### CHANGE NOTIFICATION



June 30, 2015

Dear Sir/Madam: PCN# 063015

### Subject: Notification of Additional Assembly Location, ASE Korea for LTM2881

Please be advised that Linear Technology Corporation has successfully qualified ASE Korea as an assembly site for the subject packages. It was desirable to qualify ASE Korea to serve as an alternate source since it is located in a different geographic area than our existing assembly location in Penang, Malaysia. ASE Korea is ISO9002, QS9000, ISO14001, TS16949, OHSAS 18001 and QC80000 certified. A summary of ASE Korea's product mix and LTC's qualification results are shown on the attached pages. The facility passed a site audit by LTC's supplier quality organization. LTC product assembled in ASE Korea can be identified by the country of origin marked on the device as "KR". The Approximate datecode of the first units assembled by ASE Korea, and the list of affected part numbers is presented below in the table.

Part Number	Park Marking	Package Type	Datecode (Approx.)
LTM2881CY-3#PBF	LTM2881Y-3	BGA	1508
LTM2881IY-3#PBF			
LTM2881HY-3#PBF			
LTM2881MPY-3#PBF			
LTM2881CY-5#PBF	LTM2881Y-5		
LTM2881IY-5#PBF			
LTM2881HY-5#PBF			
LTM2881MPY-5#PBF			
LTM2881CV-3#PBF	LTM2881V-3	LGA	
LTM2881IV-3#PBF			
LTM2881HV-3#PBF			
LTM2881CV-5#PBF	LTM2881V-5		
LTM2881IV-5#PBF			
LTM2881HV-5#PBF			

The change was qualified by performing extensive characterization over the full operating voltage and temperature ranges and MSL3 preconditioning as well as 1000 cycles of temperature cycle and thermal shock. Devices from the same µModule device product family have been subjected to 1000 hrs. burn-in without failure. 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. Please provide an expeditious approval to this PCN, so that LTC can build subject packages at ASE.

Should you have any concerns, please contact me before August 31, 2015, 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 <a href="mailto:jason.hu@linear.com">JASON.HU@LINEAR.COM</a>.

Sincerely,

Jason Hu Quality Assurance Engineer

## **ASE Korea Capacity Summary**

ASE Korea 76, Saneopdanji-gil, Paju-si, Gyeonggi-do, Korea Tel: 82-31-9400-114, 82-31-9400-539

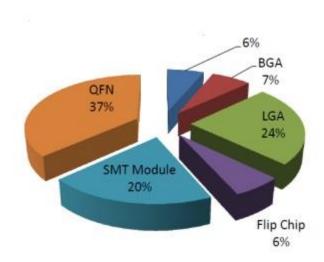
Head counts: 2,791

# Package Portfolio - Breakdown \*\* ASE GROUP



- Analog Power for Automotive
- RF for digital/consumer
- MEMS for safety
- Array Packages

# 2013 Production Mix by Package

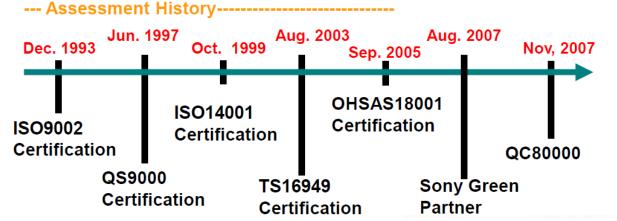


# **Quality System Certification**



- ISO9002 certified by SGS-Yarsely in December 1993.
- QS9000 certified by LRQA in June 1997
- ISO14001 certified by LRQA in October 1999
- TS16949 certified by LRQA in August 2003
- OHSAS18001 certified by KFQ in September 2005
- Sony Green Partner certified by Sony in August 2007
- QC80000 certified by SGS in November 2007

\*Surveillance Audit: Every 6 Months





#### PACKAGE RELIABILITY DATA LTM2881 ASE ASSEMBLY SITE QUALIFICATION 6/22/2015 · J-STD-020 MSL 3 PRECONDITIONING: 192h +30°C/60%R.H. SOAK, 3x REFLOW AT +245°C PEAK NUMBER DEVICE SAMPLE NEWEST OLDEST OF TYPE SIZE DATE CODE DATE CODE FAILURES LTM2881 460 1508 1508 0 460 0 • EXTENDED PRECONDITIONING: 216h +30°C/60%R.H. SOAK, 3x REFLOW AT +245°C PEAK NUMBER DEVICE SAMPLE OLDEST NEWEST TYPE SIZE DATE CODE DATE CODE **FAILURES** LTM2881 50 1508 1508 0 50 0 TEMP CYCLE FROM -55°C to +125°C (1) NUMBER DEVICE SAMPLE OLDEST NEWEST K DEVICE TYPE SIZE DATE CODE DATE CODE CYCLES FAILURES LTM2881 154 1508 1508 77.00 0 154 77.00 0 THERMAL SHOCK FROM -55°C to +125°C (1) NUMBER DEVICE OLDEST NEWEST K DEVICE SAMPLE. DATE CODE DATE CODE FAILURES LTM2881 152 1508 1508 76.00 n 152 76.00 0 UNBIASED HIGHLY ACCELERATED STRESS TEST +130°C/85% R.H. NUMBER DEVICE OLDEST K DEVICE SAMPLE TYPE SIZE DATE CODE DATE CODE HOURS AT FAILURES +130°C LTM2881 1508 1508 7.39 154 O 154 7.39 0 HIGH TEMPERATURE STORAGE +150°C NUMBER DEVICE SAMPLE OLDEST NEWEST K DEVICE OF DATE CODE HOURS AT TYPE SIZE DATE CODE FAILURES +150°C LTM2881 154 1508 1508 154.00 0 154 154.00 0

Page 1 of 1 Form: 00-03-6209B Rev. 1

(1) Environmental stress are preceded by J-STD-020 Level 3 Preconditioning: 192h 30°C/60% R.H. soak, followed by

3x Reflow at 245°C