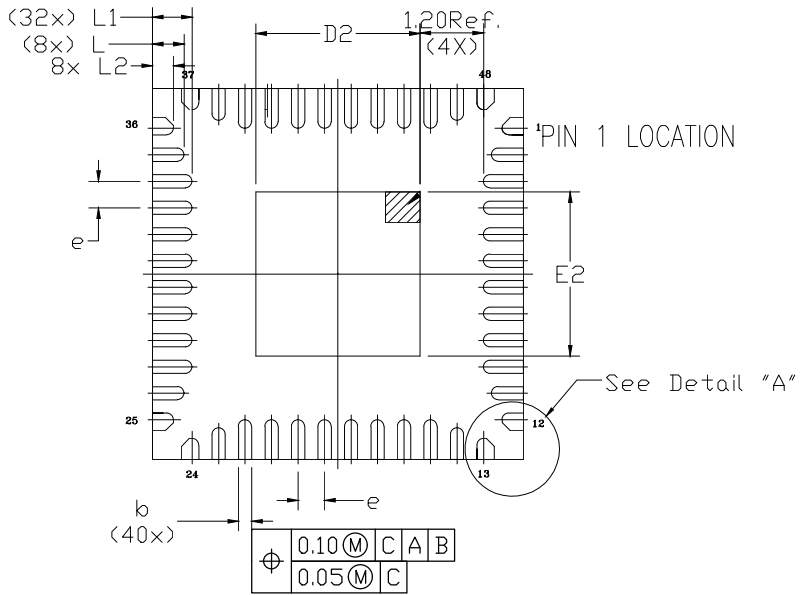
REVISIONS			
REV	DESCRIPTION	DATE	AUTHOR
00	INITIAL RELEASE	10/18/07	MA
01	Change Dim on 'A'	07/07/09	MA
02	ADD EPAD & LEAD OPTION	11/29/12	RC
03	COMBINE PDD & LAND PATTERN	06/17/13	KS
04	REMOVE DIMPLE REPLACE WITH HATCH	8/30/13	KS
05	ADD EPAD, LEAD OPTION AND DETAIL A	6/16/16	CM
06	ADD EPAD, LEAD OPTION b	6/28/16	RVR
07	REVISED L TOLERANCE	8/11/16	CM
08	CHANGE PIN 1 IDENTIFIER, QFN to VFQFPN, RECALCULATE LAND PATTERN CORRECT SUFFIX DEFINITION T1, S1	2/22/18	JH
09	COMBINE THE EPAD OPTION TABLE TO ONE, REMOVE 'Z OPTION'	4/3/18	RC
10	ADD EPAD OPTION 'P3'	7/31/18	RC
11	ADD EPAD OPTION 'P2'	7/17/19	RC
12	CORRECT LEAD LENGTH P3	8/20/19	JH/RC
13	UPD. DIMENSIONS OF WETTABLE FLANK	7/30/21	JHTAN

NOTE: REFER TO DCP FOR OFFICIAL RELEASE DATE

TOLERANCES UNLESS SPECIFIED DECIMAL ANGULAR XX± ± XXX± XXXX±	6024 Silver Creek Valley Road San Jose, CA 95138 RENESAS PHONE: (408) 284-8200 FAX: (408) 284-8591		
	TITLE NLG48 Package Outline Drawing 7.0 x 7.0 x 0.85 mm Body 0.5mm Pitch VFQFPN		
SIZE C	DRAWING No. PSC-4203	REV 13	
DO NOT SCALE DRAWING		SHEET 2 OF 4	

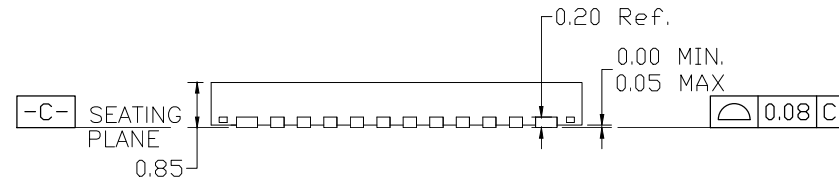
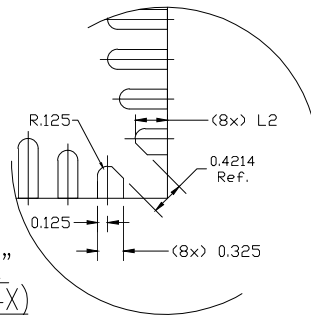


TOP VIEW



BOTTOM VIEW

DETAIL "A"
TYPICAL (4X)



SIDE VIEW

REVISIONS

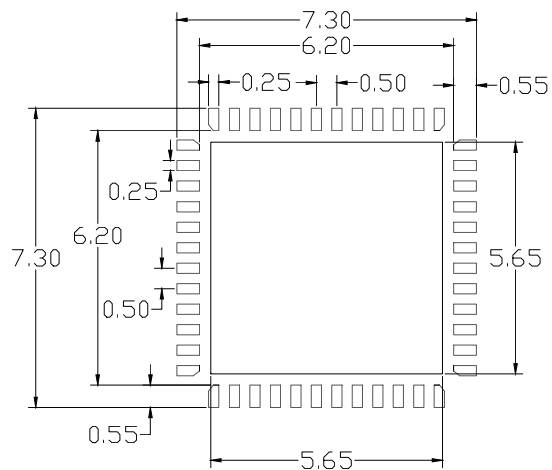
REV	DESCRIPTION	DATE	AUTHOR
00	INITIAL RELEASE	10/18/07	MA
01	Change Dim on "A"	07/07/09	MA
02	ADD EPAD & LEAD OPTION	11/29/12	RC
03	COMBINE PDD & LAND PATTERN	06/17/13	KS
04	REMOVE DIMPLE REPLACE WITH HATCH	8/30/13	KS
05	ADD EPAD, LEAD OPTION AND DETAIL A	6/16/16	CM
06	ADD EPAD, LEAD OPTION b	6/28/16	RVR
07	REVISED L TOLERANCE	8/11/16	CM
08	CHANGE PIN 1 IDENTIFIER, QFN to VQFPFN, RECALCULATE LAND PATTERN CORRECT SUFFIX DEFINITION T1, S1	2/22/18	JH
09	COMBINE THE EPAD OPTION TABLE TO ONE, REMOVE "Z" OPTION	4/3/18	RC
10	ADD EPAD OPTION "P3"	7/31/18	RC
11	ADD EPAD OPTION "P2"	7/17/19	RC
12	CORRECT LEAD LENGTH P3	8/20/19	JH/RC
13	UPD. DIMENSIONS OF WETTABLE FLANK	7/30/21	JHTAN

NOTE: REFER TO DCP FOR OFFICIAL RELEASE DATE

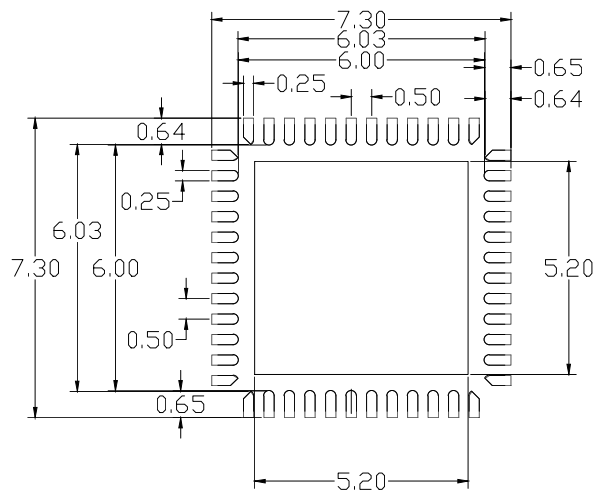
NOTES:

1. ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1982
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. PIN 1 LOCATION IS IDENTIFIED BY EITHER CHAMFER OR NOTCH.

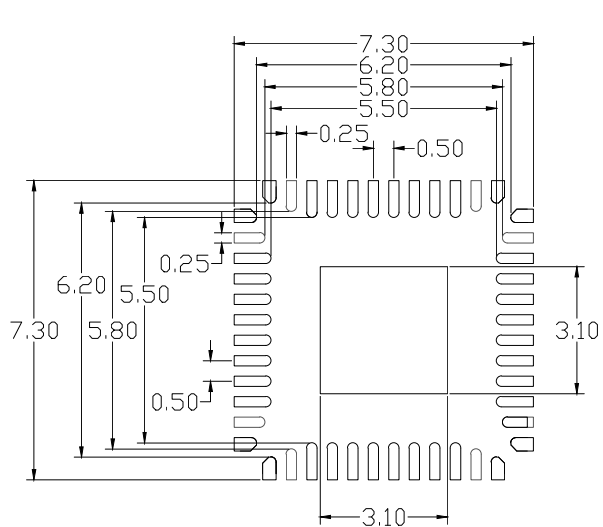
TOLERANCES UNLESS SPECIFIED		6024 Silver Creek Valley Road	
DECIMAL	ANGULAR	San Jose, CA 95138	
XX±	±	RENESAS PHONE: (408) 284-8200	
XXX±		FAX: (408) 284-8591	
XXXX±			
TITLE		NLG48 Package Outline Drawing	
		7.0 x 7.0 x 0.85 mm Body	
		0.5mm Pitch VQFPFN	
SIZE	DRAWING No.	REV	
C	PSC-4203	13	
DO NOT SCALE DRAWING		SHEET 3 OF 4	



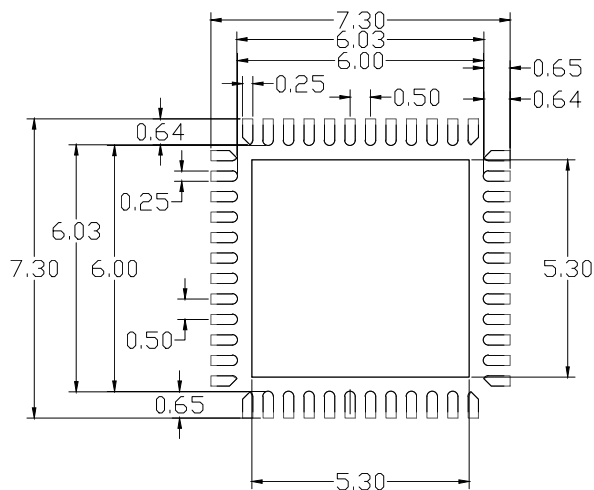
P1 (EPAD 5.65 MM SQ.)



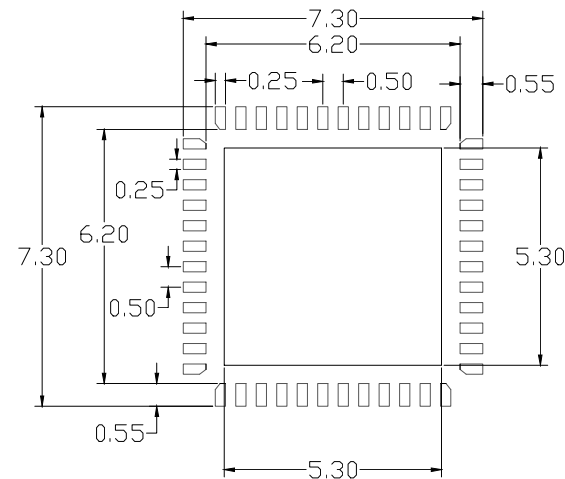
P2 (EPAD 5.20 MM SQ.)



T1 (EPAD 3.10 MM SQ.)



S1 (EPAD 5.30 MM SQ.)



P3 (EPAD 5.30 MM SQ.)

RECOMMENDED LAND PATTERN DIMENSION

REVISIONS			
REV	DESCRIPTION	DATE	AUTHOR
00	INITIAL RELEASE	10/18/07	MA
01	Change Dim on 'A'	07/07/09	MA
02	ADD EPAD & LEAD OPTION	11/29/12	RC
03	COMBINE PDD & LAND PATTERN	06/17/13	KS
04	REMOVE DIMPLE REPLACE WITH HATCH	8/30/13	KS
05	ADD EPAD, LEAD OPTION AND DETAIL A	6/16/16	CM
06	ADD EPAD, LEAD OPTION b	6/28/16	RVR
07	REVISED L TOLERANCE	8/11/16	CM
08	CHANGE PIN 1 IDENTIFIER; QFN to VFQFN; RECALCULATE LAND PATTERN CORRECT SUFFIX DEFINITION TL, S1	2/22/18	JH
09	COMBINE THE EPAD OPTION TABLE TO ONE, REMOVE 'Z' OPTION'	4/3/18	RC
10	ADD EPAD OPTION 'P3'	7/31/18	RC
11	ADD EPAD OPTION 'P2'	7/17/19	RC
12	CORRECT LEAD LENGTH P3	8/20/19	JH/RC
13	UPD. DIMENSIONS OF WETTABLE FLANK	7/30/21	JHTAN

NOTE: REFER TO DCP FOR OFFICIAL RELEASE DATE

NOTES:

1. ALL DIMENSION ARE IN MM. ANGLES IN DEGREES.
2. TOP DOWN VIEW, AS VIEWED ON PCB.
3. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

TOLERANCES UNLESS SPECIFIED		6024 Silver Creek Valley Road San Jose, CA 95138	
DECIMAL	ANGULAR	RENESAS	
XX±	±	PHONE: (408) 284-8200	
XXX±		FAX: (408) 284-8591	
XXXX±			
TITLE		NLG48 Package Outline Drawing 7.0 x 7.0 x 0.85 mm Body 0.5mm Pitch VFQFN	
SIZE	DRAWING No.	REV	
C	PSC-4203	13	
DO NOT SCALE DRAWING		SHEET 4 OF 4	