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Cypress Semiconductor
Product Qualification Report

QTP# 032406 VERSION *B
May 2014

Synchronous Dual Port RAM Family (2 Meg, 4 Meg, 9 Meg & 18 Meg), R7FTW-3R Technology , Fab4	
CY7C0831V	**128K x 18 (2M) 3.3V Synchronous Dual-Port RAM**
CY7C0832V	**256K x 18 (4M) 3.3V Synchronous Dual-Port RAM**
CY7C0851V	**64K x 36 (2M) 3.3V Synchronous Dual-Port RAM**
CY7C0852V	**128 x 36 (4M) 3.3V Synchronous Dual-Port RAM**
CY7C0853V	**256 x 36 (9M) 3.3V Synchronous Dual-Port RAM**
CYD18S72V	**FLEXx72™ 18-Mb (256K x 72) Synchronous Dual – Port RAM**

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

QUAL REPORT		DESCRIPTION OF QUALIFICATION PURPOSE		DATE COMP.
014807		4 Meg Dual Port Device Qual (7C08523A) and R7FTW-3R Technology Qual		Feb 01
020709		Process R7FTW-3R Via 2 W Plug (4 Meg Dual Port)		Apr 02
023101		9 Meg Sync Dual Port Stacked Die, R7FT-3R, 172-ball FBGA (15mm x 15mm x 1.25mm), ASE Taiwan Assembly, MSL3		Dec 02
032406		18 Meg Dual Port 2 Stacked Die (4- 4 Meg die), R7FTW-3R, 484-ball FBGA, MSL3 Assembled @ASE-Taiwan		Dec 03
033202		Increased Polyimide thickness of 10um max from 5-6um		Mar 04
044104		6 micron Polyimide thickness for 18 Meg (4-4) die fabricated @ Fab4, 484-ball FBGA		Nov 04
041505		8 micron Polyimide thickness for 18 Meg (4-4) die fabricated @ Fab4, 484-ball FBGA		Nov 04

PRODUCT DESCRIPTION (for qualification)	
Qualification Purpose: Synchronous Dual Port RAM Device Family	
Marketing Part #:	CY7C0851V/ CY7C0852V/ CY7C0853V/CY7C0831V/CY7C0832V/CYD18S72V
Device Description:	3.3V, Commercial/Industrial, available in 172-484 ball FBGA & 120-176-pin TQFP
Cypress Division:	Cypress Semiconductor Corporation – Data Com Division (DCD)
Overall Die (or Mask) REV:	Rev. A
What ID markings on Die:	7C08523VA

TECHNOLOGY/FAB PROCESS DESCRIPTION – R7FT-3R			
Number of Metal Layers:	3	Metal Composition:	Metal 1: 300A TiW/4.23KA Al/150A Ti Metal 2: 300A TiW/4.23K Al /150A Ti Metal 3: 300A TiW/8K Al /150A Ti
Passivation Type and Materials:			1,000A TEOS + 9,000A SiN
Free Phosphorus contents in top glass layer(%):			0%
Die Coating(s), if used:			N/A
Number of Transistors in Device:			55 million
Number of Gates in Device:			44 million
Generic Process Technology/Design Rule (-			0.16U
Gate Oxide Material/Thickness (MOS):			SiO_2 32Å
Name/Location of Die Fab (prime) Facility:			Cypress Semiconductor – Bloomington Minesota
Die Fab Line ID/Wafer Process ID:			RAM7FT-3R

PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE
172-484 lead FBGA, 176-lead TQFP	ASE Taiwan (TAIWN-G)

Note: Package Qualification details upon request.

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	BB172
Package Outline, Type, or Name:	172-ball, Thin Ball Grid Array (FBGA)
Mold Compound Name/Manufacturer:	Shinetsu KMC-211AA-EC
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Substrate Material:	ASEMT
Lead Finish, Composition / Thickness:	Solder Ball, 63%Sn, 37%Pb
Die Backside Preparation	Backgrind
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 536
Die Attach Method:	Silver Epoxy
Bond Diagram Designation:	10-04438
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0um
Thermal Resistance Theta JA °C/W:	40°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-41024
Name/Location of Assembly (prime) facility:	ASE Taiwan (TAIWN-G)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	ASE Taiwan (TAIWN-G), CML-R
Fault Coverage:	100%

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

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	BB484
Package Outline, Type, or Name:	484-ball, Thin Ball Grid Array (FBGA)
Mold Compound Name/Manufacturer:	Shinetsu KMC-211AA-EC
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Substrate Material:	ASEMT
Lead Finish, Composition / Thickness:	Solder Ball, 63%Sn, 37%Pb
Die Backside Preparation	Backgrind
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 536
Die Attach Method:	Silver Epoxy
Bond Diagram Designation:	10-05261
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0um
Thermal Resistance Theta JA °C/W:	11.11°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-41024
Name/Location of Assembly (prime) facility:	ASE Taiwan (TAIWN-G)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R
Fault Coverage:	100%

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

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	A176
Package Outline, Type, or Name:	176-pin Thin Quad Flat Pack (TQFP)
Mold Compound Name/Manufacturer:	Sumitomo EME 7320A
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Solder Plate, 85%Sn, 15%Pb
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ablestik 8361
Wire Bond Method:	Thermosonic
Wire Material/Size:	Gold/ 1.2mil
Thermal Resistance Theta JA °C/W:	38°C/W
Package Cross Section Yes/No:	N/A
Name/Location of Assembly (prime) facility:	ASE Taiwan (TAIWN-G)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	ASE Taiwan (TAIWN-G)
Fault Coverage:	100%

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

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc Max = 2.3V, 125°C	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc Max=2.3V, 125°C	P
High Temperature Steady State Life	Static Operating Condition, Vcc = 3.63 V, 150°C, Vcc Max	P
Temperature Cycle	MIL-STD-883, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH, 220°C+5, -0°C Reflow	P
Pressure Cooker	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30C/60%RH, 220°C+5, -0°C Reflow	P
High Accelerated Saturation Test (HAST)	130°C, 3.63V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30C/60%RH, 220°C+5, 0°C Reflow	P
High Temperature Storage	150ºC ± 5ºC	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V, JESD22-C101	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V, MIL-STD-883, Method 3015	P
Age Bond Strength	MIL-STD-883, Method 883-2011, 200C	P
Ball Shear	JESD22-B116, Cpk : 1.33, Ppk : 1.66	P
Bond Pull	MIL-STD-883 – Method 2011, Cpk : 1.33, Ppk : 1.66	P
Die Shear	Die Shear MIL-STD-883, Method 2019 Per die size: <3000 sq. mils = 1.2 kgf	P
Internal Visual	MIL-STD-883-2014	P
X-Ray	MIL-STD-883, Method 2012	P
Thermal Shock	MIL-STD-883, Method 1011, Condition B, -55 C to 125C and JESD22-A106, Condition C, -55 C to 125C	P
Current Density	Meets the Technology Device Level Reliability Specifications	P
Acoustic Microscopy, MSL 3	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P

RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Acceleration Factor[3]	Failure Rate
High Temperature Operating Life Early Failure Rate (4 Meg)	2832	0	N/A	N/A	0 PPM
High Temperature Operating Life Early Failure Rate (9 Meg)	499	0	N/A	N/A	0 PPM
High Temperature Operating Life Early Failure Rate (18 Meg)	321	0	N/A	N/A	0 PPM
High Temperature Operating Life[1,2] Long Term Failure Rate	754,531 HRs	0	0.7	170	7 FIT

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[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 #: 014807

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	COMP	15	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	COMP	15	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	48	772	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0853V-BBC (7C08533A)	4147878	*610145152*	TAIWN-G	96	455	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.3V, Vcc Max							
CY7C0852V-AC (7C08523A)	4131840	*610135256*	TAIWN-G	80	400	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256*	TAIWN-G	336	256	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256*	TAIWN-G	500	193	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	80	300	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	336	295	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	500	274	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	80	400	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	336	255	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	500	193	0	
CY7C0852V-AC (7C08523A)	4133371	*610137695*	TAIWN-G	80	400	0	
CY7C0852V-AC (7C08523A)	4133371	*610137695*	TAIWN-G	336	398	0	
CY7C0852V-AC (7C08523A)	4133371	*610137695*	TAIWN-G	500	385	0	
CY7C0852V-AC (7C08523A)	4133371	*610138257L1*	TAIWN-G	80	400	0	
STRESS: HIGH TEMP STEADY STATE LIFE, 150C, 3.63V, Vcc Max							
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	80	78	0	
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	168	76	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V							
CY7C0852V-AC (7C08523A)	4133371	*610137695*	TAIWN-G	COMP	9	0	

Reliability Test Data

QTP #: 014807

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	COMP	9	0	
CY7C0852V-AC (7C08523A)	4133371	*610137695*	TAIWN-G	COMP	9	0	
STRESS: STATIC LATCH-UP TESTING (125C, 10.0V, +/-300mA)							
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	COMP	3	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	COMP	3	0	
STRESS: AGE BOND STRENGTH							
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	COMP	5	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	COMP	6	0	
STRESS: HIGH TEMPERATURE STORAGE, +150C							
CY7C0852V-BBC (7C08523A)	4128335	*610130788*	TAIWN-G	500	48	0	
CY7C0852V-BBC (7C08523A)	4128335	*610130788*	TAIWN-G	1000	48	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C0852V-AC (7C08523A)	4131840	*610135256*	TAIWN-G	128	47	0	
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	128	48	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	128	46	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C0852V-AC (7C08523A)	4131840	*610135256L1*	TAIWN-G	168	47	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	168	48	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	300	47	0	
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	500	46	0	
CY7C0852V-AC (7C08523A)	4130707	*610133760L1*	TAIWN-G	1000	45	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	300	46	0	
CY7C0852V-AC (7C08523A)	4131841	*610137123L1*	TAIWN-G	500	45	0	

Reliability Test Data

QTP #: 020709

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0852V-AC (7C08523A)	4147843	*610203531*	TAIWN-G	96	595	0	
CY7C0852V-AC (7C08523A)	4147843	*610203532*	TAIWN-G	96	505	0	
CY7C0852V-AC (7C08523A)	4150386	*610206445*	TAIWN-G	96	499	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0852V-AC (7C08523A)	4147843	*610203532*	TAIWN-G	336	503	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CY7C0852V-AC (7C08523A)	4147843	*610203532*	TAIWN-G	300	44	0	
CY7C0852V-AC (7C08523A)	4147843	*610203532*	TAIWN-G	500	44	0	
CY7C0852V-AC (7C08523A)	4147843	*610203532*	TAIWN-G	1000	44	0	

Reliability Test Data

QTP #: 023101

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	15	0	
CY7C0853V-BBC (7C08533A)	4147878	610145152L1	TAIWN-G	COMP	15	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0853V-BBC (7C08533A)	4147878	*610145152*	TAIWN-G	96	499	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0853V-BBC (7C08533A)	4147878	610145152	TAIWN-G	168	118	0	
CY7C0853V-BBC (7C08533A)	4147878	610145152	TAIWN-G	500	118	0	
CY7C0853V-BBC (7C08533A)	4147878	610145152	TAIWN-G	1000	118	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,000V							
CY7C0853V-BBC (7C08533A)	4147878	*610145152L1*	TAIWN-G	COMP	9	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	9	0	
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	3	0	
STRESS: THERMAL SHOCK, +125C/-55C							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	100	48	0	
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	200	48	0	
STRESS: HIGH TEMPERATURE STORAGE, +150C							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	500	48	0	
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	1000	48	0	
STRESS: PHYSICAL DIMENSIONS							
CY7C0853V-BBC (7C08533A)	4133371	*610136480L*	TAIWN-G	COMP	5	0	
STRESS: EXTERNAL VISUAL							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	15	0	
STRESS: BALL SHEAR							
CY7C0853V-BBC (7C08533A)	4223477	610234276LM	TAIWN-G	COMP	10	0	
CY7C0853V-BBC (7C08533A)	4223477	610237235M	TAIWN-G	COMP	10	0	

Reliability Test Data

QTP #: 023101

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: BOND PULL							
CY7C0853V-BBC (7C08533A)	4223477	610234276LM	TAIWN-G	COMP	10	0	
CY7C0853V-BBC (7C08533A)	4223477	610237235M	TAIWN-G	COMP	10	0	
STRESS: DIE SHEAR							
CY7C0853V-BBC (7C08533A)	4223477	610234276LM	TAIWN-G	COMP	15	0	
CY7C0853V-BBC (7C08533A)	4223477	610237235M	TAIWN-G	COMP	15	0	
STRESS: INTERNAL VISUAL							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	5	0	
STRESS: X-RAY							
CY7C0853V-BBC (7C08533A)	4133371	610136480L	TAIWN-G	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C0853V-BBC (7C08533A)	4133371	*610136480L*	TAIWN-G	128	47	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C0853V-BBC (7C08533A)	4223476	610232577LM1	TAIWN-G	168	50	0	
CY7C0853V-BBC (7C08533A)	4223477	610234276LM	TAIWN-G	168	50	0	
CY7C0853V-BBC (7C08533A)	4223477	610237235M	TAIWN-G	168	49	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CY7C0853V-BBC (7C08533A)	4223477	610234276LM	TAIWN-G	300	47	0	
CY7C0853V-BBC (7C08533A)	4223476	610232577LM1	TAIWN-G	300	50	0	
CY7C0853V-BBC (7C08533A)	4223476	610232577LM1	TAIWN-G	500	50	0	
CY7C0853V-BBC (7C08533A)	4223476	610232577LM1	TAIWN-G	1000	50	0	
CY7C0853V-BBC (7C08533A)	4223477	610237235M	TAIWN-G	300	49	0	

Reliability Test Data

QTP #: 032406

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	COMP	15	0	
CYD18S72V (7C08643A)	4232579	*610328841*	TAIWN-G	COMP	15	0	
CYD18S72V (7C08643A)	4232579	*610328842*	TAIWN-G	COMP	15	0	
STRESS: BOND PULL							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	COMP	3	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	COMP	9	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 2.3V, Vcc Max							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	96	156	0	
CYD18S72V (7C08643A)	4319126	*610336976*	TAIWN-G	96	165	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 2.3V, Vcc Max							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	168	155	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	216	88	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	500	82	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	1000	81	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 2.3V, PRE COND 192 HR 30C/60%RH, MSL3							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	128	46	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	168	48	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	288	48	0	
STRESS: STATIC LATCH-UP TESTING (125C, 10.0V, +/-300mA)							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	COMP	3	0	

Reliability Test Data

QTP #: 032406

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	300	45	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	500	45	0	
CYD18S72V (7C08643A)	4314130	*610328687*	TAIWN-G	1000	45	0	
CYD18S72V (7C08643A)	4232579	*610328842*	TAIWN-G	300	48	0	
CYD18S72V (7C08643A)	4232579	*610328842*	TAIWN-G	500	48	0	
CYD18S72V (7C08643A)	4232579	*610328842*	TAIWN-G	1000	46	0	
CYD18S72V (7C08643A)	4319126	*610336976*	TAIWN-G	300	48	0	
CYD18S72V (7C08643A)	4319126	*610336976*	TAIWN-G	500	48	0	
CYD18S72V (7C08643A)	4319126	*610336976*	TAIWN-G	1000	44	0	

Reliability Test Data

QTP #: 033202

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	COMP	15	0	
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	COMP	15	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	COMP	15	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	COMP	15	0	
CY7C0851V (7C08513A)	4322656	*610402214*	TAIWN-G	COMP	15	0	
STRESS: BALL SHEAR							
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	COMP	10	0	
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	COMP	10	0	
CY7C0853V (7C08533A)	4322656	*610341377*	TAIWN-G	COMP	10	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	COMP	10	0	
CY7C0851V (7C08513A)	4322656	*610402214*	TAIWN-G	COMP	10	0	
STRESS: BOND PULL							
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	COMP	10	0	
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	COMP	10	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	COMP	10	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	COMP	10	0	
CY7C0851V (7C08513A)	4322656	*610402214*	TAIWN-G	COMP	10	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 2.3V, Vcc Max							
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	96	999	0	
STRESS: INTERNAL VISUAL							
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	COMP	5	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	168	45	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	168	49	0	
CY7C0853V (7C08533A)	4322656	*610341377*	TAIWN-G	168	45	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	168	50	0	
CY7C0851V (7C08513A)	4322656	*610402214*	TAIWN-G	168	46	0	

Reliability Test Data

QTP #: 033202

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	300	45	0	
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	500	45	0	
CY7C0853V (7C08533A)	4322656	*610341182*	TAIWN-G	1000	44	0	
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	300	45	0	
CY7C0853V (7C08533A)	4322656	*610342497*	TAIWN-G	500	45	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	300	50	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	500	50	0	
CY7C0853V (7C08533A)	4322656	*610343147*	TAIWN-G	1000	50	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	300	50	1	TOPSIDE CRACK
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	500	49	0	
CYD18S72V (7C08643A)	4322656	*610344846*	TAIWN-G	1000	48	0	
CY7C0851V (7C08513A)	4322656	*610402214*	TAIWN-G	300	50	0	

Reliability Test Data

QTP #: 044104

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYD18S72V (7C08643A))	4350332	*610429074*	TAIWN-G	COMP	15	0	
CYD18S72V (7C08643A))	4350332	*610429075*	TAIWN-G	COMP	15	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CYD18S72V (7C08643A))	4350332	*610429074*	TAIWN-G	300	45	0	
CYD18S72V (7C08643A))	4350332	*610429075*	TAIWN-G	300	45	0	

Reliability Test Data

QTP #: 041505

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYD18S72V (7C08643A))	4350332	*610422422*	TAIWN-G	COMP	15	0	
CYD18S72V (7C08643A))	4350332	*610422423*	TAIWN-G	COMP	15	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH , MSL3							
CYD18S72V (7C08643A))	4350332	*610422422*	TAIWN-G	300	49	0	
CYD18S72V (7C08643A))	4350332	*610422423*	TAIWN-G	500	49	0	
CYD18S72V (7C08643A))	4350332	*610422423*	TAIWN-G	300	50	0	
CYD18S72V (7C08643A))	4350332	*610422423*	TAIWN-G	500	50	0	

Document History Page

Document Title: QTP # 032406 : SYNCHRONOUS DUAL PORT ,RAM FAMILY (2MEG, 4MEG, 9MEG & 18MEG), R7FTW-3R TECHNOLOGY , FAB4
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Rev.	ECN No.	Orig. of Change	Description of Change
**	4006403	ILZ	Initial Spec Release Qualification report published on Cypress.com is documented on memo LGQ-132 and not in spec format. Initiated spec for QTP 032406 and data from LGQ-132 was transferred to qualification report spec template
*A	4392035	ILZ	Sunset Review Updated front page to reflect new qualification report template per Spec 001-57716 Page 3 – Major package information table - Deleted Assembly process flow - obsolete spec Reliability tests performed per specification requirements Deleted revision of the following standards: Temperature Cycle, X-ray, Thermal Shock: Deleted Rev C,MIL-STD-883 ESD-CDM : Deleted Rev C, JESD22-C101 Ball Shear: Ball shear, JESD22-B!!6 Thermal Shock: Deleted JESD22-A106
*B	4394116	ILZ	Correction on Page 1 Added this information " FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT reliability@cypress.com or via a CYLINK CRM CASE"

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