

# Cypress Semiconductor Product Qualification Report

**QTP# 174801 VERSION\*\***  
**March 2018**

<b>EZ-PD™ CCG4 (PD3) USB Two-Port Type-C PD Controller Device Family S8SPR1 Technology, Fab 25 (Cu BEOL Interconnect)</b>	
<b>CYPD4126**</b>	<b>EZ-PD™ CCG4 (PD3) Dual USB Type-C Controller</b>
<b>CYPD4226**</b>	
<b>CYPD4236**</b>	

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

QTP Number	Description of Qualification Purpose	Date
151008	Qualification of S8* Technology in Fab 25 Using TrueTouch® Gen6M Touchscreen Controller Device	Dec. 2015
151303	Qualification of CapSense® MBR3 Device, S8PF-10R Technology in Fab 25	Dec. 2015
160401	Qualification of TrueTouch® Fingerprint Device, S8PFHD-10R Technology in Fab 25	May 2016
160301	Qualification of TrueTouch® Gen6XL Touchscreen Controller Device, S8SPF-10P Technology in Fab 25	June 2016
160803	Qualification of PSoC® 4000S Device, S8PFHD-10R Technology in Fab 25	June 2016
160207	Qualification of PSoC® 3 Device, S8P12-10P Technology in Fab 25	July 2016
161003	Qualification of EZ-PD™ CCG1 USB Type-C PD Controller Device, S8PF-10R Technology in Fab 25	March 2016
160809	Qualification of EZ-PD™ CCG2 USB Type-C PD Controller Device, S8PR2-10R Technology in Fab 25	Aug. 2016
164802	Qualification of EZ-PD™ CCG2 USB Type-C PD Controller Device, S8PR1-10/S8PHR-10R Technology in Fab 25	Sept. 2017
163301	Qualification of EZ-PD™ CCG3 USB Type-C PD Controller Device, S8SPF-20/S8SPF20-NP Technology in Fab 25 (Al BEOL Interconnect)	June 2017
164302	Qualification of EZ-PD™ CCG3 USB Type-C PD Controller Device, S8SPF-20/S8SPF20-NP Technology in Fab 25 (Cu BEOL Interconnect)	Nov.2017
162113	Qualification of EZ-PD™ CCG4 USB Two-Port Type-C PD Controller Device, S8SPR1P Technology in Fab 25 (Al BEOL Interconnect)	March 2017
174801	Qualification of EZ-PD™ CCG4 (PD3) USB Two-Port Type-C PD Controller Device, S8SPR1 Technology in Fab 25 (Cu BEOL Interconnect)	Feb. 2018



<b>PRODUCT DESCRIPTION (for qualification)</b>	
Qualification Purpose: To qualify EZ-PD™ CCG4 (PD3) USB Two-Port Type-C PD Controller Device, S8SPR1 Technology in Fab 25 (Cu BEOL Interconnect)	
Marketing Part #:	CYPD4126**/ CYPD4226**/ CYPD4236**
Device Description:	EZ-PD™ CCG4 (PD3) Dual USB Type-C Controller
Cypress Division:	Cypress Semiconductor – MCU and Connectivity Division (MCD)

<b>TECHNOLOGY/FAB PROCESS DESCRIPTION</b>			
Number of Metal Layers:	Proprietary	Metal Composition:	Proprietary
Passivation Type and Thickness:	Proprietary		
Generic Process Technology/Design Rule (μ-drawn):	Proprietary		
Gate Oxide Material/Thickness (MOS):	Proprietary		
Name/Location of Die Fab (prime) Facility:	Fab 25		
Die Fab Line ID/Wafer Process ID:	S8SPR1		

### ALTERNATIVE FAB FACILITY SITE

<b>FAB SITE</b>	<b>LOCATION</b>	<b>QTP NUMBER</b>
SkyWater	Bloomington, Minnesota	154601 (AI BEOL Interconnect)
Fab 25	Austin, Texas	162113 (AI BEOL Interconnect)

<b>MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION</b>	
Package Designation:	LQ40
Package Outline, Type, or Name:	Quad Flat No Lead (QFN), 6x6x0.6mm
Mold Compound Name/Manufacturer:	GE7470L-A/Nitto
Mold Compound Flammability Rating:	V-0 UL94
Oxygen Rating Index: >28%	54%
Lead Frame Designation:	FMP
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw Process
Die Attach Supplier:	Henkel
Die Attach Material:	QMI 519
Bond Diagram Designation	001-99438
Wire Bond Method:	Thermosonic
Wire Material/Size:	CuPd/0.8 mil (20um)
Thermal Resistance Theta JA °C/W:	31 °C /W
Package Cross Section Yes/No:	Yes
Assembly Process Flow:	11-21099
Name/Location of Assembly (prime) facility:	CML-RA
MSL Level	3
Reflow Profile	260C

<b>ELECTRICAL TEST / FINISH DESCRIPTION</b>	
Test Location:	CML-RA

## 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
Data Retention	150°C/175°C, No Bias JESD22-A117 and JESD22-A103	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	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/5,000V/6,000V/7,000V/8,000V JESD22, Method A114	P
Endurance Test	Per Datasheet (100K Cycles), JESD22-A117	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130°C, 85% RH, 5.5V/6.6V 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=2.07V/2.27V/6.6V, 150°C JESD22-A-108	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max=2.07V/2.27V, 150°C JESD22-A-108	P
Low Temperature Operating Life	Dynamic Operating Condition, -40°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
SEM Analysis	MIL-STD-883, Method 2018	P
Static Latch-up	85°C, +/- 140mA, +/- 200mA, +/-300mA 125°C, +/-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	1, 548 Devices	0	N/A	N/A	0 PPM <sup>(1)</sup>
High Temperature Operating Life Long Term Failure Rate	553,740 DHRs	0	0.7	170	10 FIT <sup>(2)</sup>

1. Early Failure Rate was computed from QTP# 174801.
2. Long Term Failure Rate was computed from QTP#151008, QTP#151303, QTP#160301, QTP#160207, QTP# 161003, QTP# 164802, QTP# 163301, QTP# 164302 data.

<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:

$E_A$  =The Activation Energy of the defect mechanism.

$K$  = Boltzmann's constant =  $8.62 \times 10^{-5}$  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 #: 151008**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	15	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	COMP	15	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	COMP	15	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	80	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1000	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	500	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1000	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	500	80	0	
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	76	80	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	152	79	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	76	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	152	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	76	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	152	80	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150, 2.07V, Vcc Max)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	48	1490	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	48	1510	0	
CYTT214032 (8CP206101)	4545249	611537364	CML-RA	48	1547	0	
<b>STRESS: ENDURANCE</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	CYCLING	78	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	168	78	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	78	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	CYCLING	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	168	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	500	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	CYCLING	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	168	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	500	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	9	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	750	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1000	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1250	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1500	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1750	3	0	



## Reliability Test Data

**QTP #: 151008**

<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-CHARGE DEVICE MODEL</b>							
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	500	9	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	750	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1000	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1250	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1500	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1750	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	500	9	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	750	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1000	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1250	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1500	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1750	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1100	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	2200	8	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	3300	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	4000	3	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	5000	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	1100	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	2200	8	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	3300	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	4000	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1100	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	2200	8	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	3300	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	4000	3	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	96	30	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	96	30	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	80	116	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	116	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	80	120	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	500	120	0	



## Reliability Test Data

**QTP #: 151008**

<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: LOW TEMPERATURE OPERATING LIFE, -40C</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	160	40	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	380	40	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	168	75	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	168	78	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	168	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	288	80	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	10+2	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	COMP	10+2	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	COMP	10+2	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	6	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	COMP	6	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	COMP	6	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	COMP	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	3	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	COMP	3	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	COMP	3	0	
<b>STRESS: SEM CROSS SECTION</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	1	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	80	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	1000	80	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	500	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	500	79	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	1000	79	0	
<b>STRESS: THERMAL JUNCTION MEASUREMENT</b>							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	1	0	



## Reliability Test Data

**QTP #: 151303**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	15	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	500	80	0	
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	76	80	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	152	80	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	48	1469	0	
<b>STRESS: ENDURANCE</b>							
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	CYCLING	80	0	
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	168	80	0	
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	500	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	500	9	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	750	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1000	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1250	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1500	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1750	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1100	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	2200	8	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	3300	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	4000	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	5000	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	6000	3	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	7000	3	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CY8CMBR31552(8CP44303CB)	4542914	611534693	ASE-G	80	120	0	
CY8CMBR31552(8CP44303CB)	4542914	611534693	ASE-G	500	120	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	168	80	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	288	79	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CY8CMBR31552(8CP44303CB)	4542914	611534693	ASE-G	COMP	10+2	0	



## Reliability Test Data

**QTP #: 151303**

<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, 140mA)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	6	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	500	80	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	1000	80	0	

## Reliability Test Data

**QTP #: 160401**

<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>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	15	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	500	80	0	
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	1000	80	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	48	1550	0	
<b>STRESS: ENDURANCE</b>							
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	CYCLING	80	0	
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	168	80	0	
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	1000	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	500	9	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	750	3	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	1000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	1100	3	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	2200	3	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	3300	3	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	168	80	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	168	76	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	500	78	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	1000	76	0	

## Reliability Test Data

**QTP #: 160301**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	80	0	
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	76	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	152	80	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	48	2609	1	No Visual Defect found
CYAT816882 (8C206802BB)	3617006	611617664	CML-R	48	1013	0	
<b>STRESS: ENDURANCE</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	CYCLING	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	9	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	750	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	3	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	500	9	0	
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	1000	3	0	
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	1250	3	0	
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	1500	3	0	
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	1750	3	0	
CYTT417012 (8CP206801BB)	3613017	611614958	CML-R	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1100	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	2200	8	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	3300	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	4000	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	5000	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	6000	3	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	7000	3	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	99	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	10	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	



## Reliability Test Data

**QTP #: 160301**

<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, 140mA)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	80	0	

## Reliability Test Data

**QTP #: 160803**

<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>
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**STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	48	1596	0	
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**STRESS: ESD-CHARGE DEVICE MODEL**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	500	9	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	750	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	1000	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	1250	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	1500	3	0	

**STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	1100	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	2200	8	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	3300	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	4000	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	5000	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	6000	3	0	
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	7000	3	0	

**STRESS: STATIC LATCH-UP (125C, 100mA)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
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**STRESS: STATIC LATCH-UP (125C, 140mA)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
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**STRESS: STATIC LATCH-UP (85C, 140mA)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
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**STRESS: STATIC LATCH-UP (85C, 200mA)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
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**STRESS: STATIC LATCH-UP (85C, 300mA)**

CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
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## Reliability Test Data

**QTP #: 160207**

<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>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	15	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	500	90	0	
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	1000	90	0	
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	76	90	0	
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	152	90	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	48	2303	0	
<b>STRESS: ENDURANCE</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	CYCLING	90	0	
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	168	90	0	
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	500	90	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	500	9	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	1100	3	0	
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	2200	8	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	96	30	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	500	125	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	168	78	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CY8C3866A (8CP38661HB)	3617013	611615839	CML-R	500	80	0	



## Reliability Test Data

**QTP #: 161003**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	15	0	
<b>STRESS: DATA RETENTION, PLASTIC, 150C</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	80	0	
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	76	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	152	80	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	48	1510	0	
<b>STRESS: ENDURANCE</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	CYCLING	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	168	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	9	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	750	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1000	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1250	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1500	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1750	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	1100	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	2200	8	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	3300	3	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	4000	3	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	80	120	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	120	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	168	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	288	80	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	10+2	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	6	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	

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## Reliability Test Data

**QTP #: 161003**

<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, 300mA)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	79	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1000	79	0	

## Reliability Test Data

**QTP #: 160809**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	500	9	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	750	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	1000	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	1250	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	1500	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	1750	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	1100	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	2200	8	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	3300	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	4000	3	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	5000	3	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150, 2.07V, Vcc Max)</b>							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	48	1032	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	48	537	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
<b>YIELD: BACKEND</b>							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	COMP			EQUIVALENT
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP			EQUIVALENT
<b>YIELD: E-TEST</b>							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	COMP			EQUIVALENT
<b>YIELD: SORT</b>							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	COMP			EQUIVALENT



## Reliability Test Data

**QTP #: 164802**

<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>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	15	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	9	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	750	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1000	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1250	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1500	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1750	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1100	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	2200	8	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	3300	3	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	4000	3	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 6.6V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	96	28	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	48	1550	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	80	84	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	81	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	96	80	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	168	79	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	0	10+2	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	10+2	0	



## Reliability Test Data

**QTP #: 164802**

<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 (125C, 100mA)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	6	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)</b>							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	80	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1000	80	0	



## Reliability Test Data

**QTP #: 163301**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: DATA RETENTION, PLASTIC, 175C</b>							
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	76	80	0	
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	152	80	0	
<b>STRESS: ENDURANCE</b>							
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	168	80	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	500	9	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	1000	3	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	1250	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	1000	3	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	2200	8	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	3300	3	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	96	25	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	192	25	0	
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	96	26	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	48	1103	0	
CYPD3135 (7CP64301DB)	3641022	611637237	CML-RA	48	413	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	48	1570	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	500	117	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	80	130	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	500	130	0	
<b>STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 150C</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	500	45	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	1000	45	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	500	45	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	1000	45	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	0	10+2	0	
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	500	10+2	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	0	10+2	0	
CYPD3135 (7CP64301DB)	3643014	611639672	CML-RA	500	10+2	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3706023	611706634	CML-RA	COMP	2	0	



## Reliability Test Data

**QTP #: 163301**

<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, 200mA)</b>							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3706023	611706634	CML-RA	COMP	2	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	6	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	6	0	
CYPD3135 (7CP64301DB)	3706023	611706634	CML-RA	COMP	6	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3706023	611706634	CML-RA	COMP	2	0	
<b>STRESS: THERMAL JUNCTION MEASUREMENT</b>							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	COMP	1	0	



## Reliability Test Data

**QTP #: 164302**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	22	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	500	9	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	750	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	1000	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	1250	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	1500	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	1750	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	1100	9	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	2200	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	3300	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	4000	3	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	5000	3	0	
<b>STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	96	30	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	48	1040	1	Functional (NGDO_Vbus)
CYPD31357 (7CP64301JB)	3715132	611716236	CML-RA	48	1043	0	
CYPD31357 (7CP64301JB)	3719028	611719500	CML-RA	48	985	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	500	79	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	168	79	0	
<b>STRESS: PRE/POST LFR PARAMETER ASSESSMENT</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	0	10+2	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	500	10+2	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	





## Reliability Test Data

**QTP #: 164302**

<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>							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	500	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	1000	0	



## Reliability Test Data

**QTP #: 162113**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
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**STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.16V, Vcc Max)**

CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	48	156	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	48	1515	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	48	744	0	
CYPD4226 (7CP64210A)	3650047	611647007	CML-RA	48	784	0	

**STRESS: ESD-CHARGE DEVICE MODEL**

CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	500	9	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	500	9	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	500	9	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	750	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	750	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	750	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	1000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	1000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	1000	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	1250	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	1250	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	1250	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	1500	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	1500	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	1500	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	1750	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	1750	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	1750	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	2000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	2000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	2000	3	0	

**STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114**

CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	1100	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	1100	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	1100	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	2200	8	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	2200	8	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	2200	8	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	3300	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	3300	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	3300	3	0	

## Reliability Test Data

**QTP #: 162113**

<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 MODEL PER JESD22, METHOD A114</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	4000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	4000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	4000	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	5000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	5000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	5000	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	6000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	6000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	6000	3	0	
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	7000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	7000	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	7000	3	0	
CYPD4226 (7CP64210A)	3631028	611627936	CML-RA	8000	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	COMP	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	COMP	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	COMP	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	COMP	3	0	
CYPD4226 (7CP64210A)	3649027	611645295	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD4226 (7CP64210A)	4628102	611623286	CML-RA	COMP	3	0	



## Reliability Test Data

**QTP #: 174801**

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
<b>STRESS: ACOUSTIC, MSL3</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	22	0	
<b>STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 6.6V, Vcc Max)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	48	1548	0	
<b>STRESS: ESD-CHARGE DEVICE MODEL</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	500	9	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	750	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	1000	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	1250	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	1500	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	1750	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	2000	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	500	9	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	750	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	1000	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	1250	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	1500	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	1750	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	2000	3	0	
<b>STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	1100	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	2200	8	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	3300	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	4000	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	5000	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	6000	3	0	
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	7000	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	1100	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	2200	8	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	3300	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	4000	3	0	

## Reliability Test Data

**QTP #: 174801**

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp Rej</i>		<i>Failure Mechanism</i>
<b>STRESS: STATIC LATCH-UP (125C, 100mA)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (125C, 140mA)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 140mA)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 200mA)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	COMP	3	0	
<b>STRESS: STATIC LATCH-UP (85C, 300mA)</b>							
CYPD42267 (7CP64230A)	3745143	611746079	CML-RA	COMP	3	0	
CYPD4126 (7CP64234A)	3745143	611801313	CML-RA	COMP	3	0	



## Document History Page

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Rev.	ECN No.	Orig. of Change	Description of Change
**	6088099	JYF	Initial spec release.