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Cypress Semiconductor
Product Qualification Plan

QTP# 113005
January 2013

64K Serial Non-Volatile SRAM Product Family S8 Technology, CMI (Fab 4)	
CY14MB064Q2B **CY14MB064Q1B**	**3V, 64-KBIT (8 K X 8) SPI NVSRAM**
CY14ME064Q2B **CY14ME064Q1B**	**5V, 64-KBIT (8 K X 8) SPI NVSRAM**
CY14MB064J2A **CY14MB064J1A**	**3V, 64-KBIT (8 K X 8) SERIAL (I2C) NVSRAM**
CY14ME064J2A **CY14ME064J1A**	**5V, 64-KBIT (8 K X 8) SERIAL (I2C) NVSRAM**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Zhaomin Ji
Principal Reliability Engineer
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Quality Engineering Director
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QUALIFICATION HISTORY

Qual Report		Description of Qualification Purpose		Date Comp
071304		To qualify S8 SONOS technology and 4M nvSRAM devices CY14B104L / CY14B104N (7C14104AC base die) using S8TNV-5R, fabricated at Cypress Minnesota CMI (Fab4)		Nov 2008
102204		To qualify Indus 1M serial nvSRAM using S8 technology at CMI (Fab4)		June 2010
122802		To qualify Indus 1M serial nvSRAM 5V device option		Sep 2012
113005		To Qualify Manas, 64K Serial NVSRAM, in S8TNV-5R Technology, CMI Fab4		Nov 2012

PRODUCT DESCRIPTION (for qualification)	
Purpose: Qualification of Manas, 64K Serial NVSRAM, in S8TNV-5R Technology, CMI Fab4	
Marketing Part #:	CY14MB064Q2B, CY14MB064Q1B, CY14ME064Q2B, CY14ME064Q1B, CY14MB064J2A, CY14MB064J1A, CY14ME064J2A, CY14ME064J1A
Device Description:	3V & 5V Commercial/Industrial, available in 8Lead SOIC
Cypress Division:	Cypress Semiconductor Corporation – MPD

TECHNOLOGY/FAB PROCESS DESCRIPTION – S8TNV-5R			
Number of Metal Layers:	3	Metal Composition:	Metal 1: 100A Ti / 3200A Al -0.5%Cu / 300A TiW Metal 2: 100A Ti / 3200A Al -0.5%Cu / 300A TiW Metal 3: 150A Ti / 7200A Al -0.5%Cu / 300A TiW
Passivation Type:		7000 +/- 2000A Nitride	
Generic Process Technology/Design Rule (drawn):		S8TNV-5R/0.13µm	
Gate Oxide Material/Thickness (MOS):		SiO2 /110A & SiO2/32A	
Name/Location of Die Fab (prime) Facility:		Cypress Semiconductor -- Bloomington, MN	
Die Fab Line ID/Wafer Process ID:		Fab4 / S8TNV-5	

PACKAGE AVAILABILITY

PACKAGE	ASSEMBLY FACILITY SITE
8L-SOIC	CML-RA

Note: Package Qualification details upon request

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	SZ815
Package Outline, Type, or Name:	8-Lead SOIC
Mold Compound Name/Manufacturer:	MP8500/ Nitto
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	None
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	100% Saw
Die Attach Supplier:	Henkel
Die Attach Material:	QMI-509
Die Attach Method:	Epoxy
Bond Diagram Designation:	001-71917
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au / 0.9 mil
Thermal Resistance Theta JA °C/W:	101.8°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-69914
Name/Location of Assembly (prime) facility:	CML – RA
MSL Level	3
Reflow Profile	260C

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure Rate (EFR)	Dynamic Operating Condition, 2.7V/3.3V/5.5V, 150°C/48H or 125°C/96H JESD22-A-108-B	P
High Temperature Operating Life Latent Failure Rate (LFR)	Dynamic Operating Condition, 2.7V/3.3C/5.5V, 150°C/500H or 125°C/1000H JESD22-A-108-B	P
Pre/Post LFR AC/DC Char	AC/DC Critical Parameter Char at LFR 0hrs, 80hrs & 500hrs	P
Endurance	1 Million Cycles @ 90C, Per datasheet	P
Data Retention	150°C, 1000 Hours	P
Temperature Cycle	-65^{0}C to 150^{0}C, JESD22-A-104 500 Cycs, Require Precondition	P
High Accelerated Saturation Test (HAST)	130°C, 3.63V, 85%RH, JESD22-A-110-B 128 Hours, Require Precondition	P
Pressure Cooker	121°C/100%RH, JESD22-A102-C 168 Hours, Require Precondition	P
Precondition	JESD22 Moisture Sensitivity	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V, JESD22-A114E	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V, JESD22-C101C	P
Electrostatic Discharge Machine Model (ESD-MM)	200V, JESD22-A115-A	P
Latch-up Sensitivity	5.4V,± 200mA, 125°C, EIA/JESD78	P
Age Bond Strength	Mil-Std-883, Method 2011	P
Acoustic	MSL 3	P
Soft Error (Alpha Particle)	JESD89A	P
Soft Error (Neutron/Proton)	JESD89A	P
SEM X-Section	XY audit at center wafer and edge wafer	P
Low Temperature Operating Life Test	Dynamic Operating Condition, 2.7V, -30°C, 500 Hours	P
High Temp Steady State Life Test	Static Operating Condition, 2.7V, 150°C, 1000 Hours	P

RELIABILITY FAILURE RATE SUMMARY

Stress/Test	Device Tested/ Device Hours	# Fails	Activation Energy	Thermal AF[4]	Failure Rate
High Temperature Operating Life Early Failure Rate	4,617 Devices [1]	0	N/A	N/A	0 PPM
High Temperature Operating Life[1,2,] Long Term Failure Rate	537,816 DHRs [2]	0	0.7	170	9 FITs
	188,640 DHRs [3]	0	0.7	55	

[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.

[1] EFR failure rate data is based on QTP#113005
[2] LFR data from QTP#071304 & QTP#102204
[3] LFR data from QTP#122802 & QTP113005

Reliability Test Data

QTP #: 071304

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 2.7V, Vcc Max							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	48	1222	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	48	1316	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	48	932	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	48	813	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 2.7V, Vcc Max							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	500	120	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	500	120	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	500	119	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	500	119	0	
STRESS: Pre-/ Post HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE CHAR							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	80/500	10	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	80/500	10	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	80/500	10	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	80/500	10	0	
STRESS: ENDURANCE, 200K CYCLES, 90C							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	COMP	80	0	
CY14B104L (7C14104AC)	4817305	*610841260*	*CML-RA*	COMP	77	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	160	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	COMP	80	0	
CY14B104L (7C14104AC)	4817306/4818074		*CML-RA*	COMP	3307	0	
STRESS: DATA RETENTION, 150C							
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	1000	77	0	
CY14B104L (WAFER)	4817306	*610830615*	*CML-RA*	1008	228	0	
CY14B104L (7C14104AC)	4817305	*610841260*	*CML-RA*	1000	80	0	
CY14B104L (WAFER)	4817305	*610841260*	*CML-RA*	1008	216	0	
CY14B104L (7C14104AC)	4818074	*N/A*	*CML-RA*	1000	80	0	
CY14B104L (WAFER)	4818074	*N/A*	*CML-RA*	1008	402	0	

Reliability Test Data

QTP #: 071304

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114-B, 2,200V							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	8	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	8	0	
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	COMP	8	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	9	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	9	0	
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	COMP	9	0	
STRESS: ESD-MACHINE MODEL, 200V							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	5	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	5	0	
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	COMP	5	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 1.98V, PRE COND 192 HR 30C/60%RH, MSL3							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	128	77	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	128	80	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	128	77	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	168	77	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	168	80	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	168	77	0	
STRESS: TEMPERATURE CYCLE COND. C, -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	1000	77	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	1000	80	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	500	80	0	
STRESS: STATIC LATCH-UP TESTING, 125C, 5.4V, ±200mA							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	6	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	COMP	6	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	COMP	6	0	

Reliability Test Data

QTP #: 071304

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: AGE BOND							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	10	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	10	0	
CY14B104L (WAFER)	4818074	*N/A*	*CML-RA*	COMP	10	0	
STRESS: ACOUSTIC-MSL3							
CY14B104L (7C14104AC)	4807004	*610812949*	*CML-RA*	COMP	15	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	15	0	
CY14B104L (7C14104AC)	4814841	*610832326*	*CML-RA*	COMP	15	0	
STRESS: SER – ALPHA PARTICLE, 3-TEPM, 3-VOLTAGE, FIT=550 FIT/Mbit @ 85C, Vcc Nom							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	COMP	3	0	
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	COMP	3	0	
CY14B104L (7C14104AC)	4819437	*610842294*	*CML-RA*	COMP	3	0	
STRESS: SER – NEUTRON/PROTON							
CY14B104L (7C14104AC)	4808220	*N/A*	*CML-RA*	COMP	3	0	
STRESS: LOW TEMPERATURE OPERATING LIFE TEST, -30C, 2.7V, Vcc Max							
CY14B104L (7C14104AC)	4817306	*610830615*	*CML-RA*	500	77	0	
STRESS: HIGH TEMP STEADY STATE LIFE TEST, 150C, 2.7V, Vcc Max							
CY14B104L (7C14104AC)	4811240	*610819876*	*CML-RA*	1000	76	0	

Reliability Test Data

QTP #: 102204

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 3.3V, Vcc Max							
CY14MB064Q2A (7C1436B5A)	4033346	*611113629*	*CML-RA*	48	631	0	
CY14MB064J2 (7C14104B)	4033346	*611113777*	*CML-RA*	48	1461	0	
CY14B101Q2A (7C1431B5A)	4034960	*611109619*	*M-PHIL*	48	1073	0	
CY14B101Q1A (7C1431B9A)	4050477	*611118869*	*CML-RA*	48	883	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 3.3V, Vcc Max							
CY14B101Q2A (7C1431B5A)	4034960	*611109619*	*M-PHIL*	80	1050	0	
CY14B101Q2A (7C1431B5A)	4034960	*611109619*	*M-PHIL*	168	130	0	
CY14MB064Q2A (7C1436B5A)	4033346	*611113629*	*CML-RA*	80	618	0	
CY14MB064Q2A (7C1436B5A)	4033346	*611113629*	*CML-RA*	168	194	0	
CY14MB064J2 (7C14104B)	4033346	*611113777*	*CML-RA*	80	1442	0	
CY14B101Q1A (7C1431B9A)	4050477	*611118869*	*CML-RA*	168	128	0	
STRESS: Pre-/ Post HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE CHAR							
CY14B101Q1A (7C1431B9A)	4050477	*611118869*	*CML-RA*	COMP	10	0	
CY14ME064Q2A (7C1436E5A)	4050477	*611118870*	*CML-RA*	COMP	10	0	
STRESS: ENDURANCE, 1M CYCLES+168 HOURS DATA RETENTION							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	168	39	0	
CY14E101PA (7C1431E3A)	4032722	*611056066*	*CML-RA*	168	41	0	
STRESS: DATA RETENTION (150C)							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	500	80	0	
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	1000	80	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114-B, 2,200V							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	COMP	8	0	
CY14E101Q2A (7C1431E5A)	4032722	*611055560*	*CML-RA*	COMP	8	0	
CY14E101J2 (7C1431ECA)	4032722	*611056167*	*CML-RA*	COMP	8	0	
CY14E101PA (7C1431E3A)	4032722	*611056066*	*M-PHIL*	COMP	8	0	
CY14B101PA (7C1431B3A)	4032722	*611056060*	*M-PHIL*	COMP	8	0	
CY14E101Q1A (7C1431E9A)	4032722	*611055556*	*CML-RA*	COMP	8	0	
CY14E101PA (7C1431E9A)	4034960	611109616	M-PHIL	COMP	8	0	

Reliability Test Data

QTP #: 102204

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	COMP	9	0	
CY14E101PA (7C1431E3A)	4032722	*611056066*	*M-PHIL*	COMP	9	0	
CY14B101PA (7C1431B3A)	4032722	*611056060*	*M-PHIL*	COMP	9	0	
CY14E101Q1A (7C1431E9A)	4032722	*611055556*	*CML-RA*	COMP	9	0	
STRESS: ESD-MACHINE MODEL, 200V							
CY14E101Q2A (7C1431E5A)	4032722	*611055560*	*CML-RA*	COMP	5	0	
CY14E101PA (7C1431E9A)	4034960	*611109616*	*M-PHIL*	COMP	5	0	
CY14E101J2 (7C1431E3A)	4034960	*611109614*	*M-PHIL*	COMP	5	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	168	80	0	
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	288	80	0	
STRESS: TEMPERATURE CYCLE COND. C, -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	500	80	0	
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	1000	80	0	
STRESS: STATIC LATCH-UP TESTING, 125C, ±140mA							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	COMP	6	0	
CY14B101Q1A (7C1431B9A)	4032722	*611057658*	*M-PHIL*	COMP	6	0	
CY14E101PA (7C1431E3A)	4032722	*611056066*	*M-PHIL*	COMP	6	0	
CY14B101PA (7C1431B3A)	4032722	*611056060*	*M-PHIL*	COMP	6	0	
CY14E101Q1A (7C1431E9A)	4032722	*611055556*	*CML-RA*	COMP	6	0	
CY14E101PA (7C1431E9A)	4034960	*611109616*	*M-PHIL*	COMP	6	0	
CY14B101PA (7C1431B3A)	4034960	*611109618*	*M-PHIL*	COMP	6	0	
STRESS: ACOUSTIC-MSL3							
CY14B101Q2A (7C1431B5A)	4032722	*611055561*	*CML-RA*	COMP	15	0	
STRESS: SER – ALPHA PARTICLE, 3-TEPM, 3-VOLTAGE, @ 85C, Vcc Nom							
CY14E101Q2A (7C14104B)	4034960	*611109692*	*M-PHIL*	COMP	3	0	

Reliability Test Data

QTP #: 122802

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 5.5V, Vcc Max							
CY14ME064Q2A (7C1436B5A)	4228534	611230237	*CML-RA*	96	1201	0	
CY14ME064Q2A (7C1436B5A)	4229040	611230238	*CML-RA*	96	1939	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 3.3V, Vcc Max							
CY14MB064Q2A (7C1436B5A)	4229040	611230171	*CML-RA*	96	697	0	
CY14MB064Q2A (7C1436B5A)	4228534	611230172	*CML-RA*	96	686	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 5.5V, Vcc Max							
CY14ME064Q2A (7C1436B5A)	4228534	611230237	*CML-RA*	168	108	0	
CY14ME064Q2A (7C1436B5A)	4229040	611230238	*CML-RA*	168	108	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 3.3V, Vcc Max							
CY14MB064Q2A (7C1436B5A)	4229040	611230171	*CML-RA*	168	88	0	
CY14MB064Q2A (7C1436B5A)	4228534	611230172	*CML-RA*	168	88	0	
STRESS: Pre-/ Post HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE CHAR							
CY14ME064Q2A (7C1436B5A)	4228534	611230237	*CML-RA*	COMP	10	0	
CY14ME064Q2A (7C1436B5A)	4229040	611230238	*CML-RA*	COMP	10	0	
CY14MB064Q2A (7C1436B5A)	4229040	611230171	*CML-RA*	COMP	10	0	
CY14MB064Q2A (7C1436B5A)	4228534	611230172	*CML-RA*	COMP	10	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114-B, 2,200V							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	COMP	8	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229013	*CML-RA*	COMP	8	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229012	*CML-RA*	COMP	8	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	COMP	9	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229013	*CML-RA*	COMP	9	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229012	*CML-RA*	COMP	9	0	
STRESS: ESD-MACHINE MODEL, 200V							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	COMP	5	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229013	*CML-RA*	COMP	5	0	

Reliability Test Data

QTP #: 122802

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: STATIC LATCH-UP TESTING, 85C/125C, ±140mA							
CY14MB064Q2A (7C1436B5A)	4228534	611229011	*CML-RA*	COMP	6	0	
CY14MB064Q2A (7C1436B5A)	4228534	611229012	*CML-RA*	COMP	6	0	
STRESS: ACOUSTIC-MSL3							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	COMP	15	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	168	76	0	
STRESS: TEMPERATURE CYCLE COND. C, -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY14MB064Q2A (7C1436B5A)	4228534	611229009	*CML-RA*	500	77	0	

Reliability Test Data

QTP #: 113005

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 5.5V, Vcc Max							
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	96	3330	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 3.3V, Vcc Max							
CY14MB064Q2B (7C1446B5A)	4231244	611236508	CML-RA	96	594	0	
CY14MB064Q2B (7C1446B5A)	4231244	611236522	CML-RA	96	693	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 5.5V, Vcc Max							
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	168	108	0	
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	500	108	0	
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	1000	108	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 3.3V, Vcc Max							
CY14MB064Q2B (7C1446B5A)	4231244	611236508	CML-RA	168	88	0	
STRESS: Pre-/ Post HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE CHAR							
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	168	16	0	
CY14MB064Q2B (7C1446B5A)	4231244	611236508	CML-RA	168	16	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114-B, 2,200V							
CY14ME064Q1B (7C1446E9A)	4231244	611236512	CML-RA	COMP	8	0	
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	COMP	8	0	
CY14ME064J2A (7C14EC46A)	4231244	611236510	CML-RA	COMP	8	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY14ME064Q1B (7C1446E9A)	4231244	611236512	CML-RA	COMP	9	0	
STRESS: ESD-MACHINE MODEL, 200V							
CY14ME064Q1B (7C1446E9A)	4231244	611236512	CML-RA	COMP	5	0	
CY14ME064Q2B (7C1446E5A)	4231244	611236507	CML-RA	COMP	5	0	
CY14ME064J2A (7C14EC46A)	4231244	611236510	CML-RA	COMP	5	0	
STRESS: STATIC LATCH-UP TESTING, 85C, ±140mA							
CY14ME064Q1B (7C1446E9A)	4231244	611236512	CML-RA	COMP	6	0	
CY14MB064Q1B (7C1446B9A)	4231244	611236511	CML-RA	COMP	6	0	
STRESS: DYNAMIC LATCH-UP TESTING, 125C (3V part – 5.5V, 5V Part – 8V)							
CY14ME064Q1B (7C1446E9A)	4231244	611236512	CML-RA	COMP	1	0	
CY14MB064Q1B (7C1446B9A)	4231244	611236511	CML-RA	COMP	1	0	

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