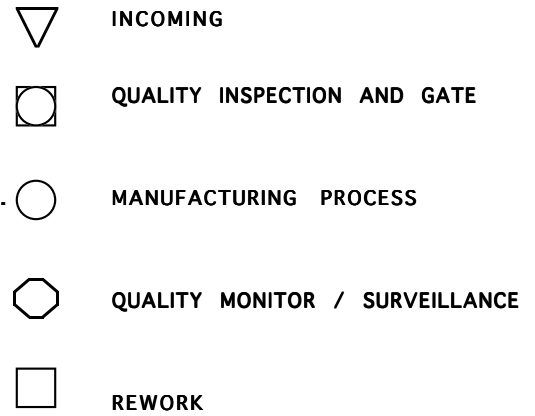
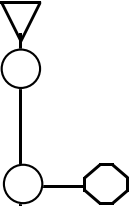

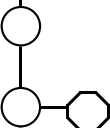



**ATTACHMENT 2.  
ASSEMBLY FLOWCHART**


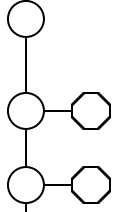


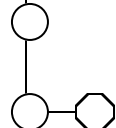

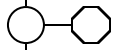
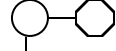

**Vendor:** Linear Technology Corporation  
**Product:** Bipolar or CMOS Process  
**Package:** MSOP Package  
**Location of Wafer Fab:** Linear Technology Corp., Milpitas, CA. / Camas, WA.  
**Assembly:** Penang-Malaysia,  
**Final Test:** Linear Technology Corp., Milpitas, CA., Singapore  
**Q.C. Test:** Linear Technology Corp., Milpitas, CA., Singapore  
**Source Accept Test:** Linear Technology Corp., Milpitas, CA., Singapore  
**Quality Contact:** Dwight Somerset, LTC, Milpitas, CA.  
**(408) 432-1900 Ext. 2427**



FLOW CHART INCOMING ASSY    REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
	WAFER SORT  WAFER SORT MONITOR	100% DIE LEVEL ELECTRICAL TEST REJECTS ARE INKED  MONITOR PROBING AND 2ND OPTICAL QUALITY	PROBE DEFECTS 2ND OPTICAL DEFECTS	WAFER PROBER  75X MICROSCOPE	MINIMUM OF 1 TIME PER SHIFT. S/S = 1, ACC = 0	LOG
	KIT FOR OVERSEAS ASSEMBLY (N/A FOR PENANG)	WAFERS ARE KITTED WITH LTC BONDING DIAGRAM AND LTC ASSEMBLY TRAVELER				
	WAFER MOUNT  WAFER MOUNT MONITOR	PREPARATION FOR DIE SEPERATION	VISUAL INSPECTION	UNAIDED EYE	3 WAFERS/SHIFT Ø PPM TARGET	GO/NO GO INSPECTION
	WAFER SAW  BACTERIA COUNT  SET-UP CHECK  PARAMETERS  PARAMETERS  DI WATER QUALITY	DIE SEPERATION  BACTERIA CULTURE  INSPECTION  BLADE LIFE  SAW KERF  PRESSURE, SPEED, CUT COUNT  PRESSURE, SPEED, CUT COUNT  RESISTIVITY	ALIGNMENT ACCURACY  10 COL / 100 CC  PER SPEC  45K IN SAW LINE  1.0 TO 2.2 MILS  PER SPEC  PER SPEC  12 M OHM MIN	TV ALIGNMENT MICRO AUTOMATION OR DISCO SAW 10X TO 30X MICROSCOPE  BACTERIA CULTURE  VISUAL  COUNT USAGE  TM MICROSCOPE OR EQUIVALENT  VISUAL  VISUAL  RESISTIVITY METER	EVERY WAFER LOT / MACHINE, Ø PPM TARGET  1X PER WEEK  EA WAFER LOT  N/A  ONCE PER SHIFT 4 CUTS PER MACHINE  1X PER SHIFT  1X PER WEEK  1X PER WEEK	LOG  LOG  LOG  LOG  LOG  LOG  LOG

FLOW CHART INCOMING ASSY REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
	DIE SORT 2ND OPT	VISUAL INSPECTION	PER SPEC	75X MICROSCOPE	YIELD TRIGGER 93.0%	LOG
	DIE SORT BUY OFF	VISUAL INSPECTION	PER SPEC	75X MICROSCOPE	32 / LOT ACC = Ø, REJ = 1	LOG
	DIE ATTACH	DIE BONDED WITH EPOXY	PER SPEC	AUTO DIE ATTACHER 20X MICROSCOPE	1 STRIP/MAG ACC = Ø, REJ = 1	LOG
	DIE PLACEMENT	VISUAL	PER SPEC	20X TO 40X MICROSCOPE	1 STRIP/WAFER LOT ACC = Ø, REJ = 1	LOG
	DIE BACK CRACK	VISUAL	PER SPEC	75X TO 200X MICROSCOPE	4 UNITS/WAFER LOT CHIPS, CRACKS	LOG
	DIE ATTACH MONITOR	VISUAL QUALITY	DIE SHEAR TESTER	30X TO 60X MICROSCOPE	3 UNITS PER OVEN LOAD	nP CHART
	RESIN BLEED	VISUAL		20X TO 40X MICROSCOPE	2 STRIPS/OVEN/DAY ZERO BLEED	LOG
	EPOXY CURE	CURE TEMP	EPOXY CURE +175°C +/-5°C	PYROMETER / TC	1X/DAY	LOG
	WIRE BOND	BALL BONDS	GOLD WIRE	AUTO THERMOSONIC BALL BONDER 20X TO 40X	10 UNITS/LOT ACC = Ø, REJ = 1	LOG
	SURVEILLANCE	VISUAL	PER SPEC	20X TO 40X MICROSCOPE	10 UNITS/MAG ACC = Ø, REJ = 1	LOG
	PARAMETERS	VISUAL	PER SPEC		1X PER LOT	LOG
	CAPILLARY LIFE	VISUAL	COUNT USAGE		EVERY 6 SHIFTS (<800K BONDS)	
	SET-UP	VISUAL		20X TO 40X MICROSCOPE	10 UNITS / LOT ACC = Ø, REJ = 1	LOG
	WIRE BOND MONITOR	WIRE PULL	5GM(1MIL), 7GM (1.3MIL), 8GM(1.5 MIL), 12GM(2MIL), 15GM(3MIL)	BOND PULL TESTER	EACH LOT / CAP CHANGE (ALL WIRES)	X BAR R CHART
	BALL SHEAR	VISUAL	35GM(1MIL), 40GM (OTHER SIZES)GND BOND 60GM(1MIL) 80GM(1.3MIL), 120GM(1.5MIL)	BALL SHEAR TESTER	EACH LOT / CAP CHANGE (5 WIRES INCLUDING GND BONDS)	X BAR R CHART
	PARAMETERS	VISUAL	(POWER, FORCE TIME, TEMP)		1X / DAY	LOG
	BOND PEEL TEST	VISUAL	>25% AU REMAINING	75X MICROSCOPE	1 WIRE/MACH/DAY	LOG
	BOND CRATER	VISUAL	NO CRATERING	75X MICROSCOPE	1X/MACH/DAY (10 UNITS)	LOG
	3RD OPTICAL INSPECTION	VISUAL INSPECTION	PER SPEC	20X TO 40X MICROSCOPE	YIELD TRIGGER 95%	LOG
	QA 3RD OPTICAL INSPECTION	CHECK FOR WORKMANSHIP QUALITY	PER SPEC	MIN 30X MICROSCOPE	125 PER LOT ACC = Ø, REJ = 1 (MRB>10%, 3X REJ)	LOG

FLOW CHART INCOMING ASSY    REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
	MOLD - EPOXY NOVOLAC	ENCAPSULATION PARAMETERS	PER SPEC	VISUAL	1X / SHIFT	CHECKLIST
	SURVEILLANCE	VISUAL	PER SPEC	MIN 3X	1 SHOT / LOT ACC = Ø, REJ = 1	CHECKLIST
	TEMPERATURE	MOLD TEMP	+175°C +/- 5°C	PYROMETER	1X/SHIFT/MACH/ MOLD CHANGE	X BAR R CHART
	SURVEILLANCE	VISUAL	PER SPEC	30X TO 40X MICROSCOPE	6 STRIPS/MACH/ SHIFT/CONVERSION	
	COMPOUND AGEING CHECK	VISUAL	AGE LIFE	VISUAL	1X / SHIFT	
	MISMATCH	OFFSET	<2.5MIL(SSOP)	TOOLMAKER'S	1X/DAY/MC 4 UNITS/SHOT	LOG
	PARAMETERS	PRESS, SPEED	PER SPEC	VISUAL	1X / MACH / DAY 1X/DAY	LOG
	MOLD QUALITY	XRAY VISUAL	SWEEP,VOIDS WIRE DEFECTS	SOFT XRAY	EVERY LOT 20 UNITS ACC = Ø, REJ = 1	LOG
	POST MOLD CURE	TEMPERATURE	+175°C +/- 5°C 6 HOURS	PYROMETER	CONTINUOUS	
	POST MOLD CURE MONITOR	TEMPERATURE	+175°C +/- 5°C 6 HOURS	PYROMETER	1X/OVEN/DAY	
	SLURRY DEFLASH VISUAL	REMOVE MOLD FLASH FROM PACKAGE	PER SPEC	UNAIDED EYE	2X/SHIFT/PKG CHANGE - 5 STRIPS ACC = Ø, REJ = 1	LOG
	DEFLASH MONITOR	PRESSURE	PER SPEC	PRESSURE GAGE	2X/SHIFT/MACH	LOG
	MARKING	VISUAL INSPECTION	PER SPEC	UNAIDED EYE	2 STRIPS/3X/SHIFT ACC = Ø, REJ = 1	LOG
	SET-UP CHECK	VISUAL	PER SPEC		1X / SHIFT	CHECKLIST
	PERMANENCY	MARK PERMANENCY	1 SOLUTION  3 SOLUTIONS	UNAIDED EYE  UNAIDED EYE	1 LOT/MACH/SHIFT 11 UNITS ACC = Ø, REJ = 1 1X/WEEK(11 UNITS/ SOLUTION ACC = Ø, REJ = 1	LOG
	IR, VISCOSITY	VISUAL	PER SPEC		1X / SHIFT	nP CHART
	SOLDER PLATE INSPECTION	PARAMETERS	PER SPEC	UNAIDED EYE	1X/PKG/SHIFT	LOG
		THICKNESS AND COMPOSITION	300 - 800 u INCH 85% ±10%	XRF	1X/SHIFT/MACH/ CHANGE OF SOLDER BATH - MIN OF 10 READINGS	nP CHART
		SOLDERABILITY (W&WO AGING)	95% COVERAGE	20X TO 40X MICROSCOPE	1X / SHIFT 10 UNITS	LOG
		PACKAGE CLEANLINESS	1.7 µG/INCH SQUARED	IONOGRAPH	3 LOTS / SHIFT 3 TESTS / LOT	LOG

FLOW CHART INCOMING ASSY    REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
	SOLDER PLATE BUYOFF	VISUAL	SOLDER QUALITY ETC	3X TO 10X MICROSCOPE	S/S = 125 ACC = Ø, REJ = 1	LOG
	TRIM & FORM SINGULATION	SET-UP CHECK	PER SPEC	UNAIDED EYE	5 UNITS / SHIFT 2 UNITS / LOT ACC = Ø, REJ = 1	CHECKLIST
		COPLANARITY LEAD SPREAD STANDOFF	PER SPEC	COMPARATOR	1X / DAY / MACH 5 UNITS	nP CHART
		LEAD FATIGUE	PER SPEC	LEAD TESTER	1X / WK / MACH 2 LEADS	LOG
	CRACK / GAP BUYOFF	VISUAL	PER SPEC	30X TO 45X MICROSCOPE (SINGULATED)	45 / LOT / CONVER- SION 200/1ST LOT OF SHIFT ACC = Ø, REJ = 1	LOG
	DELAMINATION/ CRACK	VISUAL	PER SPEC	SCANNING ACOUSTIC MICROSCOPE (STRIP FORM)	MIN 2 LOTS/SHIFT/ MACHINE ACC = Ø, REJ = 1	LOG
	DEJUNK	SET-UP CHECK	PER SPEC	UNAIDED EYE	5 UNITS / SHIFT 2 UNITS / LOT ACC = Ø, REJ = 1	LOG
		VISUAL	PER SPEC	30X TO 40X MICROSCOPE	45 UNITS HOURLY/ CONVERSION 100 UNITS/1ST LOT OF SHIFT ACC = Ø, REJ = 1	LOG
	FINAL VISUAL INSPECTION	VISUAL QUALITY	PER SPEC	UNAIDED EYE	100% - YIELD TRIGGER 95.0%	LOG
	QA FINAL VISUAL INSPECTION	CORRECT MARK, MARKING PERMANENCY TEST (IF INK MARKED) VISUAL: BENT LEADS MOLD FLASH, SOLDER QUALITY ETC	PER SPEC	UNAIDED EYE	S/S = 125 ACC = Ø, REJ = 1	LOG
	QA PACK & DOCUMENTA- TION CHECK	PACKING & PREPERATION FOR DELIVERY	PER SPEC	UNAIDED EYE	5 TUBES ACC = Ø, REJ = 1	LOG
	SHIP TO LTC	ANTISTATIC TUBES			EVERY LOT 100% BASIS	