

**Please note that Cypress is an Infineon Technologies Company.**

The document following this cover page is marked as “Cypress” document as this is the company that originally developed the product. Please note that Infineon will continue to offer the product to new and existing customers as part of the Infineon product portfolio.

**Continuity of document content**

The fact that Infineon offers the following product as part of the Infineon product portfolio does not lead to any changes to this document. Future revisions will occur when appropriate, and any changes will be set out on the document history page.

**Continuity of ordering part numbers**

Infineon continues to support existing part numbers. Please continue to use the ordering part numbers listed in the datasheet for ordering.

# Cypress Semiconductor Product Qualification Report

**QTP# 145003 VERSION\*C**  
**February 2019**

4-MBIT Asynchronous SRAM Family ULL65nm (LL65UP-25ODR) Technology, UMC Fab 12A	
CY62146G*	MoBL™, 4-MBIT (256K WORDS X 16 BIT) STATIC RAM
CY62146GSL*	
CY62146GE*	
CY62146GESL*	
CY62147G*	
CY62147GE*	
CY621472G*	
CY62146GN*	
CY62147GN*	MoBL™, 4-MBIT (512K WORDS X 8 BIT) STATIC RAM
CY62148G*	
CY62148GN*	FAST, 4-MBIT (256K WORDS X 16 BIT) STATIC RAM
CY7C1041G*	
CY7C1041GE*	
CY7C1041GN*	FAST, 4-MBIT (512K WORDS X 8 BIT) STATIC RAM
CY7C1049G*	
CY7C1049GE*	
CY7C1049GN*	FAST, 4-MBIT (256K WORDS X 16 BIT) STATIC RAM WITH POWERSNOOZE™
CY7S1041G*	
CY7S1041GE*	FAST, 4-MBIT (512K WORDS X 8 BIT) STATIC RAM WITH POWERSNOOZE™
CY7S1049G*	
CY7S1049GE*	

**FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT**  
[reliability@cypress.com](mailto:reliability@cypress.com) or via a CYLINK CRM CASE

**Prepared By:**  
 Josephine Pineda (JYF)  
 Sr. Reliability Engineer

**Reviewed By:**  
 Sandhya Chandrashekhar (SANC)  
 Principal Reliability Engineer

**Approved By:**  
 David Hoffman (DHH)  
 Reliability Director

## QUALIFICATION HISTORY

QTP Number	Description of Qualification Purpose	Date Comp
091706	Qualification of 65nm (LL65) Technology at UMC Fab 12A and New Device CY7C1553K Base Die Product Family	Aug 2009
124902	Qualification of 16-MBIT Asynchronous SRAM Family ,ULL65nm (LL65UP-25ODR) Technology at UMC Fab 12A	Aug 2014
144804	Qualification of 16-MBIT Asynchronous SRAM Family Rev.*D Silicon, ULL65nm (LL65UP-25ODR) Technology at UMC Fab 12A	Feb 2015
145003	Qualification of 4-MBIT Asynchronous SRAM Family ,ULL65nm (LL65UP-25ODR) Technology at UMC Fab 12A	July 2015

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose:	Qualify 4-MBIT Asynchronous SRAM Family ,ULL65nm (LL65UP-25ODR) Technology at UMC Fab 12A
Marketing Part #:	CY62146G*/ CY62146GE*/ CY62146GSL*/ CY62146GESL*/ CY62147G*/ CY62147GE*/ CY621472G*/ CY62146GN*/ CY62147GN*/ CY62148G*/ CY62148GN*/ CY7C1041G*/ CY7C1041GE*/ CY7C1041GN*/ CY7C1049G*/ CY7C1049GE*/ CY7C1049GN*/ CY7S1041G*/ CY7S1041GE*/ CY7S1049G*/ CY7S1049GE*/
Device Description:	4-MBIT Asynchronous SRAM Family
Cypress Division:	Cypress Semiconductor Corporation –Memory Product Division

TECHNOLOGY/FAB PROCESS DESCRIPTION – LL65P-18R			
Number of Metal Layers:	Proprietary	Metal Composition:	Proprietary
Passivation Type and Materials:	Proprietary		
Number of Transistors in Device	Proprietary		
Number of Logic Gates in Device	Proprietary		
Generic Process Technology/Design Rule (μ-drawn):	Proprietary		
Gate Oxide Material/Thickness (MOS):	Proprietary		
Name/Location of Die Fab (prime) Facility:	UMC Fab 12A		
Die Fab Line ID/Wafer Process ID:	L65LL		

#### PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY SITE FACILITY	QTP REFERENCE
48-Ball VFBGA	CML-RA	QTP#150414
	ASE-Taiwan (G)	QTP#150413
32L TSOPII	OSE-Taiwan (G)	QTP# 150412
44L TSOP II	CML-RA	QTP# 150409
	JCET-China (JT)	QTP# 150410
32L SOIC,36L/44L SOJ	JCET-China (JT)	QTP# 150411

**Note:** Package Qualification details upon request

**MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION**

<b>Package Designation:</b>	BZ48A (6x8x1.0mm)
<b>Package Outline, Type, or Name:</b>	VFBGA (Very Fine Ball Grid Array)
<b>Mold Compound Name/Manufacturer:</b>	GR9810/Henkel
<b>Mold Compound Flammability Rating:</b>	V-0 / UL94
<b>Oxygen Rating Index:</b>	>28%
<b>Substrate Material:</b>	BT resin
<b>Lead Finish, Composition / Thickness:</b>	SAC105
<b>Die Backside Preparation Method/Metallization:</b>	Backgrind
<b>Die Separation Method:</b>	Saw
<b>Die Attach Supplier:</b>	Henkel
<b>Die Attach Material:</b>	QMI 506
<b>Bond Diagram Designation:</b>	001-95770
<b>Wire Bond Method:</b>	Thermosonic
<b>Wire Material/Size:</b>	CuPd, 0.8 mil (20um)
<b>Package Cross Section Yes/No:</b>	N/A
<b>Assembly Process Flow:</b>	11-21099
<b>Name/Location of Assembly (prime) facility:</b>	CML-RA
<b>MSL Level</b>	3
<b>Reflow Profile</b>	260C

**ELECTRICAL TEST / FINISH DESCRIPTION**

<b>Test Location:</b>	CML-RA, CML-R
-----------------------	---------------

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	BZ48A (6x8x1.0mm)
Package Outline, Type, or Name:	VFBGA (Very Fine Ball Grid Array)
Mold Compound Name/Manufacturer:	KE-G2250/Kyocera
Mold Compound Flammability Rating:	V-0 / UL94
Oxygen Rating Index:	>28%
Substrate Material:	BT resin
Lead Finish, Composition / Thickness:	SAC105
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ablebond 2100A
Bond Diagram Designation:	001-95771
Wire Bond Method:	Thermosonic
Wire Material/Size:	CuPd, 0.8 mil (20um)
Package Cross Section Yes/No:	N/A
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:	CML-RA, CML-R

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZW32A
Package Outline, Type, or Name:	TSOP II (Thin Small Outline Package)
Mold Compound Name/Manufacturer:	EME-G631SH/Sumitomo
Mold Compound Flammability Rating:	V-0 / UL94
Oxygen Rating Index:	>28%
Leadframe Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Sumitomo
Die Attach Material:	CRM-1076WA
Bond Diagram Designation:	001-95774
Wire Bond Method:	Thermosonic
Wire Material/Size:	CuPd, 0.8 mil (20um)
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-35999
Name/Location of Assembly (prime) facility:	OSE-Taiwan (T)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	OSE-Taiwan (T)

**MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION**

<b>Package Designation:</b>	ZW44A
<b>Package Outline, Type, or Name:</b>	TSOP II (Thin Small Outline Package)
<b>Mold Compound Name/Manufacturer:</b>	KE-G6000DA/ Kyocera
<b>Mold Compound Flammability Rating:</b>	V-0 / UL94
<b>Oxygen Rating Index:</b>	>28%
<b>Leadframe Material:</b>	Copper
<b>Lead Finish, Composition / Thickness:</b>	NiPdAu
<b>Die Backside Preparation Method/Metallization:</b>	Backgrind
<b>Die Separation Method:</b>	Saw
<b>Die Attach Supplier:</b>	Henkel
<b>Die Attach Material:</b>	QMI 509
<b>Bond Diagram Designation:</b>	001-95718
<b>Wire Bond Method:</b>	Thermosonic
<b>Wire Material/Size:</b>	CuPd, 0.8 mil (20um)
<b>Package Cross Section Yes/No:</b>	N/A
<b>Assembly Process Flow:</b>	11-21099
<b>Name/Location of Assembly (prime) facility:</b>	CML-RA
<b>MSL Level</b>	3
<b>Reflow Profile</b>	260C

**ELECTRICAL TEST / FINISH DESCRIPTION**

<b>Test Location:</b>	CML-RA, CML-R
-----------------------	---------------



MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZW44A
Package Outline, Type, or Name:	TSOP II (Thin Small Outline Package Type)
Mold Compound Name/Manufacturer:	EME- G631SH-Q/Sumitomo
Mold Compound Flammability Rating:	V-0 / UL94
Oxygen Rating Index:	>28%
Leadframe Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Henkel
Die Attach Material:	QMI 509
Bond Diagram Designation:	001-95753
Wire Bond Method:	Thermosonic
Wire Material/Size:	CuPd, 0.8 mil (20um)
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-64159
Name/Location of Assembly (prime) facility:	JCET-China (JT)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	JCET-China (JT)

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	SZ324, VZ364/VZ44A
Package Outline, Type, or Name:	SOIC (400 mils), SOJ (400 mils)
Mold Compound Name/Manufacturer:	EME- G631SH-Q/Sumitomo
Mold Compound Flammability Rating:	V-0 / UL94
Oxygen Rating Index:	>28%
Leadframe Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Henkel
Die Attach Material:	QMI 509
Bond Diagram Designation:	SZ324: 001-95775 VZ364: 001-95776 VZ444: 001-95777
Wire Bond Method:	Thermosonic
Wire Material/Size:	CuPd, 0.8 mil (20um)
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-64159
Name/Location of Assembly (prime) facility:	JCET-China (JT)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	JCET-China (JT)

# RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

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	200°C, 4HRS MIL-STD-883, Method 883-2011	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Dynamic Latch-up	125°C , 8.25V JESD78	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	750V JESD22-C101	P
Electrostatic Discharge Human Body Model (ESD-HBM)	1100V to 8000V JESD22-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, 2.25V 110°C/130°C, 85%RH, 3.65V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
High Temperature Steady State Life	Static Operating Condition, Vcc Max= 1.37/2.25V, 150°C JESD22-A108	P
High Temperature Storage	JESD22-A103:150°C No bias	P
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc Max = 1.44V, 125°C JESD22-A108	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max = 1.44V, 125°C JESD22-A108	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Boost Regulated at Core, 1.45V, External 2.05V, 125°C /150°C JESD22-A108	P
Low Temperature Operating Life	Dynamic Operating Condition, Vcc = 1.62V/2.25V, -30°C JESD22-A108	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
Pre/Post LFR AC/DC Char	AC/DC Critical Parameter Char at 0 hour/500/168/1000hrs	P
Static Latch-up	85°C/125°C , ± 140mA, 85°C , ± 200mA, ± 300mA JESD78	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
Temperature Humidity Bias Test (THB)	JESD22-A101: 85°C/ 85% RH , 2.25V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30°C, 60% RH, 260°C Reflow)	P
Soft Error (Alpha Particle)	JESD89	P
Soft Error (Neutron)	JESD89	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 <sup>1</sup> Early Failure Rate	3,092 Devices	0	N/A	N/A	0 PPM
High Temperature Operating Life <sup>2</sup> Long Term Failure Rate (150°C)	89,000 DHRs	0	0.7	170	9 FIT
High Temperature Operating Life <sup>2</sup> Long Term Failure Rate (125°C)	1,668,000 DHRs	0	0.7	55	

<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.

<sup>1</sup>Early Failure Rate was computed from QTP# 145003 data.

<sup>2</sup> Long Term Failure Rate was computed from QTP# 091706, QTP# 124902 and QTP# 145003 data.

## Reliability Test Data

QTP #: 091706

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure	Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>								
CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	COMP	15	0		
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	COMP	15	0		
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	COMP	15	0		
<b>STRESS: AGE BOND STRENGTH</b>								
CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	COMP	5	0		
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	COMP	5	0		
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	COMP	5	0		
<b>STRESS: DYNAMIC LATCH-UP</b>								
CY7C1470V33 (7C1470A)	4321389	610417278	CML-R	COMP	3	0		
<b>STRESS: ESD-HUMAN BODY MODEL, 2,200V</b>								
CY7C1514KV18 (7C1553K)	8842022	610852338	TAIWN-G	COMP	8	0		
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	COMP	8	0		
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	COMP	8	0		
CY7C1514KV18 (7C1553K)	8844021	610908348	TAIWN-G	COMP	8	0		
<b>STRESS: ESD-CHARGE DEVICE MODEL, 500V</b>								
CY7C1514KV18 (7C1553K)	8842022	610852338	TAIWN-G	COMP	9	0		
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	COMP	9	0		
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	COMP	9	0		
<b>STRESS: ESD-MACHINE MODEL, 200V</b>								
CY7C1514KV18 (7C1553K)	8842022	610852338	TAIWN-G	COMP	5	0		
<b>STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 2.25V, PRE COND 192 HR 30C/60%RH, MSL3</b>								
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	128	78	0		
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	128	77	0		
<b>STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 150C</b>								
CY7C1514KV18 (7C1553K)	8844020	610851583	TAIWN-G	1000	70	0		
<b>STRESS: HIGH TEMP STEADY STATE LIFE TEST, 150C, 2.25V, Vcc Max</b>								
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	336	77	0		

## Reliability Test Data

QTP #: 091706

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
--------	-----------	------------	---------	----------	------	-----	-------------------

**STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, BOOST REGULATED AT CORE 1.45V, EXTERNAL 2.05V**

CY7C15631KV18 (7C1553K)	8908001	610920385	TAIWN-G	96	2367	0	
CY7C15631KV18 (7C1553K)	8912000	610920386	TAIWN-G	96	2217	0	
CY7C15631KV18 (7C1553K)	8910015	610920548	TAIWN-G	96	1321	0	

**STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, BOOST REGULATED AT CORE 1.45V, EXTERNAL 2.05V**

CY7C1514KV18 (7C1553K)	8844021	610908348	TAIWN-G	500	178	0	
------------------------	---------	-----------	---------	-----	-----	---	--

**STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, BOOST REGULATED AT CORE 1.45V, EXTERNAL 2.05V**

CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	1000	178	0	
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	1000	178	0	

**STRESS: LOW TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, -30C, 2.25V Vcc**

CY7C1514KV18 (7C1553K)	8842022	610852338	TAIWN-G	500	45	0	
------------------------	---------	-----------	---------	-----	----	---	--

**STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3**

CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	168	76	0	
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	168	78	0	
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	168	77	0	

**STRESS: Pre-/ Post HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE CHAR**

CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	COMP	10	0	
------------------------	---------	-----------	---------	------	----	---	--

**STRESS: STATIC LATCH-UP TESTING, 125C, 3.42V, +/-240mA**

CY7C1514KV18 (7C1553K)	8844020	610854680	TAIWN-G	COMP	9	0	
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	COMP	9	0	
CY7C1514KV18 (7C1553K)	8844021	610908348	TAIWN-G	COMP	9	0	
CY7C15631KV18 (7C1553K)	8911000	610922436	TAIWN-G	COMP	9	0	

**STRESS: TEMPERATURE CYCLE COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3**

CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	1000	77	0	
CY7C1514KV18 (7C1553K)	8844020	610854240	TAIWN-G	1000	78	0	
CY7C1514KV18 (7C1553K)	8844022	610906896	TAIWN-G	1000	77	0	

**STRESS: STRESS: TEMPRATURE HUMIDITY TEST, 85C, 85%RH, 2.25V, PRE COND 192 HR 30C/60%RH, MSL3**

CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	1000	77	0	
------------------------	---------	-----------	---------	------	----	---	--

## Reliability Test Data

QTP #: 091706

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: SER – ALPHA PARTICLE, 3-TEMP, 3-VOLTAGE, @ 85C, Vcc Nom</b>							
CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	COMP	3	0	
<b>STRESS: X-SECTION/STEM XY AUDIT</b>							
CY7C1514KV18 (7C1553K)	8842022	610851583	TAIWN-G	COMP	1WF		

## Reliability Test Data

QTP #: 124902

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	COMP	15	0	
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	COMP	170	0	
CY7C1061G30 (7CC171061A)	9313001	611348184	CML-RA	COMP	15	0	
<b>STRESS: AGE BOND STRENGTH</b>							
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	COMP	3	0	
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	COMP	3	0	
<b>STRESS: CONSTRUCTIONAL ANALYSIS</b>							
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	COMP	5	0	
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	COMP	5	0	
<b>STRESS: DYNAMIC LATCH-UP TESTING, 125C, 8.25V</b>							
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	COMP	3	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	500	9	0	
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	1000	3	0	
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	1250	3	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	500	9	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	1000	3	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	1250	3	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	500	9	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	1000	3	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	1250	3	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	500	9	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	1000	3	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	1250	3	0	





## Reliability Test Data

QTP #: 124902

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	500	9	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	750	3	0	
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	500	9	0	
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	1000	3	0	
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	1250	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	1100	3	0	
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	2200	8	0	
CY7C1062G30 (7CC171062A) 9302002		611321701	G-TAIWAN	3300	3	0	
CY7C1061G30 (7CC171061A) 9302002		611320002	G-TAIWAN	1100	3	0	
CY7C1061G30 (7CC171061A) 9302002		611320002	G-TAIWAN	2200	8	0	
CY7C1061G30 (7CC171061A) 9302002		611320002	G-TAIWAN	3300	3	0	
CY7C1069G30 (7CC171069A) 9302002		611320107	G-TAIWAN	1100	3	0	
CY7C1069G30 (7CC171069A) 9302002		611320107	G-TAIWAN	2200	8	0	
CY7C1069G30 (7CC171069A) 9302002		611320107	G-TAIWAN	3300	3	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	1100	3	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	2200	8	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	3300	3	0	
CY7C1061G30 (7CC171061A) 9312001		611328720	CML-RA	1100	3	0	
CY7C1061G30 (7CC171061A) 9312001		611328720	CML-RA	2200	8	0	
CY7C1061G30 (7CC171061A) 9312001		611328720	CML-RA	3300	3	0	
CY7C1061G30 (7CC171061A) 9324001		611342911	G-TAIWAN	1100	3	0	
CY7C1061G30 (7CC171061A) 9324001		611342911	G-TAIWAN	2200	8	0	
CY7C1061G30 (7CC171061A) 9324001		611342911	G-TAIWAN	3300	3	0	
<b>STRESS: HI-ACCEL SATURATION TEST, 110C, 85%RH, 3.65V, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY7C1061G30 (7CC171061A) 9313001		611348182	CML-RA	264	30	0	
<b>STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.65V, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY7C1061G30 (7CC171061A) 9313001		611348183	CML-RA	128	79	0	

## Reliability Test Data

**QTP #: 124902**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE – REG-ON, 125C, 6.0V</b>							
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	96	50	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	96	50	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE , 125C, 1.44V</b>							
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	96	2107	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	96	1818	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 1.44V</b>							
CY7C1061G30 (7CC171061A)	9312001	611414530	CML-RA	168	1790	0	
CY7C1061G30 (7CC171061A)	9312001	611414530	CML-RA	1000	1750	0	
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	168	1800	0	
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	1000	1800	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	168	1790	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	1000	1780	0	
<b>STRESS: HIGH TEMP STEADY STATE LIFE TEST, 150C, 1.37V</b>							
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	168	80	0	
CY7C1062G30 (7CC171062A)	9302002	611321701	G-TAIWAN	168	80	0	
<b>STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 150C</b>							
CY7C1061G30 (7CC171061A)	9313001	611333088	CML-RA	500	79	0	
CY7C1061G30 (7CC171061A)	9313001	611333088	CML-RA	1000	79	0	
<b>STRESS: LOW TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, -30C, 1.62V</b>							
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	500	83	0	
<b>STRESS: PRE/POST LFR CRITICAL PARAMETERS</b>							
CY7C1061G30 (7CC171061A)	9312001	611414530	CML-RA	0	10+2	0	
CY7C1061G30 (7CC171061A)	9312001	611414530	CML-RA	1000	10+2	0	
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	0	10+2	0	
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	1000	10+2	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	0	10+2	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	1000	10+2	0	

## Reliability Test Data

**QTP #: 124902**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: PRE/POST LTOL CRITICAL PARAMETERS</b>							
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	0	10+2	0	
CY7C1061G30 (7CC171061A)	9313001	611333269	CML-RA	500	10+2	0	
<b>STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	168	79	0	
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	288	79	0	
CY7C1061G30 (7CC171061A)	9313001	611333088	CML-RA	168	78	0	
CY7C1061G30 (7CC171061A)	9313001	611333088	CML-RA	288	78	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 8.25V/9.1V, +/-140mA</b>							
CY7C1062G30 (7CC171062A)	9302002	611321701	G-TAIWAN	COMP	6	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	COMP	6	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	COMP	6	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	COMP	6	0	
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	COMP	6	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	COMP	6	0	
<b>STRESS: STATIC LATCH-UP TESTING, 125C, 8.25V/9.1V, +/-140mA</b>							
CY7C1062G30 (7CC171062A)	9302002	611321701	G-TAIWAN	COMP	2	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	COMP	2	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	COMP	2	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	COMP	2	0	
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	COMP	2	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	COMP	2	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 8.25V/9.1V, +/-180mA</b>							
CY7C1062G30 (7CC171062A)	9302002	611321701	G-TAIWAN	COMP	2	0	
CY7C1061G30 (7CC171061A)	9302002	611320002	G-TAIWAN	COMP	2	0	
CY7C1069G30 (7CC171069A)	9302002	611320107	G-TAIWAN	COMP	2	0	
CY7C1061GE30(7CC1710613A)9308001		611340082	G-TAIWAN	COMP	2	0	
CY7C1061G30 (7CC171061A)	9312001	611328720	CML-RA	COMP	2	0	
CY7C1061G30 (7CC171061A)	9324001	611342911	G-TAIWAN	COMP	2	0	

## Reliability Test Data

**QTP #: 124902**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: SER – ALPHA PARTICLE SEL, 25C/85C/120C, 1.65V/3.3V/5.5V</b>							
7C1710614GE	0	0	UMC	COMP	3	0	
<b>STRESS: SER – NEUTRON SEL, 85C/125C, 5.25V</b>							
7C17165A	0	0	UMC	COMP	3	0	
<b>STRESS: TEMPERATURE CYCLE COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3</b>							
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	500	80	0	
CY7C1061G30 (7CC171061A)	9313001	611348183	CML-RA	1000	79	0	
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	500	80	0	
CY7C1061G30 (7CC171061A)	9313001	611348182	CML-RA	1000	78	0	
CY7C1061G30 (7CP1710612A)	9313001	611420263	CML-RA	500	80	0	
CY7C1061G30 (7CP1710612A)	9313001	611420263	CML-RA	1000	80	0	
CY7C1061G30 (7CC171061A)	9313001	611348184	CML-RA	500	80	0	
CY7C1061G30 (7CC171061A)	9313001	611348184	CML-RA	1000	80	0	
<b>STRESS: X-SECTION/STEM XY AUDIT</b>							
7C17165A	9302002	0	UMC	COMP	1WF	0	

## Reliability Test Data

QTP #:144804

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	500	9	0	
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	1000	3	0	
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	1250	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	1100	3	0	
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	2200	8	0	
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	3300	3	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 1.44V</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	96	927	0	
CY62167G30 (7CC172167A) 9438001		611503292	G-Taiwan	96	695	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 8.25V, +/-140mA</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 9.1V, +/-200mA</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP TESTING, 125C, 8.25V, +/-140mA</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	3	0	
<b>YIELD: CLASS</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	EQUIVALENT		
<b>YIELD: E-TEST</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	EQUIVALENT		
<b>YIELD: SORT</b>							
CY62167GE30 (7CC1721673A) 9423005		611500929	CML-RA	COMP	EQUIVALENT		

## Reliability Test Data

QTP #:145003

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	15	0	
CY62147GE30 (7CP1721473A)	9508002	611520638	CML-RA	COMP	15	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	500	9	0	
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	750	3	0	
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	1000	3	0	
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	1250	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	500	9	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	750	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	1000	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	1250	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	500	9	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	750	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	1000	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	1250	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	500	9	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	750	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	1000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	1250	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	1500	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	500	9	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	750	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	1000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	1250	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	1500	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	500	9	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	750	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	1000	3	0	

## Reliability Test Data

**QTP #:145003**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	500	9	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	750	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	1000	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	1250	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	1500	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	1750	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	500	9	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	750	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	1000	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	1250	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	1500	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	1750	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	500	9	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	750	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515680	JT-China	500	9	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515680	JT-China	750	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515680	JT-China	1000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515680	JT-China	1250	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611515681	JT-China	500	9	0	
CY7S1041G30 (7CP1710414A)	9507001	611515681	JT-China	750	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611515681	JT-China	1000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611515681	JT-China	1250	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611515681	JT-China	1500	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515682	JT-China	500	9	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515682	JT-China	750	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515682	JT-China	1000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515682	JT-China	1250	3	0	

## Reliability Test Data

QTP #:145003

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY7C1041GE30 (7CP1710413A) 9507001		611515682	JT-China	1500	3	0	
CY7C1041GE30 (7CP1710413A) 9507001		611515682	JT-China	1750	3	0	
CY7C1041GE30 (7CP1710413A) 9507001		611515682	JT-China	2000	3	0	
CY62148G (7CP172148A) 9507001		611513173	T-Taiwan	500	18	0	
CY62148G (7CP172148A) 9507001		611513173	T-Taiwan	750	9	0	
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	1100	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	2200	8	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	3300	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	4000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	5000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	6000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	7000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611513199	CML-RA	8000	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	1100	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	2200	8	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	3300	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	4000	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	5000	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	6000	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	7000	3	0	
CY7S1041GE30 (7CP1710416A) 9507001		611513220	CML-RA	8000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611514757	CML-RA	1100	3	0	
CY62147GE30 (7CP1721473A) 9507001		611514757	CML-RA	2200	8	0	
CY62147GE30 (7CP1721473A) 9507001		611514757	CML-RA	3300	3	0	
CY62147GE30 (7CP1721473A) 9507001		611514757	CML-RA	4000	3	0	
CY62147GE30 (7CP1721473A) 9507001		611514757	CML-RA	5000	3	0	



## Reliability Test Data

QTP #:145003

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	6000	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	7000	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	8000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	1100	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	2200	8	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	3300	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	4000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	5000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	6000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	7000	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	8000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	1100	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	2200	8	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	3300	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	4000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	5000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	6000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	7000	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	8000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	1100	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	2200	8	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	3300	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	4000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	5000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	6000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	7000	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	8000	3	0	

## Reliability Test Data

QTP #:145003

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	1100	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	2200	8	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	3300	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	4000	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	5000	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	6000	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	7000	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	8000	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	1100	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	2200	8	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	3300	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	4000	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	5000	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	6000	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	7000	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	1100	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	2200	8	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	3300	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	4000	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	5000	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	6000	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	7000	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	8000	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	1100	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	2200	8	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	3300	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	4000	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	5000	3	0	

## Reliability Test Data

**QTP #:145003**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: ESD-HUMAN BODY MODEL</b>							
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	6000	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	7000	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	8000	3	0	
<b>STRESS: ESD-MACHINE MODEL</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	200	5	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE , 125C, 1.44V</b>							
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	96	1549	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	96	1543	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE REGULATOR ON , 125C, 1.44V</b>							
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	96	500		
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 1.44V</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	168	193	0	
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	1000	193	0	
CY62147G30 (7CP172147A)	9507001	611510721	CML-RA	168	197	0	
CY62147G30 (7CP172147A)	9507001	611510721	CML-RA	1000	197	0	
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	168	198	0	
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	1000	198	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	168	191	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	1000	191	0	
<b>STRESS: PRE/POST LFR CRITICAL PARAMETERS</b>							
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	0	10+2	0	
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	168	10+2	0	
CY7C1041G30 (7CP171041A)	9507001	611516374	CML-RA	500	10+2	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	0	10+2	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	168	10+2	0	
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	500	10+2	0	
<b>STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	168	79	0	
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	288	78	0	

## Reliability Test Data

QTP #:145003

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: SER – ALPHA PARTICLE</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	3	0	
<b>STRESS: SER – NEUTRON</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	COMP	3	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 8.25V, +/-140mA</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	6	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	COMP	6	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	COMP	6	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	COMP	6	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	COMP	6	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	COMP	6	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	COMP	6	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	COMP	6	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	COMP	6	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	COMP	6	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 9.1V, +/-200mA</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	COMP	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	COMP	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	COMP	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	COMP	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	COMP	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	COMP	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	COMP	3	0	

## Reliability Test Data

**QTP #:145003**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Ass Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
<b>STRESS: STATIC LATCH-UP TESTING, 125C, 8.25V, +/-140mA</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	COMP	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	COMP	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	COMP	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	COMP	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	COMP	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	COMP	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	COMP	3	0	
<b>STRESS: STATIC LATCH-UP TESTING, 85C, 9.1V, +/-300mA</b>							
CY62147GE30 (7CP1721473A)	9507001	611513199	CML-RA	COMP	3	0	
CY7S1041GE30 (7CP1710416A)	9507001	611513220	CML-RA	COMP	3	0	
CY62147GE30 (7CP1721473A)	9507001	611514757	CML-RA	COMP	3	0	
CY7C1041GE30 (7CP1710413A)	9507001	611515056	CML-RA	COMP	3	0	
CY7S1041G30 (7CP1710414A)	9507001	611513575	JT-China	COMP	3	0	
CY7S1049GE30 (7CP1710496A)	9507001	611515679	JT-China	COMP	3	0	
CY621472G30 (7CP1721472A)	9507001	611515678	JT-China	COMP	3	0	
CY62147G30 (7CP1721472A)	9507001	611515060	G-Taiwan	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513574	JT-China	COMP	3	0	
CY62148G (7CP172148A)	9507001	611513173	T-Taiwan	COMP	3	0	
<b>STRESS: TEMPERATURE CYCLE COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3</b>							
CY62147G30 (7CP172147A)	9507001	611516367	CML-RA	500	80	0	
CY62147GE30 (7CP1721473A)	9508002	611520638	CML-RA	500	80	0	

## Document History Page

Document Title: QTP# 145003: 4-MBIT ASYNCHRONOUS SRAM FAMILY ULL65NM (LL65UP-25ODR)  
TECHNOLOGY, UMC FAB 12A  
Document Number: 001-99388

Rev.	ECN No.	Orig. of Change	Description of Change
**	4865969	JYF	Initial spec release.
*A	5044862	JYF	Updated MPN coverage in QTP title page and Product Description table.
*B	5126688	JYF	Updated device description of MPNs in QTP title page as per marketing requirements; Added CY62146GSL* and CY62146GESL* in MPN coverage.
*C	6481854	HSTO	Update Cypress logo Update Contact Person Update "TECHNOLOGY/FAB PROCESS DESCRIPTION" table Update "MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION" table