



Cypress Semiconductor Corporation, 198 Champion Court, San Jose, CA 95134. Tel: (408) 943-2600

PRODUCT CHANGE NOTIFICATION

PCN: PCN194202

Date: October 16, 2019

Subject: Qualification of New Bill of Materials for QFN Pb-Free Packages Assembled at Cypress Philippines

To: FUTURE ELECTRONICS
 FUTURE ELE
 pcn.system@futureelectronics.com

Change Type: Major

Description of Change:

Cypress announces the qualification of new bill of materials (BOM) for QFN Pb-Free packages assembled at Cypress Philippines (CML, Gateway Business Park, SEPZA, Javalera, Gen. Trias Cavite, Philippines).

These changes have been done to simplify the process flow or control resulting in better product quality, field reliability and continuity of supply. This in turn provides the means for Cypress to continue to meet our customers' requirements and meet our delivery commitments in dynamic market conditions. These products are ROHS compliant.

The QFN Pb-Free packages are assembled at Cypress Philippines using the following Bill of Materials:

Material	New BOM (CML-Phil)	Current BOM (CML-Phil)
Mold Compound	Kyocera KEG3000NA-S	Hitachi CEL9220-HF13 Hitachi GE7470LA Sumitomo G700Y
Leadfinish	NiPdAu: Pd thickness: 0.2 μ inch	NiPdAu: Pd thickness: 0.5 ~ 0.8 μ inch
Die Attach Material	Sumitomo CRM1577E (non-conductive)	Henkel QMI519 (conductive)
Die Thickness	5 mils I	7 mils and 11 mils
Bond Wire	0.8 mil and 0.9 mil CuPdAu wire	0.8 mil Copper (Cu) wire 0.8 and 0.9 mil CuPd wire

Benefit of Change:

The qualification of the new bill of materials on existing qualified packages allows to simplify the process flow or control by improving the product cycle time. The bill of material conversion will keep Cypress in alignment with the overall industry trend towards Copper Palladium Gold (CuPdAu) wire bonds.

Part Numbers Affected: 518

See the attached 'Affected Parts List' file for a list of all part numbers affected by this change. Note that any new parts that are introduced after the publication of this PCN will include all changes outlined in this PCN.

Qualification Status:

These changes have been qualified through a series of tests documented in the Qualification Test Plans summarized in the table below. These qualification reports can be found as attachments to this PCN or by visiting www.cypress.com and typing the QTP number in the keyword search window.

QTP Number	Qualification
190704	QFN Thin Packages Qual Report
190705	QFN Thick Packages Qual Report

Sample Status:

Qualification samples may not be built ahead of time for all part numbers affected by this change. Please review the attached 'Affected Parts List' file for a list of affected part numbers with their associated I sample ordering part numbers. Sample ordering part numbers are all subject to lead times. If you require qualification samples, please contact your local Cypress sales representative as soon as possible, preferably within 30 days of the date of this PCN, to place any sample orders.

Approximate Implementation Date:

Effective 90 days from the date of this notification or upon customer approval, whichever comes first, all shipments of Commercial, Industrial and Automotive non-PPAP part numbers in the attached file will be assembled at Cypress Philippines or other approved assembly sites.

Anticipated Impact:

Products assembled with the new bill of Material are completely compatible with existing products from form, fit, functional, parametric and quality performance perspectives.

Cypress also recommends that customers take this opportunity to review these changes against current application notes, system design considerations and customer environment conditions to assess impact (if any) to their application.

Method of Identification:

Cypress maintains traceability of product to wafer level, including wafer fabrication and assembly location, through the lot number marked on the package. There will be no changes to the ordering codes or marking on production material shipped after the change implementation date.

Response Required:

No response is required.

For additional information regarding this change, contact your local sales representative or contact the PCN Administrator at pcn_adm@cypress.com.

Sincerely,

Cypress PCN Administration

Cypress Semiconductor Package Qualification Report

QTP# 190705 VERSION
September 2019**

**32pin-QFN (5x5x1mm) / 56pin-QFN (8x8x1mm)
NiPdAu leadfinish
MSL3, 260°C Reflow
CML-Philippines (RA/R)**

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

QTP Number	Description of Qualification Purpose	Date
190704	Qualification of 24-pin QFN (4x4x0.6mm) / 32-pin QFN (5x5x0.6mm) / 44-pin QFN (5x5x0.6mm) / 40-pin QFN (6x6x0.6mm) at CML-Philippines (RA/R) using Kyocera KEG30000 mold compound with Sumitomo CRM1577 non-conductive die attach material, Copper PPF leadframe and NiPdAu leadfinish at MSL3, 260C Reflow Temperature	Sep 2019
190705	Qualification of 32-pin QFN (5x5x1mm) / 56-pin QFN (8x8x1mm) at CML-Philippines (RA/R) using Kyocera KEG30000 mold compound with Sumitomo CRM1577 non-conductive die attach material, Copper PPF leadframe and NiPdAu leadfinish at MSL3, 260C Reflow Temperature	Sep 209

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LT32B / LT56B
Package Outline, Type, or Name:	32-pin QFN (5x5x1mm) / 56-pin QFN (8x8x1mm)
Mold Compound Name/Manufacturer:	Kyocera / KEG3000
Mold Compound Flammability Rating:	V-0
Mold Compound Alpha Emission Rate:	n/a (not low alpha mold compound)
Oxygen Rating Index: >28%	>28% typical value
Lead Frame Designation:	QFN Etched Leadframe
Lead Frame Material:	Copper PPF
Substrate Material:	n/a
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Silicon
Die Separation Method:	Die Shear tester
Die Attach Supplier:	Sumitomo
Die Attach Material:	CRM1577 (Non-Conductive)
Bond Diagram Designation	001-47086 / 001-51824 / 001-54113
Wire Bond Method:	Thermosonic
Package Cross Section Yes/No:	No
Assembly Process Flow:	002-28445
Name/Location of Assembly (prime) facility:	CML-Philippines (RA/R)
MSL LEVEL	3
REFLOW PROFILE	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-Philippines (RA/R)

Note: Please contact a Cypress Representative for other package availability.

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Pressure Cooker Test	JESD22-A102, 121 C, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Temperature Cycle	JESD22-A104, -65C to 150C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Constructional Analysis	Criteria: Meet external and internal characteristics of package	P
Un-Biased High Accelerated Saturation Test (UHAST)	JEDEC STD 22-A110, 130 C, 85%RH, Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
High Temperature Operating Life Early Failure Rate (EFR)	Dynamic Operating Condition, 150°C, 2.07V, 48 Hours JESD22-A-108-B	P
High Temperature Operating Life Latent Failure Rate (LFR)	Dynamic Operating Condition, 150°C, 2.07V, 80 Hours / 500 Hours JESD22-A-108-B	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110, 130 C, 85%RH, 5.5V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Final Visual Inspection	JESD22-B101	P
X-Ray	MIL-STD-883 - 2012	P
Ball Shear	JESD22-B116A, Cpk : 1.33, Ppk : 1.66	P
Internal Visual	MIL-STD-883-2014	P
High Temp Storage	JESD22-A103: 150 C, no bias	P
Dye Penetrant Test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V / 750V / 1000V JESD22-C101	P
Solderability	J-STD-002, JESD22-B102 95% solder coverage minimum	P
Die Shear	MIL-STD-883, Method 2019	P
Bond Pull	MIL-STD-883 – Method 2011, Cpk : 1.33, Ppk : 1.66 P	P



Reliability Test Data

QTP #: 190704

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3								
CS8750AM (8C40010B)	LQ24A	3837008	911900016	CML-RA	COMP	22	0	
CS8750AM (8C40010B)	LQ24A	3837008	911900017	CML-RA	COMP	22	0	
CY8C21434 (8CP21434A)	LQ32A	4839251	911900018	CML-RA	COMP	22	0	
CYPD31352 (7CP64311I)	LQ32A	3905107	911900019	CML-RA	COMP	22	0	
CYPD31352 (7CP64311I)	LQ32A	3905107	911900020	CML-RA	COMP	22	0	
CY7C65219 (7CP64300I)	LQ40A	3905107	911900021	CML-RA	COMP	22	0	
STRESS: BALL SHEAR								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: BOND PULL								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: CONSTRUCTIONAL ANALYSIS								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	



Reliability Test Data

QTP #: 190704

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: CROSS-SECTION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	
STRESS: DIE SHEAR								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: DYE PENETRANT TEST								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	15	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	15	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	15	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	15	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	15	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.07V, Vcc Max								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	48	1466	0	
STRESS: ESD-CHARGE DEVICE MODULE								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	9	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	750	3	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	1000	3	0	

Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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: FINAL VISUAL INSPECTION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	1040	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	1350	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	956	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	500	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	862	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	471	0	
STRESS: GLUE ADHESION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	15	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	15	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	15	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	15	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	15	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	15	0	
STRESS: UNBIASED HAST								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	96	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	192	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	96	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	192	77	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 5.5V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	96	25	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	96	25	0	
STRESS: HIGH TEMPERATURE STORAGE								
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	500	45	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	1000	45	0	



Reliability Test Data

QTP #: 190704

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: INTERNAL VISUAL								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.07V, Vcc Max								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	80	80	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	80	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	168	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	288	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	168	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	288	77	0	
STRESS: PHYSICAL DIMENSIONS								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: SOLDERABILITY								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	



Reliability Test Data

QTP #: 190704

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	77	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	1000	77	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	500	77	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	1000	77	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	500	77	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	1000	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	500	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	1000	77	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	500	77	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	1000	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	500	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	1000	77	0	
STRESS: XRAY								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	



Reliability Test Data

QTP #: 190705

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3								
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	22	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	22	0	
STRESS: BALL SHEAR								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	30	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	30	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	30	0	
STRESS: BOND PULL								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	30	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	30	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	30	0	
STRESS: CONSTRUCTIONAL ANALYSIS								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	5	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844532	CML-RA	COMP	5	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	5	0	
STRESS: CROSS-SECTION								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	5	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844532	CML-RA	COMP	5	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	5	0	
STRESS: DIE SHEAR								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	30	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	30	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	30	0	
STRESS: DYE PENETRANT TEST								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	15	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844532	CML-RA	COMP	15	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	15	0	



Reliability Test Data

QTP #: 190705

Device	Package	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: FINAL VISUAL INSPECTION								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	634	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	701	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	579	0	
STRESS: GLUE ADHESION								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	5	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844532	CML-RA	COMP	5	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	5	0	
STRESS: UNBIASED HAST								
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	96	76	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	192	76	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 3.6V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3								
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	96	25	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	128	25	0	
STRESS: INTERNAL VISUAL								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	5	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844532	CML-RA	COMP	5	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	5	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)								
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	168	77	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	288	77	0	
STRESS: PHYSICAL DIMENSIONS								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	30	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	30	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	30	0	
STRESS: SOLDERABILITY								
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	3	0	
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	3	0	
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	3	0	



Reliability Test Data

QTP #: 190705

<i>Device</i>	<i>Package</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp Rej</i>	<i>Failure Mechanism</i>
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH							
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	500	77	0
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	1000	77	0
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	500	76	0
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	1000	76	0
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	500	77	0
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	1000	77	0
STRESS: XRAY							
CY8C21434 (8CC2143451AK)	LT32A	5707037	611844624	CML-RA	COMP	30	0
CY8C24423A (8CC24423CK)	LT32A	5822032	611844530	CML-RA	COMP	30	0
CY7C68013A (7CC686000BC)	LT56B	4828404	611844635	CML-RA	COMP	30	0



Document History Page

Document Title:QTP#190705: 32PIN-QFN (5x5x1mm) / 56PIN-QFN (8x8x1mm) NIPDAU LEADFINISH MSL3, 260C
REFLOW CML-PHILIPPINES (RA/R)
Document Number: 002-28478

Rev.	ECN No.	Orig. of Change	Description of Change
**	6674112	HSTO	Initial Spec Release

Cypress Semiconductor Package Qualification Report

QTP# 190704 VERSION
September 2019**

**24pin-QFN (4x4x0.6mm) / 32pin-QFN (5x5x0.6mm)
44pin-QFN (5x5x0.6mm) / 40pin-QFN (6x6x0.6mm)
NiPdAu leadfinish
MSL3, 260°C Reflow
CML-Philippines (RA/R)**

**FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT
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David Hoffman
Reliability Director

PACKAGE QUALIFICATION HISTORY

QTP Number	Description of Qualification Purpose	Date
190704	Qualification of 24-pin QFN (4x4x0.6mm) / 32-pin QFN (5x5x0.6mm) / 44-pin QFN (5x5x0.6mm) / 40-pin QFN (6x6x0.6mm) at CML-Philippines (RA/R) using Kyocera KEG30000 mold compound with Sumitomo CRM1577 non-conductive die attach material, Copper PPF leadframe and NiPdAu leadfinish at MSL3, 260C Reflow Temperature	Sep 2019

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LQ24 / LQ32 / LQ44 / LQ40
Package Outline, Type, or Name:	QFN24 (4X4X0.6mm) / QFN32 (5x5x0.6mm) / QFN44 (5x5x0.6mm) / QFN40 (6x6x0.6mm)
Mold Compound Name/Manufacturer:	Kyocera / KEG3000
Mold Compound Flammability Rating:	V-0
Mold Compound Alpha Emission Rate:	n/a (not low alpha mold compound)
Oxygen Rating Index: >28%	>28% typical value
Lead Frame Designation:	QFN Etched Leadframe
Lead Frame Material:	Copper PPF
Substrate Material:	n/a
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Silicon
Die Separation Method:	Die Shear tester
Die Attach Supplier:	Sumitomo
Die Attach Material:	CRM1577 (Non-Conductive)
Bond Diagram Designation	001-97346 / 002-09951 / 001-06521 / 002-16017 / 001-88864
Wire Bond Method:	Thermosonic
Package Cross Section Yes/No:	No
Assembly Process Flow:	002-28445
Name/Location of Assembly (prime) facility:	CML-Philippines (RA/R)
MSL LEVEL	3
REFLOW PROFILE	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-Philippines (RA/R)

Note: Please contact a Cypress Representative for other package availability.

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Pressure Cooker Test	JESD22-A102, 121 C, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Temperature Cycle	JESD22-A104, -65C to 150C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Constructional Analysis	Criteria: Meet external and internal characteristics of package	P
Un-Biased High Accelerated Saturation Test (UHAST)	JEDEC STD 22-A110, 130 C, 85%RH, Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
High Temperature Operating Life Early Failure Rate (EFR)	Dynamic Operating Condition, 150°C, 2.07V, 48 Hours JESD22-A-108-B	P
High Temperature Operating Life Latent Failure Rate (LFR)	Dynamic Operating Condition, 150°C, 2.07V, 80 Hours / 500 Hours JESD22-A-108-B	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110, 130 C, 85%RH, 5.5V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Final Visual Inspection	JESD22-B101	P
X-Ray	MIL-STD-883 - 2012	P
Ball Shear	JESD22-B116A, Cpk : 1.33, Ppk : 1.66	P
Internal Visual	MIL-STD-883-2014	P
High Temp Storage	JESD22-A103: 150 C, no bias	P
Dye Penetrant Test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V / 750V / 1000V JESD22-C101	P
Solderability	J-STD-002, JESD22-B102 95% solder coverage minimum	P
Die Shear	MIL-STD-883, Method 2019	P
Bond Pull	MIL-STD-883 – Method 2011, Cpk : 1.33, Ppk : 1.66 P	P



Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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								
CS8750AM (8C40010B)	LQ24A	3837008	911900016	CML-RA	COMP	22	0	
CS8750AM (8C40010B)	LQ24A	3837008	911900017	CML-RA	COMP	22	0	
CY8C21434 (8CP21434A)	LQ32A	4839251	911900018	CML-RA	COMP	22	0	
CYPD31352 (7CP64311I)	LQ32A	3905107	911900019	CML-RA	COMP	22	0	
CYPD31352 (7CP64311I)	LQ32A	3905107	911900020	CML-RA	COMP	22	0	
CY7C65219 (7CP64300I)	LQ40A	3905107	911900021	CML-RA	COMP	22	0	
STRESS: BALL SHEAR								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: BOND PULL								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: CONSTRUCTIONAL ANALYSIS								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	



Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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: CROSS-SECTION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP643111B)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	
STRESS: DIE SHEAR								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP643111B)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: DYE PENETRANT TEST								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	15	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	15	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	15	0	
CYPD31352 (7CP643111B)	LQ32A	3822020	611844065	CML-RA	COMP	15	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	15	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.07V, Vcc Max								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	48	1466	0	
STRESS: ESD-CHARGE DEVICE MODULE								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	9	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	750	3	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	1000	3	0	

Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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: FINAL VISUAL INSPECTION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	1040	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	1350	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	956	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	500	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	862	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	471	0	
STRESS: GLUE ADHESION								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	15	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	15	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	15	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	15	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	15	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	15	0	
STRESS: UNBIASED HAST								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	96	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	192	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	96	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	192	77	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 5.5V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	96	25	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	96	25	0	
STRESS: HIGH TEMPERATURE STORAGE								
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	500	45	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	1000	45	0	



Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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: INTERNAL VISUAL								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.07V, Vcc Max								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	80	80	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	80	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)								
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	168	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	288	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	168	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	288	77	0	
STRESS: PHYSICAL DIMENSIONS								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	
STRESS: SOLDERABILITY								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	5	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	5	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	5	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	5	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	5	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	5	0	

Reliability Test Data

QTP #: 190704

<i>Device</i>	<i>Package</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, PRECONDITION 192 HRS 30C/60%RH								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	500	77	0	
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	1000	77	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	500	77	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	1000	77	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	500	77	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	1000	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	500	77	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	1000	77	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	500	77	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	1000	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	500	77	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	1000	77	0	
STRESS: XRAY								
CYPD2134 (7CP64121BC)	LQ24A	4801023	611843886	CML-RA	COMP	30	0	
CS8750AM (8CP40001CB)	LQ24A	3822002	611843678	CML-RA	COMP	30	0	
CY8C21434 (8CC21434AC)	LQ32A	4744508	611843959	CML-RA	COMP	30	0	
CYPD31352 (7CP64311IB)	LQ32A	3822020	611844065	CML-RA	COMP	30	0	
CP8568AT (8CP226102BB)	LQ44A	3836020	611844498	CML-RA	COMP	30	0	
CY7C65219 (7CP64300IB)	LQ40A	3822020	611844070	CML-RA	COMP	30	0	



Document History Page

Document Title:QTP#190704: 24PIN-QFN (4x4x0.6mm) / 32PIN-QFN (5x5x0.6mm) 44PIN-QFN (5x5x0.6mm) / 40PINQFN (6x6x0.6mm) NIPDAU LEADFINISH MSL3, 260C REFLOW CML-PHILIPPINES (RA/R)
Document Number: 002-28460

Rev.	ECN No.	Orig. of Change	Description of Change
**	6672898	HSTO	Initial Spec Release

Marketing Part Number	Sample Ordering Part Number
CY7C63803-LQXC	CY7C63803-LQXCKA
CY7C63833-LTXC	CY7C63833-LTXCKA
CY7C63833-LTXCT	CY7C63833-LTXCKA
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CY7C64215-56LTXCT	CY7C64215-56LTXCKA
CY7C64215-56LTXI	CY7C64215-56LTXIKA
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CYPD3177-24LQXQ	CYPD3177-24LQXQKA

CYPD3177-24LQXQT	CYPD3177-24LQXQKA
CYPD4125-40LQXI	CYPD4125-40LQXIKA
CYPD4125-40LQXIT	CYPD4125-40LQXIKA
CYPD4126-24LQXI	CYPD4126-24LQXIKA
CYPD4126-24LQXIT	CYPD4126-24LQXIKA
CYPD4126-40LQXI	CYPD4126-40LQXIKA
CYPD4126-40LQXIT	CYPD4126-40LQXIKA
CYPD4136-24LQXI	CYPD4136-24LQXIKA
CYPD4136-24LQXIT	CYPD4136-24LQXIKA
CYPD4225-40LQXI	CYPD4225-40LQXIKA
CYPD4225-40LQXIT	CYPD4225-40LQXIKA
CYPD4226-40LQXI	CYPD4226-40LQXIKA
CYPD4226-40LQXIT	CYPD4226-40LQXIKA
CYPD4236-40LQXI	CYPD4236-40LQXIKA
CYPD4236-40LQXIT	CYPD4236-40LQXIKA
CYPD5125-40LQXI	CYPD5125-40LQXIKA
CYPD5125-40LQXIT	CYPD5125-40LQXIKA
CYSHM35925I-M068LTI	CYSHM35925I-M068LTIKA
CYSHM35925I-M068LTIT	CYSHM35925I-M068LTIKA
CYSHM35926P-L068LTI	CYSHM35926P-L068LTIKA
CYSHM35926P-L068LTIT	CYSHM35926P-L068LTIKA
CYTR21100-44LQI28	CYTR21100-44LQI28KA
CYTR21100-44LQI28T	CYTR21100-44LQI28KA
CYUSB2302-68LTXI	CYUSB2302-68LTXIKA
CYUSB2302-68LTXIT	CYUSB2302-68LTXIKA
CYUSB2304-68LTXI	CYUSB2304-68LTXIKA
CYUSB2304-68LTXIT	CYUSB2304-68LTXIKA
CYUSB3302-68LTXC	CYUSB3302-68LTXCKA
CYUSB3302-68LTXCT	CYUSB3302-68LTXCKA
CYUSB3302-68LTXI	CYUSB3302-68LTXIKA
CYUSB3302-68LTXIT	CYUSB3302-68LTXIKA
CYUSB3304-68LTXC	CYUSB3304-68LTXCKA
CYUSB3304-68LTXCT	CYUSB3304-68LTXCKA
CYUSB3304-68LTXI	CYUSB3304-68LTXIKA
CYUSB3304-68LTXIT	CYUSB3304-68LTXIKA
CG6897DS	CG6897ZS
CG6897DST	CG6897ZS
CG7153AM	CG7153ZM
CG7153AMT	CG7153ZM
CG7158DM	CG7158ZM
CG7158DMT	CG7158ZM
CG7243AMT	CG7158ZM
CG7297AM	CG7297ZM
CG7297AMT	CG7297ZM
CG7392AM	CG7392ZM
CG7392AMT	CG7392ZM
CG7496AA	CG7496ZA

CG7496AAT	CG7496ZA
CG7558AA	CG7558ZA
CG7558AAT	CG7558ZA
CG7606AA	CG7606ZA
CG7606AAT	CG7606ZA
CG7680AA	CG7680ZA
CG7680AAT	CG7680ZA
CG7753AA	CG7753ZA
CG7786AA	CG7786ZA
CG7786AAT	CG7786ZA
CG7788AA	CG7788ZA
CG7788AAT	CG7788ZA
CG7973AA	CG7973ZA
CG7973AAT	CG7973ZA
CG8080AM	CG8080ZM
CG8349AT	CG8349ZT
CG8349ATT	CG8349ZT
CG8352AF	CG8352ZF
CG8352AFT	CG8352ZF
CG8360AM	CG8360ZM
CG8360AMT	CG8360ZM
CG8382BF	CG8382ZF
CG8382BFT	CG8382ZF
CG8454AM	CG8454ZM
CG8454AMT	CG8454ZM
CG8576AA	CG8576ZA
CG8577AA	CG8577ZA
CG8581AA	CG8581ZA
CG8581AAT	CG8581ZA
CG8671AA	CG8671ZA
CG8671AAT	CG8671ZA
CG8672AA	CG8672ZA
CG8672AAT	CG8672ZA
CG8751AF	CG8751ZF
CG8751AFT	CG8751ZF
CG8765AF	CG8765ZF
CG8851AF	CG8851ZF
CG8871AF	CG8871ZF
CG8925AF	CG8925ZF
CG8925AFT	CG8925ZF
CG8972AF	CG8972ZF
CG8972AFT	CG8972ZF
CG8973AF	CG8973ZF
CG8973AFT	CG8973ZF
CG8974AF	CG8974ZF
CG8974AFT	CG8974ZF
CG8989AF	CG8989ZF

CG8989AFT	CG8989ZF
CG9022AM	CG9022ZM
CG9022AMT	CG9022ZM
CP7349AT	CP7349ZT
CP7349ATT	CP7349ZT
CP7949AT	CP7949ZT
CP7949ATT	CP7949ZT
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CP8151AT	CP8151ZT
CP8151ATT	CP8151ZT
CP8363AT	CP8363ZT
CP8363ATT	CP8363ZT
CP8380AT	CP8380ZT
CP8380ATT	CP8380ZT
CP8483DT	CP8483ZT
CP8483DTT	CP8483ZT
CP8568AT	CP8568ZT
CP8568ATT	CP8568ZT
CP8570AT	CP8570ZT
CP8570ATT	CP8570ZT
CP8627BT	CP8627ZT
CP8627BTT	CP8627ZT
CP8628CT	CP8628ZT
CP8628CTT	CP8628ZT
CP8642AT	CP8642ZT
CP8642ATT	CP8642ZT
CP8654BT	CP8654ZT
CP8654BTT	CP8654ZT
CP8654CT	CP8654ZT
CP8654CTT	CP8654ZT
CP8658AT	CP8658ZT
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CP8666BTT	CP8666ZT
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CP8688BTT	CP8688ZT
CP8691AT	CP8691ZT
CP8691ATT	CP8691ZT
CP8742AT	CP8742ZT
CP8742ATT	CP8742ZT
CP8787AT	CP8787ZT
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CP8900ATT	CP8900ZT
CP8900BT	CP8900UT
CP8900BTT	CP8900UT
CP8913AT	CP8913ZT
CP8913ATT	CP8913ZT
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CP8928ATT	CP8928ZT
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CP8935ATT	CP8935ZT
CP8937AT	CP8937ZT
CP8937ATT	CP8937ZT
CP8940AT	CP8940ZT
CP8940ATT	CP8940ZT
CS6651DA	CS6651ZA
CS6651DAT	CS6651ZA
CS6651JA	CS6651ZA
CS6651JAT	CS6651ZA
CS7223AA	CS7223ZA
CS7224AA	CS7224ZA
CS7224AAT	CS7224ZA
CS7275AA	CS7275ZA
CS7453ATT	CS7275ZA
CS8537AA	CS8537ZA
CS8537AAT	CS8537ZA
CS8572AA	CS8572ZA
CS8572AAT	CS8572ZA
CS8590AM	CS8590ZM
CS8590AMT	CS8590ZM
CS8750AM	CS8750ZM
CS8750AMT	CS8750ZM
CS8807AM	CS8807ZM
CS8807AMT	CS8807ZM

CS8808AM	CS8808ZM
CS8808AMT	CS8808ZM