

Cypress Semiconductor Product Qualification Report

QTP#164302 VERSION*A
November 2017

EZ-PD™ CCG3 USB Type-C PD Controller Device Family S8SPF-20/S8SPF20-NP Technology, Fab 25 (Cu BEOL Interconnect)	
CYPD3120*	EZ-PD™ CCG3 USB Type-C Power Delivery (PD) Controller
CYPD3121*	
CYPD3122*	
CYPD3123*	
CYPD3125*	
CYPD3126*	
CYPD3135*	

FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT
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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

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose: To qualify EZ-PD™ CCG3 USB Type-C PD Controller Device, S8SPF-20/S8SPF20-NP Technology in Fab 25 (Cu BEOL Interconnect)	
Marketing Part #:	CYPD3120*/ CYPD3121*/ CYPD3122*/ CYPD3123*/ CYPD3125*/CYPD3126*/ CYPD3135*
Device Description:	EZ-PD™ CCG3 USB Type-C Power Delivery (PD) Controller
Cypress Division:	Cypress Semiconductor – MCU and Connectivity Division (MCD)

TECHNOLOGY/FAB PROCESS DESCRIPTION			
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:	S8SPF-20P		

ALTERNATIVE FAB FACILITY SITE

FAB SITE	LOCATION	QTP NUMBER
SkyWater	Bloomington, Minnesota	162010
Fab 25	Austin, Texas	163301 (AI BEOL Interconnect)

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LQ40A
Package Outline, Type, or Name:	40-Pin Quad Flat No Lead (QFN), 6x6x0.6mm
Mold Compound Name/Manufacturer:	GE 7470LA /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	002-08173
Wire Bond Method:	Thermosonic
Wire Material/Size:	0.8 mil /CuPd
Thermal Resistance Theta JA °C/W:	17°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

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-RA; ASE-Taiwan (G)

PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE	WIRE MATERIAL	QTP NUMBER
32-Pin QFN	ASE-Taiwan (G)	CuPd	QTP# 173014
	CML-RA	CuPd	QTP# 164807
40-Pin QFN	ASE-Taiwan (G)	CuPd	QTP# 155106
	CML-RA	CuPd	QTP# 155104
42-Ball WLCSP	DT-Philippines	-	QTP# 155107

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 JESD22, Method A114	P
Endurance Test	MIL-STD-883, Method 883-1033/ 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, 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
Pre/Post LFR AC/DC Char	AC/DC Critical Parameter Char at 0 hour/500hrs	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 ³	Failure Rate
High Temperature Operating Life Early Failure Rate	3,068 Devices	1	N/A	N/A	326 PPM ⁽¹⁾
High Temperature Operating Life Long Term Failure Rate	553,740 DHRs	0	0.7	170	10 FIT ⁽²⁾

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

¹ Assuming an ambient temperature of 55°C and a junction temperature rise of 15°C.

² Chi-squared 60% estimations used to calculate the failure rate.

³ Thermal Acceleration Factor is calculated from the Arrhenius equation

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

where:

E_A = The Activation Energy of the defect mechanism.

K = Boltzmann's constant = 8.62×10^{-5} eV/Kelvin.

T_1 is the junction temperature of the device under stress and T_2 is the junction temperature of the device at use conditions.

Reliability Test Data

QTP #: 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>
STRESS: ACOUSTIC, MSL3							
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	
STRESS: DATA RETENTION, PLASTIC, 150C							
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	
STRESS: DATA RETENTION, PLASTIC, 175C							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150, 2.07V, Vcc Max)							
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	
STRESS: ENDURANCE							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	168	78	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	500	78	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	168	80	0	
CY8C42452 (8CP44200)	4537464	611531543	CML-RA	500	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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>
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	96	30	0	
CYTT214032 (8CP206101)	4540145	611534709	CML-RA	96	30	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)							
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>
STRESS: LOW TEMPERATURE OPERATING LIFE, -40C							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	160	40	0	
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	380	40	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
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	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
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	
STRESS: STATIC LATCH-UP (85C, 140mA)							
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	
STRESS: STATIC LATCH-UP (85C, 200mA)							
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	
STRESS: STATIC LATCH-UP (85C, 300mA)							
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	
STRESS: SEM CROSS SECTION							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	1	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
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	
STRESS: THERMAL JUNCTION MEASUREMENT							
CYTT214032 (8CP206101)	4539372	611534008	CML-RA	COMP	1	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>
STRESS: ACOUSTIC, MSL3							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	15	0	
STRESS: DATA RETENTION, PLASTIC, 150C							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	500	80	0	
STRESS: DATA RETENTION, PLASTIC, 175C							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	76	80	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	152	80	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)							
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	48	1469	0	
STRESS: ENDURANCE							
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	168	80	0	
CY8CMBR31552 (8CP44303CB)	4542914	611534693	ASE-G	500	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)							
CY8CMBR31552(8CP44303CB)	4542914	611534693	ASE-G	80	120	0	
CY8CMBR31552(8CP44303CB)	4542914	611534693	ASE-G	500	120	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	168	80	0	
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	288	79	0	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
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>
STRESS: STATIC LATCH-UP (85C, 140mA)							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	6	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CY8CMBR3106S2(8CP44304)	4542914	611534639	CML-RA	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
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>
STRESS: ACOUSTIC, MSL3							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	15	0	
STRESS: DATA RETENTION, PLASTIC, 150C							
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	500	80	0	
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	1000	80	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	48	1550	0	
STRESS: ENDURANCE							
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	168	80	0	
CY8C42452(8CP44200DB)	4537464	611531543	CML-RA	1000	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	168	80	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	168	76	0	
STRESS: STATIC LATCH-UP (125C, 100mA)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	500	78	0	
CYFPA1 (8CP2F1001BB)	3609025	611610290	CML-R	1000	76	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>
STRESS: DATA RETENTION, PLASTIC, 150C							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	80	0	
STRESS: DATA RETENTION, PLASTIC, 175C							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	76	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	152	80	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	48	2609	1	No Visual Defect found
CYAT816882 (8C206802BB)	3617006	611617664	CML-R	48	1013	0	
STRESS: ENDURANCE							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	80	0	
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	1000	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	500	99	0	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	10	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
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>
STRESS: STATIC LATCH-UP (85C, 140mA)							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYAT816882 (8C206802BB)	3613017	611611087	CML-R	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
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>
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)							
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	48	1596	0	
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	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 140mA)							
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CY8C4045 (8CP40003BB)	3615013	611612344	OSE-T	COMP	3	0	

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

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>
STRESS: ACOUSTIC, MSL3							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	15	0	
STRESS: DATA RETENTION, PLASTIC, 150C							
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	80	0	
STRESS: DATA RETENTION, PLASTIC, 175C							
CYPD1103 (8F44100)	4537464	611531543	CML-R	76	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	152	80	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.07V, Vcc Max)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	48	1510	0	
STRESS: ENDURANCE							
CYPD1103 (8F44100)	4537464	611531543	CML-R	168	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.07V, Vcc Max)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	80	120	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	120	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	168	80	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	288	80	0	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	10+2	0	
STRESS: STATIC LATCH-UP (85C, 140mA)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	6	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	

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>
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
CYPD1103 (8F44100)	4537464	611531543	CML-R	500	79	0	
CYPD1103 (8F44100)	4537464	611531543	CML-R	1000	79	0	

Reliability Test Data

QTP #: 160809

<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>
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150, 2.07V, Vcc Max)							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	48	1032	0	
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	48	537	0	
STRESS: STATIC LATCH-UP (85C, 140mA)							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 100mA)							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP	3	0	
YIELD: BACKEND							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	COMP			EQUIVALENT
CYPD21342 (7CP64111C)	3612012	611612814	CML-RA	COMP			EQUIVALENT
YIELD: E-TEST							
CYPD21342 (7CP64111C)	3612012	611612816	CML-RA	COMP			EQUIVALENT
YIELD: SORT							
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>
STRESS: ACOUSTIC, MSL3							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 6.6V), PRE COND 192 HR 30C/60%RH (MSL3)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	96	28	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	48	1550	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	80	84	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	81	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	96	80	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	168	79	0	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
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>
STRESS: STATIC LATCH-UP (125C, 100mA)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	6	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 140mA)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	500	80	0	
CYPD21227 (7CP64102E)	3705058	611711793	CML-RA	1000	80	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>
STRESS: DATA RETENTION, PLASTIC, 175C							
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	76	80	0	
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	152	80	0	
STRESS: ENDURANCE							
CY8C4248AZI2 (8CP42003CB)	3621015	611619413	G-Taiwan	168	80	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)							
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	
STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 150C							
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	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
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	
STRESS: STATIC LATCH-UP (85C, 140mA)							
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>
STRESS: STATIC LATCH-UP (85C, 200mA)							
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	
STRESS: STATIC LATCH-UP (85C, 300mA)							
CYPD3135 (7CP64301DB)	3652003	611700857	CML-RA	COMP	3	0	
CYPD3135 (7CP64301DB)	3652003	611700858	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 100mA)							
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	
STRESS: STATIC LATCH-UP (125C, 140mA)							
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	
STRESS: THERMAL JUNCTION MEASUREMENT							
CYPD3135 (7CP64301DB)	3641047	611637169	CML-RA	COMP	1	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>
STRESS: ACOUSTIC, MSL3							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	22	0	
STRESS: ESD-CHARGE DEVICE MODEL							
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	
STRESS: ESD-HUMAN BODY MODEL PER JESD22, METHOD A114							
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	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V), PRE COND 192 HR 30C/60%RH (MSL3)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	96	30	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 2.27V, Vcc Max)							
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	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 2.27V, Vcc Max)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	500	79	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	168	79	0	
STRESS: PRE/POST LFR PARAMETER ASSESSMENT							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	0	10+2	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	500	10+2	0	
STRESS: STATIC LATCH-UP (125C, 100mA)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (125C, 140mA)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 140mA)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 200mA)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	3	0	
STRESS: STATIC LATCH-UP (85C, 300mA)							
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>
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH (MSL3)							
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	500	0	
CYPD31357 (7CP64301JB)	3714062	611714862	CML-RA	COMP	1000	0	

Document History Page

Document Title: QTP# 164302: EZ-PDTM CCG3 USB Type-C PD Controller Device Family S8SPF-20/S8SPF20-NP Technology, Fab 25 (Cu BEOL Interconnect)
Document Number: 002-21239

Rev.	ECN No.	Orig. of Change	Description of Change
**	5885109	JYF	Initial spec release.
*A	5960735	JYF	Added "40-Pin" for LQ40A in Major Package Information table; Added 32-Pin QFN at CML-RA/ASE-Taiwan (G) in Package Availability table and ASE-Taiwan (G) as Test Location.