# Cypress Semiconductor
# Product Qualification Report

**QTP# 030702 VERSION 3.0**
**March 2008**

| PSoC™ Mixed Signal Array Family<br>S4AD-5CTI Technology, Fab 2 CTI | |
|---|---|
| CY8C27143 | PSoC ™ Mixed Signal Array |
| CY8C27243 | PSoC ™ Mixed Signal Array |
| CY8C27443 | PSoC ™ Mixed Signal Array |
| CY8C27543 | PSoC ™ Mixed Signal Array |
| CY8C27643 | PSoC ™ Mixed Signal Array |

**CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:**


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## PRODUCT QUALIFICATION HISTORY

| Qual Report | | Description of Qualification Purpose | | Date Comp |
|---|---|---|---|---|
| 010702 | | New Technology S4AD-5 / New Product, Programmable Clock Generator, CY2414ZC, product family and bond option. | | Apr 01 |
| 003605 | | Technology Derivative S4D-5 /New Neuron Devices, CY7C53150 and CY7C53120 | | Jul 01 |
| 030702 | | New PSoC™ CY8C27xxx device and product family in smaller die | | Nov 03 |
| 043105 | | 5-Layer Mask change for ALL CY8C27xxxB product family | | Nov 04 |
| 074504 | | 3 Layer Mask change (M1, Via, and M2) for PSoC Diamond Device (CY8C27x43) | | Jan 08 |

| PRODUCT DESCRIPTION (for qualification) | | | |
|---|---|---|---|
| Qualification Purpose: New device CY8C27xxx and product family in S4D-5CTI Technology in Fab 2 | | | |
| Marketing Part #: | CY8C27143, CY8C27243, CY8C27443, CY8C27543, CY8C27643 | | |
| Device Description: | 3.3V and 5V, Industrial, available in 8/20/28/48 lead PDIP, 20/28-lead SOIC, 20/28/48-lead SSOP and 44-lead TQFP package respectively. | | |
| Cypress Division: | Cypress Microsystems Inc Subsidiary– (CMS) WA | | |
| Overall Die (or Mask) REV Level (pre-requisite for qualification): | Rev. B | | |
| SONOS Flash: | 16 Kbytes | SRAM: | 256 bytes |
| What ID markings on Die: | 8C27002 | | |

| TECHNOLOGY/FAB PROCESS DESCRIPTION S4AD-5CTI | | | |
|---|---|---|---|
| Number of Metal Layers: | 2 | Metal Composition: | Metal 1: 500A Ti/6,000A Al 0.5% Cu /1,200A TiW<br>Metal 2: 500A Ti/8,000A Al 0.5% Cu/300A TiW |
| Passivation Type and Materials: | 3,000A TEOS / 6,000A $Si_3N_4$ | | |
| Free Phosphorus contents in top glass layer (%): | 0% | | |
| Number of Transistors in Device: | 600,000 | | |
| Number of Gates in Device | 100,000 | | |
| Generic Process Technology/Design Rule ( -drawn): | 1Poly/2Metal, 0.35 µm | | |
| Gate Oxide Material/Thickness (MOS): | $SiO_2$ / 110Å | | |
| Name/Location of Die Fab (prime) Facility: | Cypress Semiconductor - Round Rock, TX (CTI) | | |
| Die Fab Line ID/Wafer Process ID: | Fab2 SONOS, S4AD-5 CTI | | |

## PACKAGE AVAILABILITY

| PACKAGE | ASSEMBLY/TEST SITE FACILITY |
|---|---|
| 20/28-lead PDIP | IDNS-O |
| 20/28-lead SOIC | CML-R |
| 20/28-lead SSOP | OSE-T, PHIL-M, CML-RA |
| 48/56-lead SSOP | CML-R |
| 48-lead MLF | SEUOL-L |
| 44-pin TQFP | CML-R |

**Note:** Package Qualification details available upon request.

| MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION | |
|---|---|
| **Package Designation:** | SP28 |
| **Package Outline, Type, or Name:** | 28-Lead Shrunk Samll Outline Packages (SSOP) |
| **Mold Compound Name/Manufacturer:** | Hitachi Cel9220HF |
| **Mold Compound Flammability Rating:** | V-O per UL94 |
| **Oxygen Rating Index:** | >28% |
| **Lead Frame Material:** | Copper |
| **Lead Finish, Composition / Thickness:** | Sn Matte (100% Sn) |
| **Die Backside Preparation Method/Metallization:** | N/A |
| **Die Separation Method:** | 100% Saw |
| **Die Attach Supplier:** | Ablestik |
| **Die Attach Material:** | 8340 |
| **Bond Diagram Designation:** | 10-05762 |
| **Wire Bond Method:** | Thermosonic |
| **Wire Material/Size:** | Au, 1.0mil |
| **Thermal Resistance Theta JA °C/W:** | 95°C/W |
| **Package Cross Section Yes/No:** | N/A |
| **Assembly Process Flow:** | 49-35026M |
| **Name/Location of Assembly (prime) facility:** | OSE-Taiwan (T) |

| ELECTRICAL TEST / FINISH DESCRIPTION | |
|---|---|
| **Test Location:** | Cypress Philippines (CML-R) |
| **Fault Coverage:** | 100% |

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

**RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT**

| Stress/Test | Test Condition (Temp/Bias) | Result P/F |
|---|---|---|
| High Temperature Operating Life<br>Early Failure Rate | Dynamic Operating Condition, Vcc Max=5.75V, 125°C<br>Dynamic Operating Condition, Vcc Max=5.75V, 150°C | P |
| High Temperature Operating Life<br>Latent Failure Rate | Dynamic Operating Condition, Vcc Max=5.75V, 125°C | P |
| Temperature Cycle | MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C<br>Precondition: JESD22 Moisture Sensitivity MSL 3<br>192 Hrs., 30°C/60%RH+3IR-Reflow, 235°C+5, -0°C<br>Precondition: JESD22 Moisture Sensitivity MSL 1<br>168 Hrs, 85°C/85%RH+3IR-Reflow, 235°C+5, -0°C | P |
| Pressure Cooker | 121°C, 100%RH<br>MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C<br>Precondition: JESD22 Moisture Sensitivity MSL 3<br>192 Hrs., 30°C/60%RH+3IR-Reflow, 235°C+5, -0°C<br>Precondition: JESD22 Moisture Sensitivity MSL 1<br>168 Hrs, 85°C/85%RH+3IR-Reflow, 235°C+5, - 0°C | P |
| High Accelerated Saturation Test (HAST) | 130°C, 5.5V, 85%RH<br>Precondition: JESD22 Moisture Sensitivity MSL 3<br>192 Hrs., 30°C/60%RH+3IR-Reflow, 235°C+5, -0°C<br>130°C, 3.63V, 85%RH<br>Precondition: JESD22 Moisture Sensitivity MSL 1<br>168 Hrs, 85°C/85%RH+3IR-Reflow, 235°C+5, -0°C | P |
| Data Retention | 150°C ± 5°C no bias | P |
| High Temperature Steady State Life | 150°C, 363V, Vcc Max | P |
| Electrostatic Discharge<br>Human Body Model (ESD-HMB) | 2,200V, 2,000V<br>MIL-STD-883, Method 3015.7 | P |
| Electrostatic Discharge<br>Charge Device Model (ESD-CDM) | 500V<br>Cypress Spec. 25-00020 | P |
| Age Bond Strength | MIL-STD-883C, Method 2011 | P |
| Acoustic Microscopy | Cypress Spec. 25-00104 | P |
| Low Temperature Operating Life | -30C, 4.3V, 8MHZ | P |
| Dynamic Latchup Sensitivity | Cypress Spec. 01-00081 | P |
| Static Latchup Sensitivity | 125°C, ± 300mA<br>In accordance with JEDEC 17. Cypress Spec. 01-00081 | P |

**RELIABILITY FAILURE RATE SUMMARY**

| Stress/Test | Device Tested/ Device Hours | # Fails | Activation Energy | Thermal[3] A.F | Failure Rate |
|---|---|---|---|---|---|
| High Temperature Operating Life Early Failure Rate | 1,605 Devices (043105) | 0 | N/A | N/A | 0 PPM |
| High Temperature Operating Life[1,2] Long Term Failure Rate | 593,000 DHRs (030702) | 0 | 0 .7 | 55 | 28 FITs |

[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 = $8.62 \times 10^{-5}$ eV/Kelvin.
$T_1$ is the junction temperature of the device under stress and $T_2$ is the junction temperature of the device at use conditions.

# Reliability Test Data

**QTP #: 010702**

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: ACOUSTIC-MSL1*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 15 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | COMP | 15 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | COMP | 15 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 3.8V, Vcc Max*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 48 | 1005 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 48 | 1004 | 1 | NON VISUAL |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 48 | 1005 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 3.8V, Vcc Max*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 80 | 120 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 500 | 120 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 80 | 120 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 500 | 120 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 80 | 120 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 500 | 120 | 0 | |
| ***STRESS: AGE BOND STRENGTH*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 15 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | COMP | 15 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | COMP | 15 | 0 | |
| ***STRESS: DYNAMIC LATCH-UP TESTING, 11.5V*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 3 | 0 | |
| ***STRESS: LOW TEMPERATURE OPERATING LIFE, -30C, 4.3V*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 500 | 48 | 0 | |
| ***STRESS: ESD-CHARGE DEVICE MODEL, 500V*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 9 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | COMP | 9 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | COMP | 9 | 0 | |

# Reliability Test Data

**QTP #: 010702**

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: STATIC LATCH-UP TESTING, 125C, 10V, ±300mA*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 3 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | COMP | 3 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | COMP | 3 | 0 | |
| ***STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 168 HR 85C/85%RH, MSL1*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 128 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 256 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 128 | 48 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 128 | 48 | 0 | |
| ***STRESS: HIGH TEMP STEADY STATE LIFE TEST, 150C, 3.63V*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 80 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 168 | 80 | 0 | |
| ***STRESS: ENDURANCE TEST*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | COMP | 45 | 0 | |
| ***STRESS: DATA RETENTION, PLASTIC, 150C*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 168 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 552 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 168 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 552 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 168 | 80 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 552 | 80 | 0 | |
| ***STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 168 HR 85C/85%RH, MSL1*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 168 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 168 | 49 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 168 | 51 | 0 | |

# *Reliability Test Data*

***QTP #: 010702***

| *Device* | *Fab Lot #* | *Assy Lot #* | *Assy Loc* | *Duration* | *Samp* | *Rej* | *Failure Mechanism* |
|---|---|---|---|---|---|---|---|
| ***STRESS: TC COND. C -65C TO 150C, PRECONDITION 168 HRS 85C/85%RH, MSL1*** | | | | | | | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 300 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 500 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2101502 | *610106170/1/2* | TAIWN-T | 1000 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 300 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 500 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2052404 | *610106173/4/5* | TAIWN-T | 1000 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 300 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 500 | 50 | 0 | |
| CY2414ZC (7C841400A) | 2103764 | *610106176/7/8* | TAIWN-T | 1000 | 49 | 0 | |

## Reliability Test Data

**QTP #: 003605**

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: ACOUSTIC-MSL3*** | | | | | | | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | COMP | 15 | 0 | |
| CY7C53150-AI(7C53150B) | 2110601 | *610115306* | TAIWN-G | COMP | 15 | 0 | |
| CY7C53150-AI (7C53150B) | 2113874 | *340100160/1* | TAIWN-G | COMP | 15 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 150C, 5.75V, Vcc Max*** | | | | | | | |
| CY7C53120-SI (7C53120B) | 2110601 | *610119962* | CSPI-R | 80 | 394 | 0 | |
| CY7C53120-SI (7C53120B) | 2113874 | *610119334* | CSPI-R | 80 | 591 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 5.75V, Vcc Max*** | | | | | | | |
| CY7C53120-SI (7C53120B) | 2110601 | *610119962* | CSPI-R | 96 | 609 | 1 | MISSING LICON |
| CY7C53120-SI (7C53120B) | 2113874 | *610119334/7707* | CSPI-R | 96 | 414 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 5.75V, Vcc Max*** | | | | | | | |
| CY7C53120-SI (7C53120B) | 2110601 | *610119962* | CSPI-R | 197 | 393 | 0 | |
| CY7C53120-SI (7C53120B) | 2110601 | *610119962* | CSPI-R | 500 | 393 | 0 | |
| CY7C53120-SI (7C53120B) | 2113874 | *610119334* | CSPI-R | 197 | 400 | 1 | UNKNOWN |
| CY7C53120-SI (7C53120B) | 2113874 | *610119334* | CSPI-R | 500 | 399 | 0 | |
| ***STRESS: ESD-CHARGE DEVICE MODEL, 500V*** | | | | | | | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | COMP | 9 | 0 | |
| ***STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 192 Hrs., 30ºC/60%RH, MSL3*** | | | | | | | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | 128 | 48 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 128 | 46 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 256 | 46 | 0 | |
| ***STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,000V*** | | | | | | | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | COMP | 9 | 0 | |
| ***STRESS: STATIC LATCH-UP TESTING, 125C, 12V, ±300mA*** | | | | | | | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | COMP | 3 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | COMP | 3 | 0 | |
| ***STRESS: ENDURANCE TEST, -25C/+85*** | | | | | | | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 1000 | 48 | 0 | |

# Reliability Test Data

**QTP #: 003605**

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| **STRESS: DATA RETENTION, PLASTIC, 150C** | | | | | | | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 500 | 266 | 0 | |
| CY7C53150-AI (7C53150B) | 2113874 | *340100160/1* | TAIWN-G | 500 | 266 | 0 | |
| **STRESS: PRESSURE COOKER TEST, 121C, 100%RH), PRE COND 192 HR 30ºC/60%RH, MSL3** | | | | | | | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | 168 | 50 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 168 | 48 | 0 | |
| **STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HR 30ºC/60%RH, MSL3** | | | | | | | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | 300 | 50 | 0 | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | 500 | 50 | 0 | |
| CY7C53150-AI (7C53150A) | 2104858 | *610109389/90* | TAIWN-G | 1000 | 50 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 300 | 48 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 500 | 47 | 0 | |
| CY7C53150-AI (7C53150B) | 2110601 | *610115306* | TAIWN-G | 1000 | 47 | 0 | |
| CY7C53150-AI (7C53150B) | 2113874 | *340100180/1* | TAIWN-G | 300 | 48 | 0 | |
| CY7C53150-AI (7C53150B) | 2113874 | *340100180/1* | TAIWN-G | 500 | 48 | 0 | |
| CY7C53150-AI (7C53150B) | 2113874 | *340100180/1* | TAIWN-G | 1000 | 48 | 0 | |

# Reliability Test Data

**QTP #: 030702**

| Device | Fab Lot # | Assembly Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: ACOUSTIC*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | COMP | 15 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | COMP | 15 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | COMP | 15 | 0 | |
| ***STRESS: DATA RETENTION, PLASTIC, NO BIAS, 125C*** | | | | | | | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 250 | 164 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 500 | 164 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 250 | 159 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 500 | 159 | 0 | |
| ***STRESS: ESD-CHARGE DEVICE MODEL, 500V*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | COMP | 9 | 0 | |
| ***STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | COMP | 9 | 0 | |
| ***STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 128 | 45 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 5.75V, Vcc Max*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 96 | 822 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 96 | 697 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 96 | 700 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 5.75V, Vcc Max*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 200 | 593 | 0 | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 1000 | 593 | 0 | |
| ***STRESS: PRESSURE COOKER TEST 121C, 100%RH*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 128 | 50 | 0 | |
| ***STRESS: STATIC LATCH-UP TESTING, 125C, 12V, ±300mA*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | COMP | 3 | 0 | |

# Reliability Test Data

**QTP #: 030702**

| Device | Fab Lot # | Assembly Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: TC COND. C -65C TO 150C*** | | | | | | | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 300 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 500 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2315276 | *510304158* | INDNS-0 | 1000 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 300 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 500 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2324841 | *510305472* | INDNS-0 | 1000 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 300 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 500 | 50 | 0 | |
| CY8C27443 (8C27443A) | 2323812 | *510305917* | INDNS-0 | 1000 | 50 | 0 | |

# Reliability Test Data

**QTP #: 043105**

| Device | Fab Lot # | Assembly Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: ESD-CHARGE DEVICE MODEL, 500V*** | | | | | | | |
| CY8C27443 (8C27443B) | 2403330 | *510403166* | INDNS-0 | COMP | 9 | 0 | |
| ***STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2,200V*** | | | | | | | |
| CY8C27443 (8C27443B) | 2403330 | *510403166* | INDNS-0 | COMP | 9 | 0 | |
| ***STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V*** | | | | | | | |
| CY8C27443 (8C27443B) | 2403330 | *510403166* | INDNS-0 | COMP | 3 | 0 | |
| ***STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 5.5V, Vcc Max*** | | | | | | | |
| CY8C27443 (8C27443B) | 2400030 | *610438921* | INDNS-0 | 96 | 847 | 0 | |
| CY8C27443 (8C27443B) | 2414285 | *610438918* | INDNS-0 | 96 | 758 | 0 | |
| ***STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 168HRS 85C/85%RH, MSL1*** | | | | | | | |
| CY8C27443 (8C27443B) | 2400030 | *610438921* | INDNS-0 | 96 | 85 | 0 | |
| CY8C27443 (8C27443B) | 2400030 | *610438921* | INDNS-0 | 168 | 85 | 0 | |
| ***STRESS: STATIC LATCH-UP TESTING, 125C, 11.1V, ±300mA*** | | | | | | | |
| CY8C27443 (8C27443B) | 2403330 | *510403166* | INDNS-0 | COMP | 3 | 0 | |

# Reliability Test Data

**QTP #: 074504**

| Device | Fab Lot # | Assembly Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|---|---|---|---|---|---|---|
| ***STRESS: ETEST YIELD*** | | | | | | | |
| CY8C27443 (8C27443B) | 2739935 | | | COMP | | COMPARABLE | |
| ***STRESS: SORT YIELD*** | | | | | | | |
| CY8C27443 (8C27443B) | 2739935 | | | COMP | | COMPARABLE | |