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# Cypress Semiconductor Product Qualification Report

**QTP # 160606 VERSION\*\*  
December 2016**

<b>Hercules Device Family LP55 Technology, UMC Fab 12A</b>	
<b>CY29411*</b>	<b>1-PLL High Performance Programmable Clock Synthesizer</b>
<b>CY29412*</b>	
<b>CY29421*</b>	
<b>CY29422*</b>	
<b>CY29430*</b>	

**FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT**  
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**PRODUCT QUALIFICATION HISTORY**

<b>QTP Number</b>	<b>Description of Qualification Purpose</b>	<b>Date</b>
160606	Qualification of Hercules Device at UMC using LP55 Technology	August 2016
163201	Qualification of Hercules Device in 8L LCC Package (5 x 7mm and 5 x3.2mm)	September 2016

### PRODUCT DESCRIPTION (for qualification)

Qualification Purpose: To qualify Hercules Device using LP55 Technology at Fab 12A UMC, Taiwan

Marketing Part #: CY29411\*/CY29412\*/CY29421\*/CY29422\*/CY29430\*

Device Description: 1-PLL High Performance Programmable Clock Synthesizer

Cypress Division: Cypress Semiconductor – Memory Product Division

### TECHNOLOGY/FAB PROCESS DESCRIPTION

Number of Metal Layers:	6 ( MET1 to MET6) + 1 AL layer (AL_RDL)	Metal Composition:	Metal 1: 140A Ta/TaN 1030A Cu Metal 2: 60A Ta/TaN 3400A Cu Metal 3: 60A Ta/TaN 3400A Cu Metal 4: 60A Ta/TaN 3400A Cu Metal 5: 60A Ta/TaN 3400A Cu Metal 6: Ta/TaN 350A Cu 3935A
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Passivation Type and Thickness:	4,000A Oxide /5,000A Nitride
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Generic Process Technology/Design Rule (μ-drawn):	LP55
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Gate Oxide Material/Thickness (MOS):	SiO <sub>2</sub> / IO: 56A, Core: 19.5A
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Name/Location of Die Fab (prime) Facility:	Fab 12A/UMC-Taiwan
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Die Fab Line ID/Wafer Process ID:	FAB12A/LP55
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### PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE	WIRE MATERIAL	QTP NUMBER
16L QFN (3x3x0.6mm)	ASE-Taiwan (G)	0.8 mil CuPd	QTP# 160906
8L LCC (5x7mm and 5x3.2mm)	Ecera-Taiwan (ER)	1.0 mil Au	QTP# 160905

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LQ16A
Package Outline, Type, or Name:	Quad Flat No Lead (QFN), 3x3x0.6mm
Mold Compound Name/Manufacturer:	EME-G700LA/Sumitomo
Mold Compound Flammability Rating:	V-0 UL94
Oxygen Rating Index: >28%	> 28%
Lead Frame Designation:	U-groove Pad
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Laser Groove + Mechanical Saw Process
Die Attach Supplier:	Hitachi
Die Attach Material:	EN4900G
Bond Diagram Designation	002-10886
Wire Bond Method:	Thermosonic
Wire Material/Size:	0.8 mil /CuPd
Thermal Resistance Theta JA °C/W:	27.04°C /W
Package Cross Section Yes/No:	Yes
Assembly Process Flow:	49-41999
Name/Location of Assembly (prime) facility:	ASE-Taiwan (G)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	ASE-KH

### MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION

Package Designation:	LZ08A/LZ08B
Package Outline, Type, or Name:	Leadless Chip Carrier (LCC), (5x7mm and 5x3.2mm)
Mold Compound Name/Manufacturer:	Ceramic Kyocera A443
Mold Compound Flammability Rating:	N/A
Oxygen Rating Index: >28%	N/A
Lead Frame Designation:	N/A
Lead Frame Material:	N/A
Lead Finish, Composition / Thickness:	NiAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Laser Groove + Mechanical Saw
Die Attach Supplier:	ThreeBond
Die Attach Material:	3301F Die Attach/ 3303R Crystal Attach
Bond Diagram Designation	002-10888/002-10889
Wire Bond Method:	Thermosonic
Wire Material/Size:	1.0 mil/Au
Thermal Resistance Theta JA °C/W:	20.70°C /W
Package Cross Section Yes/No:	No
Assembly Process Flow:	001-03723
Name/Location of Assembly (prime) facility:	Ecera-Taiwan (ER)
MSL Level	N/A
Reflow Profile	N/A

### ELECTRICAL TEST / FINISH DESCRIPTION

Test Location:	CML-R
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## RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P
Age Bond Strength	200C, 4hrs MIL-STD-883, Method 883-2011	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Data Retention	150°C, No Bias JESD22-A117 and JESD22-A103	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	400V/500V/750V/1,000V/1,250V/1,500V/1,750V/2,000V JESD22-C101	P
Electrostatic Discharge Human Body Model (ESD-HBM)	1,100V/2,200V /3,300V/4,000V JESD22, Method A114	P
Electrostatic Discharge Machine Model (ESD-MM)	200V JESD22-A115	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130°C, 85% RH, 3.63V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc Max=3.96V, 125°C JESD22-A-108	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max=3.96V, 125°C JESD22-A-108	P
Low Temperature Operating Life	Dynamic Operating Condition, -30°C, 3.8V JESD22-A108	P
Pre/Post LFR AC/DC Char	AC/DC Critical Parameter Char at 0 hour/168/1000hrs	P
Pressure Cooker	JESD22-A102:121°C /100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P
Static Latch-up	85C, +/-140mA , +/- 200mA, +/-300mA 125C, +/-100mA, +/-140mA JESD 78	P
Temperature Cycle	MIL-STD-883, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 °C, 60% RH, 260°C Reflow)	P

## RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Thermal AF <sup>3</sup>	Failure Rate
High Temperature Operating Life Early Failure Rate	4,046 Devices	0	N/A	N/A	0 PPM
High Temperature Operating Life Long Term Failure Rate	554,960 DHRs	0	0.7	55	30 FIT

<sup>1</sup> Assuming an ambient temperature of 55°C and a junction temperature rise of 15°C.

<sup>2</sup> Chi-squared 60% estimations used to calculate the failure rate.

<sup>3</sup> 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<sub>A</sub> = The Activation Energy of the defect mechanism.

K = Boltzmann's constant = 8.62x10<sup>-5</sup> eV/Kelvin.

T<sub>1</sub> is the junction temperature of the device under stress and T<sub>2</sub> is the junction temperature of the device at use conditions.



## Reliability Test Data

### QTP #: 160606

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ACOUSTIC, MSL3</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	15	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	20	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	20	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	COMP	20	0	
<b>STRESS: AGE BOND STRENGTH</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	COMP	3	0	
<b>STRESS: CONSTRUCTIONAL ANALYSIS</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	5	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	5	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	5	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1000	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1000	79	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1000	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	1000	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	500	9	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	750	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1000	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1250	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1500	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1750	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	2000	3	0	

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**Reliability Test Data**  
**QTP #: 160606**

<b>Device</b>	<b>Fab Lot #</b>	<b>Assy Lot #</b>	<b>Assy Loc</b>	<b>Duration</b>	<b>Samp</b>	<b>Rej</b>	<b>Failure Mechanism</b>
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	500	9	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	750	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1000	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1250	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1500	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1750	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	2000	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	500	9	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	750	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1000	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1250	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1500	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1750	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	2000	3	0	
<b>STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1100	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	2200	8	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	3000	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	4000	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1100	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	2200	8	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	3300	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	4000	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1100	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	2200	8	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	3300	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	4000	3	0	

## Reliability Test Data

### QTP #: 160606

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ESD-MACHINE MODEL</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	200	5	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.63V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	96	30	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	96	30	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	96	30	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	96	30	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (125, 3.96V, Vcc Max)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	96	1020	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	120	1007	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	96	1010	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	96	1009	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (125, 3.96V, Vcc Max)</b>							
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	168	195	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	192	13	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1000	169	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	168	195	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	192	13	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1000	190	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	168	194	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	192	12	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	1000	189	0	
<b>STRESS: LOW TEMPERATURE DYNAMIC OPERATING LIFE, -30C, 3.8V</b>							
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	500	42	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1000	42	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	168	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	288	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	168	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	288	80	0	

## Reliability Test Data

### QTP #: 160606

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	168	79	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	288	79	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	168	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	288	80	0	
<b>STRESS: PRE/POST LFR CRITICAL PARAMETERS</b>							
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	0	10+2	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	168	10+2	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	1000	10+2	0	
<b>STRESS: STATIC LATCH-UP (125C, 5.45V, +/-100mA)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 6V, +/-140mA)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 6V, +/-140mA)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 6V, +/-200mA)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 6V, +/-300mA)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	COMP	3	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	COMP	3	0	

## Reliability Test Data

### QTP #: 160606

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611609735	G-Taiwan	1000	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612802	G-Taiwan	1000	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9608001	611612803	G-Taiwan	1000	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	500	80	0	
CY29430FLQXI (7CP85600AO)	9607002	611612634	G-Taiwan	1000	79	0	



**Reliability Test Data**  
**QTP #: 163201**

<b>Device</b>	<b>Fab Lot #</b>	<b>Assy Lot #</b>	<b>Assy Loc</b>	<b>Duration</b>	<b>Samp</b>	<b>Rej</b>	<b>Failure Mechanism</b>
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY29412FLXIES (7C85602AO)	9607002	611621825	ER-Taiwan	400	10	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	500	9	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	750	3	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	1000	3	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	1250	3	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	1500	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	500	9	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	750	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	1000	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	1250	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	500	9	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	750	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	1000	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	1250	3	0	
<b>STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	1100	3	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	2200	8	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	3300	3	0	
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	4000	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	1100	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	2200	8	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	3300	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	4000	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	1100	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	2200	8	0	

## Reliability Test Data

### QTP #: 163201

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114</b>							
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	3300	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	4000	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	1100	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	2200	8	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	3000	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	4000	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 5.44V, +/-100mA)</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	COMP	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	COMP	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	COMP	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 5.98V, +/-140mA)</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	COMP	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	COMP	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	COMP	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 5.98V, +/-140mA)</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	COMP	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	COMP	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	COMP	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 5.98V, +/-200mA)</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	COMP	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	COMP	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	COMP	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	COMP	3	0	

## Reliability Test Data

### QTP #: 163201

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: STATIC LATCH-UP (85C, 5.98V, +/-300mA)</b>							
CY29421FLXIES (7C85603AO)	9607002	611621825	ER-Taiwan	COMP	3	0	
CY29412FLXIES (7C85602AO)	9607002	611617152	ER-Taiwan	COMP	3	0	
CY29422FLXIES (7C85604AO)	9607002	611617155	ER-Taiwan	COMP	3	0	
CY29411FLXIES (7C85601AO)	9607002	611621826	ER-Taiwan	COMP	3	0	





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Rev.	ECN No.	Orig. of Change	Description of Change
**	5519081	JYF	Initial spec release.