CHANGE NOTIFICATION

Linear Technology Corporation
1630 McCarthy Blvd.,
Milpitas, CA 95035-7417
(408) 432-1900

December 21, 2012

Dear Customer: PCN# 122112

Subject: Notification of Additional Assembly Location For MSOP Exposed Pad Packages (MS8E, MS10E)

Please be advised that the Linear Technology has successfully qualified UTAC Thai Limited (UTL), for assembling subject packages. It was desirable to qualify UTAC Thai Limited (UTL) to serve as an alternate source since it is located in a different geographic area than our existing assembly locations. UTAC Thai Limited (UTL) is ISO9002, ISO14001, QS9000, SAC (level 1) and TS16949 certified. A summary of UTAC Thai Limited (UTL) capacity and LTC's qualification results are shown on the attached pages. The facility was physically audited by LTC's quality engineer. In addition, our quality engineering group regularly performs monitors and inspections in UTAC Thai Limited (UTL). LTC product assembled in UTAC Thai Limited (UTL) can be identified by the country of origin marked on the 2nd level packaging as "Thailand". The datecode of the first units assembled by UTAC Thai Limited (UTL) will be 1306.

Additionally, Linear Technology performs reliability testing on production lots in accordance with our Quick Reaction Reliability (QR2) Monitor Program. This monitor program is designed to provide fast feedback for possible reliability problems associated with package assembly. During the last 9 years UTAC Thai Limited (UTL) has provided excellent quality and service to LTC on the products currently assembled at UTAC. Please provide an expeditious approval to this PCN, so that LTC can build subject packages at UTAC.

Should you have any concerns, please contact me before January 22, 2013, at which time we will consider this change to be approved. If you have any questions or concerns, please feel free to contact me at (408) 432-1900 ext. 2077 or by e-mail at JASON.HU@linear.com.

Sincerely,

Jason Hu

Quality Assurance Engineer

UTAC Capacity Summary

UTAC Thai Limited (UTL)
Plant Address: 237 Lasalle Rd. (Sukhumvit 105),
Bangna, Bangkok 10260, Thailand.
Tel: +66(2) 749-1680 (15 lines) +66(2) 393-3126 (10 lines)
Fax: +66(2) 398-7157
Website: - WWW.utacgroup.com
Headcount: 4500

Sq. Feet: 200,000

Packages: PDIP, PLCC, SOIC, SSOP, TSSOP, QFN, DFN, SOT23, SC70, MSOP, MSOP(Exposed), BCC, ETSSOP, TSOT, TSOP, QSOP, TLLGA

Certifications: ISO-9002, ISO-14001, QS-9000, SAC (level 1), TS16949

Floor space Utilization: 100%

Mfg area:

UTL 1 & 2 = 350K sqft
UTL 3 (test plant) = 291K sqft

Package Capacity

8L PDIP = 1506K units/week
18/28/40L PDIP = All are obsoleted for assembly
8L SOMT = 8672K units/week
8L E-SOMT = 753K units/week
14L SOMT/ 20/24L QSMT = 3259K units/week
16L SOMT/ 28L QSMT = 4802K units/week
20L SOMT = 885K units/week
MSOP (include exposed pad) = 8891K units/week
SSOP = 458K units/week
QFN and DFN = 84M units/week
Others = As required

UTAC History

1) NS Electronics Bangkok was established in 1973 as a subsidiary of National Semiconductor Corp. It was the first IC Assembly & Test manufacturing company set up in Thailand. In 1993 this company was acquired by a consortium of the local investors and financial institutions. The company was then renamed as NS Electronics Bangkok Limited, "NSE" and thereby established as an IC contract manufacturer for backend Assembly and Test.

In 2000, UBS Capital invested in NSEB

UTAC acquisition completed in June 2006.

UTAC is certified to ISO 9002 (in 1994), ISO 14001 (in 1998), QS9000 (in 1999) and TS16949 (2004). UTAC has also achieved Level-1 Certification from the Semiconductor Assembly Council (SAC) in 1998.

PACKAGE RELIABILITY DATA
LTC UTAC 8/10 LEAD MSOP Exposed Qualification
12/14/2012

• HIGH TEMPERATURE BAKE at 175°C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS AT +175°C	NUMBER OF FAILURES
8/10LD MSOP Exp.	299	1238	1239	274.00	0
	299			274.00	0

• HIGH TEMPERATURE BAKE at 150°C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS AT +150°C	NUMBER OF FAILURES
8/10LD MSOP Exp.	50	1238	1238	50.00	0
	50			50.00	0

• SOLDER SHOCK: 3h PCT plus 1x SOLDER IMMERSION at 245°C

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE		NUMBER OF FAILURES
8/10LD MSOP Exp.	300	1238	1239		0
	300				0

• PRESSURE COOKER TEST at 15 PSIG, +121°C (1)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HOURS	NUMBER OF FAILURES
8/10LD MSOP Exp.	459	1238	1239	115.42	0
	459			115.42	0

• TEMP CYCLE FROM -65°C to +150°C (1)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
8/10LD MSOP Exp.	460	1238	1239	307.00	0
	460			307.00	0

• THERMAL SHOCK FROM -65°C to +150°C (1)

PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	NUMBER OF FAILURES
8/10LD MSOP Exp.	453	1238	1239	301.00	0
	453			301.00	0

(1) Environmental stress are preceded by JEDEC Preconditioning: 168h 85°C/85% R.H. plus 3x IR at 260°C