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Cypress Semiconductor
Product Qualification Report

QTP# 100703 VERSION*C
December 2014

XO LN Flexo Device Family L8C-3R Technology, Fab 4	
CY2XP311ZXC **CY2XP311ZXI**	**312.5 MHZ LVPECL CLOCK GENERATOR**

FOR ANY QUESTIONS ON THIS REPORT, PLEAE CONTACT
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PACKAGE/PRODUCT QUALIFICATION HISTORY

QTP Number	Description of Qualification Purpose	Date
042106	7C82877A DDR2 PLL New Device family on New C8Q-3R Technology, Fab4	Jan 05
053301	Qualify L8C-3R Technology Derivative of the C8 Technology at Fab4 using CY5077 Device	Sep 06
064302	Qualify XO LN Flexo Product Family on L8C-3R process at Fab4	Jun 09
100703	Qualification of 7C851205A Flexo 8pin TSSOP New Bond Option Device	Mar 10

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose: Qualification of 7C851205A Flexo 8pin TSSOP New Bond Option Device on L8C-3R process at Fab4	
Marketing Part #:	CY2XP311ZXC, CY2XP311ZXI
Device Description:	Low Noise XO/VCXO/VCO Crystal Oscillator and Clock Generator
Cypress Division:	Cypress Semiconductor Corporation – MID

TECHNOLOGY/FAB PROCESS DESCRIPTION			
Number of Metal Layers:	4	Metal Composition:	Metal 1: 100A Ti/3,200A Al /300A TiW Metal 2: 150A Ti/4,230A Al /300A TiW Metal 3: 150A Ti/4,230A Al /300A TiW Metal 4: 150A Ti/8,000A Al /300A TiW
Passivation Type and Thickness:			TEOS 1,000A / 7,000A Si_3N_4
Generic Process Technology/Design Rule (μ-drawn):			CMOS, 0.13 μm
Gate Oxide Material/Thickness (MOS):			SiO_2 DGOX 32/55A
Name/Location of Die Fab (prime) Facility:			CMI / Bloomington MN
Die Fab Line ID/Wafer Process ID:			Fab4, L8C-3R

PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE
16-Pin TSSOP	**CML-RA**
8-Pin TSSOP	**OSE-TAIWAN**
6-Pin/4-Pin LCC	**ECERA-TAIWAN**

Note: **Package Qualification details upon request.**

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZZ16, ZZ08
Package Outline, Type, or Name:	16-Lead Thin Shrunk Small Outline Package (TSSOP) 8-Lead Thin Shrunk Small Outline Package (TSSOP)
Mold Compound Name/Manufacturer:	CEL 9200 / Hitachi, CEL 9200HF / Hitachi
Mold Compound Flammability Rating:	UL-94 V-0
Mold Compound Alpha Emission Rate	N/A
Oxygen Rating Index:	N/A
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	100% Saw
Die Attach Supplier:	Henkel , Hitachi
Die Attach Material:	QMI 509, 4900G
Die Attach Method:	Epoxy
Bond Diagram Designation:	001-13744
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0mil, Au, 1.2mil
Thermal Resistance Theta JA °C/W:	117°C/W, 135°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20028, 001-04375
Name/Location of Assembly (prime) facility:	CML-RA, OSE-T
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-RA, CML-R

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc Max=3.8V, 125°C Dynamic Operating Condition, Vcc Max=2.35V, 150°C Dynamic Operating Condition, Vcc Max=2.35V, 125°C Dynamic Operating Condition, Vcc Max=3.96V, 125°C	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max=3.8V, 125°C Dynamic Operating Condition, Vcc Max=2.35V, 150°C Dynamic Operating Condition, Vcc Max=2.35V, 125°C	P
Long Life Verification	Dynamic Operating Condition, Vcc Max=2.35V, 150°C	P
Low Temperature Operating Life	-30C, 4.3V	P
High Temperature Steady State life	125°C, 2.35V/3.63V, Vcc Max	P
High Accelerated Saturation Test (HAST)	130°C, 1.8V/2.35V/3.63V, 85%RH Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Pressure Cooker	121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2200V MIL-STD-883, Method 3015.7	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2200V JESD22, Method A114-B	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V JESD22-C101	P
Age Bond Strength	200C, 4hrs MIL-STD-883, Method 883-2011	P
Ball Shear	JESD22-B116A, Cpk : 1.33, Ppk : 1.66	P
Acoustic Microscopy	J-STD-020	P
Dynamic Latch-up	6.9V	P
High Temperature Storage	150C, no bias	P
Latch up Sensitivity	125C, ± 200mA/300mA JESD78	P

RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Thermal[3] A.F	Failure Rate
High Temperature Operating Life Early Failure Rate[1]	3837 Devices	0	N/A	N/A	0 PPM
High Temperature Operating Life[1,2] Long Term Failure Rate (150C)	180,000 DHRs	0	0 .7	170	12 FIT
High Temperature Operating Life[1,2] Long Term Failure Rate (125C)	860,000 DHRs	0	0.7	55	

[1] Assuming an ambient temperature of 55°C and a junction temperature rise of 15°C.
[2] Chi-squared 60% estimations used to calculate the failure rate.
[3] Thermal Acceleration Factor is calculated from the Arrhenius equation

$$AF = \exp\left[\frac{E_A}{k}\left[\frac{1}{T_2} - \frac{1}{T_1}\right]\right]$$

where:

E_A =The Activation Energy of the defect mechanism.
K = Boltzmann's constant = 8.62×10^{-5} eV/Kelvin.
T_1 is the junction temperature of the device under stress and T_2 is the junction temperature of the device at use conditions.

Reliability Test Data

QTP #: 042106

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC-MSL3							
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	COMP	17	0	
CY2SSTU877 (7C87741A)	4416666B	*H20592*	TAIWN-G	COMP	16	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	COMP	17	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	16	0	
STRESS: AGE BOND STRENGTH							
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	COMP	5	0	
CY68013A (7C682001A)	4416701	*610437657*	TAIWN-G	COMP	5	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	3	0	
STRESS: BALL SHEAR							
CY68013A (7C682001A)	4416701	*610437657*	TAIWN-G	COMP	5	0	
STRESS: DYNAMIC LATCH-UP TESTING (6.9V)							
CY68013A (7C682001A)	4416701	*610437657*	TAIWN-G	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	COMP	9	0	
CY68013A (7C682000A)	4416666	*610437102*	TAIWN-G	COMP	9	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	COMP	9	0	
CY68013A (7C682000A)	4416701	*610437702*	TAIWN-G	COMP	9	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2200V							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	COMP	9	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	COMP	9	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	COMP	9	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2200V							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	COMP	3	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	COMP	3	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	COMP	3	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	3	0	

Reliability Test Data

QTP #: 042106

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP STEADY STATE LIFE TEST (150C, 3.63V)							
CY68013A (7C682005A)	4416701	*610438121*	TAIWN-G	80	80	0	
CY68013A (7C682005A)	4416701	*610438121*	TAIWN-G	168	80	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 3.8V, Vcc Max)							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	96	499	0	
CY68013A (7C682005A)	4417143	*610443845*	TAIWN-G	96	514	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (125C, 3.8V, Vcc Max)							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	168	200	0	
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	1000	194	0	
CY68013A (7C682005A)	4417143	*610443845*	TAIWN-G	168	208	0	
CY68013A (7C682005A)	4417143	*610443845*	TAIWN-G	1000	208	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 2.35V, Vcc Max)							
CY2SSTU877 (7C87741A)	4416666B	*H20592*	TAIWN-G	96	276	0	
CY2SSTU877 (7C82877A)	4416701	*H20501*	TAIWN-G	96	126	0	
CY2SSTU877 (7C87741A)	4416701	*H20500*	TAIWN-G	96	89	0	
CY2SSTU877 (7C87740A)	4416791B	*H20536*	TAIWN-G	96	169	0	
CY2SSTU877 (7C87741A)	4417975	*H20583*	TAIWN-G	96	304	0	
CY2SSTU877 (7C87741A)	4419587	*H20650*	TAIWN-G	96	500	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (125C, 3.8V, Vcc Max)							
CY2SSTU877 (7C87741A)	4416666B	*H20592*	TAIWN-G	1000	253	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	168	150	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	1000	150	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.63V), PRE COND 192 HR, 30C/60%RH, MSL3							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	128	47	0	
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	256	47	0	
CY68013A (7C682000A)	4416701	*610437702*	TAIWN-G	128	47	0	
CY68013A (7C682000A)	4416701	*610437702*	TAIWN-G	256	45	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 1.8V), PRE COND 192 HR, 30C/60%RH, MSL3							
CY2SSTU877 (7C87741A)	4417975	*H20583*	TAIWN-G	128	43	0	

Reliability Test Data

QTP #: 042106

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: LOW TEMPERATURE OPERATING LIFE (-30C, 4.3V)							
CY68013A (7C682005A)	4416701	*610438121*	TAIWN-G	500	80	0	
STRESS: STATIC LATCH-UP TESTING (125C, 5.5V, ±300mA)							
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	COMP	3	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	COMP	3	0	
STRESS: STATIC LATCH-UP TESTING (125C, 6.5V, ±300mA)							
CY68013A (7C682001A)	4416666	*610437607*	TAIWN-G	COMP	3	0	
STRESS: STATIC LATCH-UP TESTING (125C, 7.5V, ±300mA)							
CY68013A (7C682001A)	4416701	*610437657*	TAIWN-G	COMP	3	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR, 30C/60%RH, MSL3							
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	168	50	0	
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	288	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	168	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	288	50	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	168	47	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	288	47	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	168	45	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	288	45	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	300	50	0	
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	500	50	0	
CY68013A (7C681000A)	4416666	*610434406*	TAIWN-G	1000	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	168	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	500	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	1000	50	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	300	46	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	500	45	0	
CY2SSTU877 (7C82877A)	4413035	*H19747*	TAIWN-G	1000	45	0	
CY2SSTU877 (7C87740A)	4417143	H20549	TAIWN-G	300	45	0	

Reliability Test Data

QTP #: 042106

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS, 30C/60%RH, MSL3 (CONTINUATION)							
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	500	45	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	1000	45	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	500	50	0	
CY68013A (7C681000A)	4416701	*610434407/8*	TAIWN-G	1000	50	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	500	45	0	
CY2SSTU877 (7C87740A)	4417143	*H20549*	TAIWN-G	1000	45	0	

Reliability Test Data

QTP #: 053301

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC-MSL3							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	16	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	15	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	15	0	
STRESS: DYNAMIC LATCH-UP, 5.0V							
CY5077 (7C850003A)				COMP	2	0	
STRESS: DYNAMIC LATCH-UP, 6.25V							
CY5077 (7C850003A)				COMP	2	0	
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	9	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	9	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2200V							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	9	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	9	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	3	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2200V							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	3	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	3	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	3	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.35V, Vcc Max)							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	48	519	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	48	1061	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	48	500	0	
STRESS: HIGH TEMP STEADY STATE LIFE TEST (150C, 2.35V)							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	80	79	0	
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	168	79	0	

Reliability Test Data

QTP #: 053301

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.35V, Vcc Max)							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	80	120	0	
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	500	120	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	80	120	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	500	120	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	80	120	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	500	120	0	
STRESS: LONG LIFE VERIFICATION TEST (150C, 2.35V, Vcc Max)							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	1000	119	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 2.35V), PRE COND 192 HR, 30C/60%RH, MSL3							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	128	48	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	128	48	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	256	47	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	500	50	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	1000	50	0	
STRESS: STATIC LATCH-UP TESTING (125C, 3.0V, ±200mA), 1.8V Option							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	3	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	3	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	3	0	
STRESS: STATIC LATCH-UP TESTING (125C, 6.5V, ±200mA), 3.3V Option							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP TESTING (125C, 5.4V, ±200mA), 3.3V Option							
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	COMP	3	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	COMP	3	0	

Reliability Test Data

QTP #: 053301

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	300	50	0	
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	500	50	0	
CY5077 (7C850003A)	4538565	*610555083*	CML-RA	1000	50	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	300	50	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	500	50	0	
CY5077 (7C850003A)	4550443	*61033232/3/915*	PHIL-M	1000	50	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	300	49	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	500	49	0	
CY5077 (7C850003A)	4615715	*610637084*	PHIL-M	1000	48	0	

Reliability Test Data

QTP #: 064302

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	COMP	9	0	
CY2X012FLX (7C851001A)	4843328	*610853236*	ER	COMP	9	0	
CY2V0122FLXC (7C851003A)	4843328	*610853238*	ER	COMP	9	0	
CY2V013FLXI (7C851004A)	4843328	*610853239*	ER	COMP	9	0	
CY2X014FLXC (7C851002A)	4843328	*610853237*	ER	COMP	9	0	
CY2VC521ZXC-2 (7C851101A)	4903174	*610906515/16*	ER	COMP	9	0	
CY2VC511ZXC (7C851100A)	4903174	*610906511/12/13*	ER	COMP	9	0	
CY2XP31ZXI (7C851200A)	4903174	*610908073/75/77*	T-Taiwan	COMP	9	0	
CY2XL11ZXC (7C851201A)	4903174	*610908081/82/83*	T-Taiwan	COMP	9	0	
CY2X014FLXC (7C851002A)	4903174	*610906619*	ER	COMP	9	0	
CY2V013FLXI (7C851004A)	4903174	*610906625*	ER	COMP	9	0	
CY2V012FLXI (7C851003A)	4903174	*610906623*	ER	COMP	9	0	
CY2X012FLXC (7C851001A)	4903174	*610906621*	ER	COMP	9	0	
CY2VC511ZXC (7C851100A)	4803399	*610820266/265/263*	CML-RA	COMP	9	0	
CY2VC511ZXC (7C851001A)	4803399	*610818852*	ER	COMP	9	0	
CY2X014FLXCT (7C851002A)	4803399	*610818855*	ER	COMP	9	0	
CY2V012FLXCT (7C851003A)	4803399	*610818854*	ER	COMP	9	0	
CY2V013FLXIT (7C851004A)	4803399	*610818851*	ER	COMP	9	0	
CY2XP31ZXC (7C851010A)	4803399	*610818851*	ER	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2200V							
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	COMP	8	0	
CY2X012FLX (7C851001A)	4843328	*610853236*	ER	COMP	8	0	
CY2V0122FLXC (7C851003A)	4843328	*610853238*	ER	COMP	8	0	
CY2V013FLXI (7C851004A)	4843328	*610853239*	ER	COMP	8	0	
CY2X014FLXC (7C851002A)	4843328	*610853237*	ER	COMP	8	0	
CY2VC521ZXC-2 (7C851101A)	4903174	*610906515/16*	ER	COMP	8	0	
CY2VC511ZXC (7C851100A)	4903174	*610906511/12/13*	ER	COMP	8	0	
CY2XP31ZXI (7C851200A)	4903174	*610908073/75/77*	T-Taiwan	COMP	8	0	
CY2XL11ZXC (7C851201A)	4903174	*610908081/82/83*	T-Taiwan	COMP	8	0	

Reliability Test Data

QTP #: 064302

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2200V (CONTINUATION)							
CY2X014FLXC (7C851002A)	4903174	*610906619*	ER	COMP	8	0	
CY2V013FLXI (7C851004A)	4903174	*610906625*	ER	COMP	8	0	
CY2V012FLXI (7C851003A)	4903174	*610906623*	ER	COMP	8	0	
CY2X012FLXC (7C851001A)	4903174	*610906621*	ER	COMP	8	0	
CY2VC511ZXC (7C851100A)	4803399	*610820266/265/263*	CML-RA	COMP	8	0	
CY2VC511ZXC (7C851001A)	4803399	*610818852*	ER	COMP	8	0	
CY2X014FLXCT (7C851002A)	4803399	*610818855*	ER	COMP	8	0	
CY2V012FLXCT (7C851003A)	4803399	*610818854*	ER	COMP	8	0	
CY2V013FLXIT (7C851004A)	4803399	*610818851*	ER	COMP	8	0	
CY2XP31ZXC (7C851010A)	4803399	*610818851*	ER	COMP	8	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (125C, 2.35V, Vcc Max)							
CY2FLEXO-LV (7C851009A)	4903174	*610906225/28/33*	CML-R	168	624	0	
CY2FLEXO-LV (7C851009A)	4903174	*610906225/28/33*	CML-R	1000	624	0	
CY2FLEXO-LV (7C851009A)	4803399	*610818721/715/705*	CML-R	168	120	0	
CY2FLEXO-LV (7C851009A)	4803399	*610818721/715/705*	CML-R	1000	120	0	
CY2FLEXO-LV (7C851009A)	4843328	*610853381/9/4*	CML-R	168	116	0	
CY2FLEXO-LV (7C851009A)	4843328	*610853381/9/4*	CML-R	1000	116	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 2.35V, Vcc Max)							
CY2FLEXO-LV (7C851009A)	4903174	*610906225/28/33*	CML-R	96	1500	0	
CY2FLEXO-LV (7C851009A)	4803399	*610818721/715/705*	CML-R	96	1006	0	
CY2FLEXO-LV (7C851009A)	4843328	*610853381/9/4*	CML-R	96	1238	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125C, 3.96V, Vcc Max)							
CY2FLEXO-HV (7C851010A)	4903174	*610906226*	CML-R	96	48	0	
CY2FLEXO-HV (7C851010A)	4843328	*610853387/85/80*	CML-R	96	45	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR, 30C/60%RH, MSL3							
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	168	80	0	
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	288	72	0	

Reliability Test Data

QTP #: 064302

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: STATIC LATCH-UP TESTING (125C, ±200mA)							
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	COMP	6	0	
CY2X012FLX (7C851001A)	4843328	*610853236*	ER	COMP	6	0	
CY2V0122FLXC (7C851003A)	4843328	*610853238*	ER	COMP	6	0	
CY2V013FLXI (7C851004A)	4843328	*610853239*	ER	COMP	6	0	
CY2X014FLXC (7C851002A)	4843328	*610853237*	ER	COMP	6	0	
CY2VC521ZXC-2 (7C851101A)	4903174	*610906515/16*	ER	COMP	6	0	
CY2VC511ZXC (7C851100A)	4903174	*610906511/12/13*	ER	COMP	6	0	
CY2XP31ZXI (7C851200A)	4903174	*610908073/75/77*	T-Taiwan	COMP	6	0	
CY2XL11ZXC (7C851201A)	4903174	*610908081/82/83*	T-Taiwan	COMP	6	0	
CY2X014FLXC (7C851002A)	4903174	*610906619*	ER	COMP	6	0	
CY2V013FLXI (7C851004A)	4903174	*610906625*	ER	COMP	6	0	
CY2V012FLXI (7C851003A)	4903174	*610906623*	ER	COMP	6	0	
CY2X012FLXC (7C851001A)	4903174	*610906621*	ER	COMP	6	0	
CY2VC511ZXC (7C851100A)	4803399	*610820266/265/263*	CML-RA	COMP	6	0	
CY2VC511ZXC (7C851001A)	4803399	*610818852*	ER	COMP	6	0	
CY2X014FLXCT (7C851002A)	4803399	*610818855*	ER	COMP	6	0	
CY2V012FLXCT (7C851003A)	4803399	*610818854*	ER	COMP	6	0	
CY2V013FLXIT (7C851004A)	4803399	*610818851*	ER	COMP	6	0	
CY2XP31ZXC (7C851010A)	4803399	*610818851*	ER	COMP	6	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	300	80	0	
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	500	80	0	
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	1000	80	0	
CY2VC521ZXC (7C851101AC)	4803399	*610820272/270/271*	CML-RA	1500	80	0	

Reliability Test Data

QTP #: 100703

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY2XP311ZXI (7C851205A)	4917670	*611008116*	TAIWAN-T	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2200V							
CY2XP311ZXI (7C851205A)	4917670	*611008116*	TAIWAN-T	COMP	8	0	
STRESS: STATIC LATCH-UP TESTING (125C, ±200mA)							
CY2XP311ZXI (7C851205A)	4917670	*611008116*	TAIWAN-T	COMP	6	0	

Document History Page

Document Title: 100703: XO LN FLEXO DEVICE (CY2XP311ZXC/ CY2XP311ZXI)FAMILY, L8C-3R TECHNOLOGY, FAB 4 QUALIFICATION REPORT
Document Number: 001-65334

Rev.	ECN No.	Orig. of Change	Description of Change
**	3088831	NSR	Initial Spec Release Removed QTPs 091601, 093101 and 092803 on Qualification History page and QTP Data Summary from the original qual report posted in ECN# 2898426.
*A	3435895	NSR	Sunset Review Removed QTP “VERSION 1.1” on the tile page. Fixed QTP Data alignment.
*B	3829979	NSR	Removed obsolete spec#001-13733. Removed the reference Cypress specs in reliability tests performed table and replace with reference Industry standards.
*C	4596444	HSTO	Align qualification report based on the new template in the front page

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