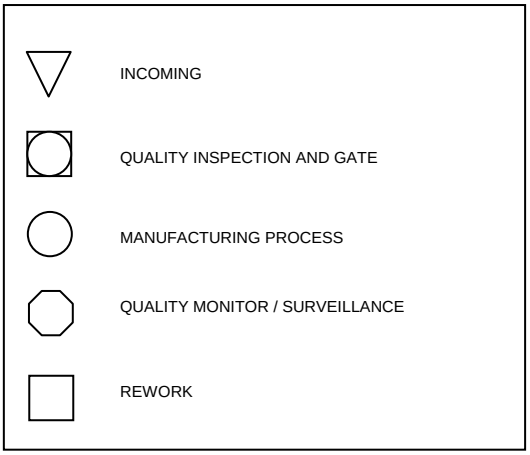
ASSEMBLY FLOWCHART
3 LEAD SOT-223 PACKAGE
Updated 08/25/08

Vendor:	Linear Technology Corporation
Package:	3 Lead SOT-223
Assembly:	Carsem & Unisem 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:	Naib Girn, LTC Milpitas, CA (408) 432-1900 Ext. 2519



FLOW CHART INCOMING ASSY REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
▽	INCOMING RAW MATERIAL INSPECTION	WAFERS	VISUAL: SCRATCHES PITS, HAZE, CRATERS DIMPLES, CONTAMINATION	1 X INSPECTION	1.0 % AQL TO 2.5% AQL LEVEL I	% LAR TREND CHART AND % DEFECTIVE TREND CHART
			OXYGEN/CARBON MEASUREMENT	INFRARED SPECTROMETER	S/S = 2, ACC = Ø	
			RESISTIVITY/ CONDUCTIVITY	MAGNETRON V/I METER	S/S = 2, ACC = Ø	
			DIMENTIONAL	CALIPERS	2.5% AQL, LEVEL S1	
			THICKNESS AND TAPER/BOW	DIAL THICKNESS GUAGE	2.5% AQL, LEVEL S1	
			ORIENTATION	BREAK TEST	S/S = 1, ACC = 0	
			C of C VERIFICATION AGAINST "MPS"		EACH BATCH	
		CHEMICALS	REQUIREMENTS PLUS YEARLY		EACH BATCH	
		GASES	GAS ANALYSIS			
○—⬡	WAFER SORT	100% DIE LEVEL ELECTRICAL TEST REJECTS ARE RED INKED		WAFER PROBER		
	WAFER SORT MONITOR	MONITOR PROBING AND 2ND OPTICAL QUALITY	PROBE DEFECTS 2ND OPTICAL DEFECTS	3X TO 75X MICROSCOPE	MINIMUM OF 3 TIMES PER SHIFT. S/S = 1, ACC = 0	% DEFECTIVE TREND CHART
○	KIT FOR OVERSEAS ASSEMBLY	WAFERS ARE KITTED WITH LTC BONDING DIAGRAM AND LTC ASSEMBLY TRAVELER				
▽	INCOMING PIECE PARTS INSPECTION	LEAD FRAME	VISUAL	10X TO 30X MICROSCOPE	1% AQL, LEVEL 2	% LAR TREND CHART
			MECHANICAL	OPTICAL COMPARATOR, CALIPERS, X-RAY FLOURESENCE		
			FUNCTIONAL (ASSEMBLY PROCESS SIMULATION): BOND PULL TEST DIE SHEAR TEST			

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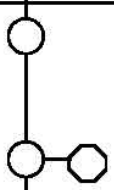
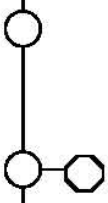
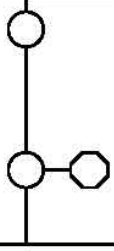
FLOW CHART INCOMING FAB REWORK	PROCESS STEP	DESCRIPTION	INSPECTION/ TEST CRITERIA	METHOD & EQUIPMENT	SAMPLING PLAN	SPC TECHNIQUE
	100% 2ND OPTICAL INSPECTION	DIE QUALITY	DIE VISUAL QUALITY	75X MICROSCOPE		
	QA 2ND OPTICAL INSPECTION		DIE VISUAL QUALITY	75X MICROSCOPE	EVERY LOT 100% BASIS	YIELD ANALYSIS
	DIE ATTACH	DIE BONDED TO LEAD FRAME WITH Pb/Sn PREFORM		AUTO DIE BONDER	LTPD = 5% S/S = 45, ACC = Ø	% LAR AND % UNIT DEFECTIVE TREND CHART
	DIE ATTACH MONITOR		VISUAL QUALITY DIE SHEAR TEST	10X TO 30X MICROSCOPE DIE SHEAR TESTER	S/S = 3 STRIPS PER WAFER, 2 UNITS PER OVEN LOAD, ACC = Ø PER BONDER	nP CHART % DEFECTIVE TREND CHART X BAR & R DIE SHEAR STRENGTH CHART nP CHART
	WIRE BOND	BALL BONDS GOLD 2.00 MIL WIRE	DEFECTS	AUTO THERMOSONIC BALL BONDER	SS = 30 EVERY 1/2 HOUR, ACC = Ø	
	WIRE BOND MONITOR		WIRE DRESS BOND PULL STRENGTH	10X TO 30X MICROSCOPE BOND PULL TESTER	2 TIMES PER SHIFT	% DEF. TREND CHART. X BAR & R DIE SHEAR STR. TREND CHART
	100% 3RD OPTICAL INSPECTION	CHECK FOR WORKMANSHIP QUALITY PRIOR TO MOLDING	DIE, DIE BOND, WIRE BOND VISUAL QUALITY	30X TO 60X MICROSCOPE	EVERY LOT 100% BASIS	YIELD CHART
	QA 3RD OPTICAL INSPECTION		ASSEMBLY VISUAL QUALITY	30X TO 60X MICROSCOPE	EVERY LOT LTPD = 5% S/S = 45, ACC = Ø	% LAR AND % UNIT DEFECTIVE TREND CHART
	MOLD	ENCAPSULATION WITH EPOXY NOVOLAC	VISUAL: CHIP, VOID AND CRACKS, MISALIGNMENT ETC	TRANSFER MOLD	5 TIMES PER SHIFT PER MOLD 1 SHOT, ACC = Ø	nP CHART
	MOLD MONITOR	MOLDING QUALITY		30X TO 60X MICROSCOPE		% LAR TREND CHART

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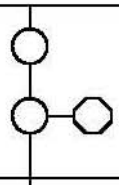
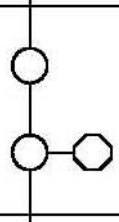
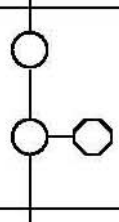
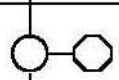
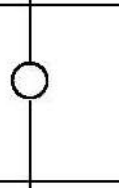
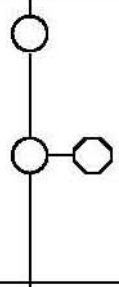
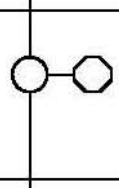
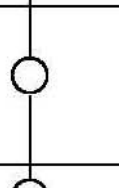
	POST MOLD BAKE MOLD BAKE MONITOR	CURE MOLDING COMPOUND PROCESS MONITOR	 CHECK OVEN TEMPERATURE	BAKE IN +175°C OVEN FOR 6 HOURS MOLD CURE IN OVEN	1X PER DAY EACH OVEN AT START AND 1 TIME PER SHIFT	X BAR & R % FAILED MONITOR TREND CHART
	DEFLASH DEFLASH MONITOR	REMOVE MOLD FLASH FROM PACKAGE PROCESS MONITOR	L/F & HEATSINK MUST BE FREE FROM MOLD FLASH VISUAL: INCOMPLETE DEFLASH, PACKAGE DAMAGE	 7X TO 30X MICROSCOPE	 2 STRIPS EVERY 2 HOURS, ACC = Ø	 % UNIT DEFECTIVE TREND CHART
	SOLDER PLATE SOLDER PLATE INSPECTION	LEAD FINISH SOLDER PLATE QUALITY	 COVERAGE, THICKNESS, QUALITY	 UN-AIDED EYE	2X PER SHIFT 100%	X & MOVING R CHART % DEFECTIVE TREND CHART
	SOLDERABILITY TEST	SOLDER PLATE QUALITY	MINIMUM 95% COVERAGE	3X TO 10X MICROSCOPE	S/S = 11, ACC = Ø	% LAR CHART
	TRIM & FORM SINGULATION	SINGULATE UNIT AND PLACE IN ANTISTATIC TUBE	VISUAL: BENT LEADS, PACKAGE DAMAGE	HANI AUTO MACHINE 7X TO 30X MICROSCOPE	2 STRIPS PER SHIFT	LOGBOOK
	MARK MARK MONITOR	DATE CODE & DEVICE MARKING CHECK MARKING QUALITY	 VISUAL: ILLEGIBLE MARK, CORRECT MARK, MARKING PERMANENCY TEST (IF INK MARKED)	OFFSET MARKING WITH MARKEM 7226 OR LAZER MARK UN-AIDED EYE, 6 INCHES UNDER NORMAL ROOM LIGHTING METHOD 2015 MIL-STD-883	EVERY HALF HOUR, S/S = 15 UNITS, ACC = Ø PER MACHINE. 2 TIMES PER SHIFT PER MACHINE S/S = 20, ACC = Ø	 % UNIT DEFECTIVE P.A. TREND CHART
	FINAL VISUAL INSPECT	100% INSPECT	VISUAL: BENT LEADS MOLD FLASH, SOLDER QUALITY ETC	UN-AIDED EYE TO 10X MICROSCOPE	EVERY LOT 100% BASIS	% LAR AND % UNIT DEFECTIVE P.A. TREND CHART
	PACK	PACKING & PREPERATION FOR DELIVERY		ANTI-STATIC SHIPPING TUBE		
	SHIP TO LTC					

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