

Cypress Semiconductor Product Qualification Report

QTP# 062206 VERSION*C
February 2019

| 2 Meg MoBL SRAM Family Technology R95LD-3R, Fab 4 | |
|--|--------------------------------------|
| CY62137FV18 MoBL® | 2-Mbit (128K x 16) Static RAM |
| CY62136FV30 MoBL® | 2-Mbit (128K x 16) Static RAM |
| CY62137FV30 MoBL® | 2-Mbit (128K x 16) Static RAM |
| CY62138F MoBL® | 2-Mbit (256K x 8) Static RAM |
| CY62138FV30 MoBL® | 2-Mbit (256K x 8) Static RAM |
| CY62135 MoBL® | 2-Mbit Static RAM Die |

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

| QTP Number | Description of Qualification Purpose | Date Comp |
|-------------------|--|------------------|
| 054302 | New Technology R95LD-3R, Fab 4, and New Device CY7C62xxx (4Meg) MoBL Product Family. | Dec. 05 |
| 062206 | Qualify 2Meg Device Family, R95LD-3R Technology, Fab4 | Feb. 07 |
| 070905 | MM1 (450B) Mask Change on R95 2Meg Device Family, Fab4 | Mar. 07 |
| 134511 | Qualify polyimide mask to qualified Industrial 2 Meg MoBL SRAM, R95LD-3R Technology at Fab 4 | Nov. 13 |

| PRODUCT DESCRIPTION (for qualification) | |
|--|--|
| Purpose: Qualify 2Meg CY7C6xxx MoBL product family in qualified technology R95LD-3R, Fab 4 | |
| Marketing Part #: | CY62135, CY62136/7/8FV30, CY62137FV18, CY62138F |
| Device Description: | 1.8V, 3V, 2Meg MoBL SRAM |
| Cypress Division: | Cypress Semiconductor Corporation –Memory Product Division (MPD) |

| TECHNOLOGY/FAB PROCESS DESCRIPTION | | | |
|---|---------------------|--------------------|-------------|
| Number of Metal Layers: | Proprietary | Metal Composition: | Proprietary |
| Passivation Type and Materials: | Proprietary | | |
| Generic Process Technology/Design Rule (μ -drawn): | Proprietary | | |
| Gate Oxide Material/Thickness (MOS): | Proprietary | | |
| Name/Location of Die Fab (prime) Facility: | SkyWater, Minnesota | | |
| Die Fab Line ID/Wafer Process ID: | R95LD-3R | | |

PACKAGE AVAILABILITY

| PACKAGE | ASSEMBLY SITE FACILITY |
|--------------------------|-------------------------------|
| 36-Ball VFBGA | TAIWAN-G |
| 48-Ball VFBGA | TAIWAN –G |
| 32-Lead TSOP II/STSOP II | TAIWAN-T, CML-R |
| 32-Lead SOIC | CML-R |
| 44-Lead TSOP II | CML-R |

Note: Package Qualification details upon request.

| MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION | |
|---|---------------|
| Package Designation: | BZ48 |
| Package Outline, Type, or Name: | 48-Ball BGA |
| Mold Compound Name/Manufacturer: | KE-G2270 |
| Mold Compound Flammability Rating: | NA |
| Oxygen Rating Index: | NA |
| Lead Frame Material: | BT Resin |
| Lead Finish, Composition / Thickness: | SnAgCu |
| Die Backside Preparation Method/Metallization: | Backgrind |
| Die Separation Method: | Sawing 100% |
| Die Attach Supplier: | Ablestik |
| Die Attach Material: | Alebond 2025D |
| Die Attach Method: | Epoxy |
| Bond Diagram Designation: | 001-08357 |
| Wire Bond Method: | Thermosonic |
| Wire Material/Size: | Au, 1.0mil |
| Package Cross Section Yes/No: | N/A |
| Assembly Process Flow: | 001-04693 |
| Name/Location of Assembly (prime) facility: | Taiwan-G |
| MSL Level | 3 |
| Reflow Profile | 260C |

| ELECTRICAL TEST / FINISH DESCRIPTION | |
|---|-----------------------------|
| Test Location: | Cypress Philippines (CML-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 |
|--|---|---------------|
| High Temperature Operating Life Early Failure Rate | Dynamic Operating Condition, Vcc Max = 1.85V, 125°C JESD22-A108 | P |
| High Temperature Operating Life Latent Failure Rate | Dynamic Operating Condition, Vcc Max = 1.85V, 125°C /150°C JESD22-A108 | P |
| Long Life Verification | Dynamic Operating Condition, Vcc = 1.85V, 150°C JESD22-A108 | P |
| High Temperature Steady State Life | Static Operating Condition, Vcc Max = 1.75V, 125°C JESD22-A108 | P |
| Low Temperature Operating Life | Dynamic Operating Condition, Vcc = 2.0V, -30°C JESD22-A108 | P |
| High Accelerated Saturation Test (HAST) | JESD22-A110: 130°C, 3.63V/5.5V, 85%RH; 110°C, 1.85V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+ Reflow, 260°C+0, -5°C | 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+ Reflow, 260°C+0, -5°C | P |
| Pressure Cooker | JESD22-A102: 121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+ Reflow, 260°C+0, -5°C | P |
| High Temperature Storage | JESD22-A103: 150°C, no bias | P |
| Electrostatic Discharge Human Body Model (ESD-HBM) | 2,200V MIL-STD-883, Method 3015.7 | P |
| Electrostatic Discharge Human Body Model (ESD-HBM) | 2,200V JEDEC EIA/JESD22-A114 | P |
| Electrostatic Discharge Charge Device Model (ESD-CDM) | 500V JESD22-C101 | P |
| Current Density | Meets the Technology Device Level Reliability Specifications | P |
| Age Bond Strength | 200°C, 4HRS MIL-STD-883, Method 883-2011 | P |
| Acoustic Microscopy | J-STD-020 Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+ Reflow, 260°C+0, -5°C | P |
| Dynamic Latch Up | In accordance with JEDEC 17 | P |
| Static Latch Up | 125C, ± 200/ 300mA In accordance with JEDEC 17 | P |

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RELIABILITY FAILURE RATE SUMMARY

| Stress/Test | Device Tested/ Device Hours | # Fails | Activation Energy | Thermal AF ³ | Failure Rate |
|--|--------------------------------|------------|----------------------|----------------------------|-----------------|
| High Temperature Operating Life Early Failure Rate | 1,519 Devices | 0 | N/A | N/A | 0 PPM |
| High Temperature Operating Life ^{1,2} Long Term Failure Rate | 676,000 DHRs | 1 | 0.7 | 170 | 19 FIT |

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 #: 054302

| <i>Device</i> | <i>Fab Lot #</i> | <i>Assy Lot #</i> | <i>Assy Loc</i> | <i>Duration</i> | <i>Samp</i> | <i>Rej</i> | <i>Failure Mechanism</i> |
|---|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|
| STRESS: ACOUSTIC-MSL3 | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | COMP | 15 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | COMP | 15 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | COMP | 15 | 0 | |
| STRESS: AGE BOND STRENGTH | | | | | | | |
| CY62147EV30LL (7C62147F) | 4514985 | 610527600 | CML-R | COMP | 10 | 0 | |
| CY62136EV30LL (7C62136F) | 4516742 | 610537839 | CML-R | COMP | 10 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610527599 | CML-R | COMP | 10 | 0 | |
| STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 1.85V, Vcc Max | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 96 | 679 | 0 | |
| CY62147EV30LL (7C62147F) | 4527847 | 610558767 | CML-R | 96 | 4031 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 96 | 1711 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 96 | 917 | 1 | Single Bit (Non-visual) |
| STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 150C, 1.85V, Vcc Max | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 80 | 400 | 0 | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 500 | 400 | 1 | Blocked contact at Poly |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 80 | 400 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 500 | 400 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 80 | 400 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 500 | 400 | 0 | |
| STRESS: LONG LIFE VERIFICATION, 150C, 1.85V, Vcc Max | | | | | | | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 1000 | 393 | 0 | |
| STRESS: HIGH TEMPERATURE STEADY STATE LIFE, 125C, 1.75V, Vcc Max | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 168 | 76 | 0 | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 336 | 75 | 0 | |
| STRESS: LOW TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, -30C, 2.0V, Vcc | | | | | | | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 500 | 45 | 0 | |
| STRESS: HIGH TEMPERATURE STORAGE | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 500 | 45 | 0 | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 1000 | 45 | 0 | |

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Reliability Test Data

QTP #: 054302

| <i>Device</i> | <i>Fab Lot #</i> | <i>Assy Lot #</i> | <i>Assy Loc</i> | <i>Duration</i> | <i>Samp</i> | <i>Rej</i> | <i>Failure Mechanism</i> |
|---------------|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|
|---------------|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|

STRESS: ESD-CHARGE DEVICE MODEL, 500V

| | | | | | | | |
|--------------------------|---------|-----------|---------|------|---|---|--|
| CY62147EV30LL (7C62147F) | 4527847 | 610548767 | CML-R | COMP | 9 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610548491 | TAIWN-G | COMP | 9 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610550592 | CML-RA | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610527599 | CML-R | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4514985 | 610527600 | CML-R | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | COMP | 9 | 0 | |

STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114, 2,200V

| | | | | | | | |
|--------------------------|---------|-----------|---------|------|---|---|--|
| CY62147EV30LL (7C62147F) | 4527847 | 610548767 | CML-R | COMP | 9 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610548491 | TAIWN-G | COMP | 9 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610551587 | CML-R | COMP | 9 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610550592 | CML-RA | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610527599 | CML-R | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4514985 | 610527600 | CML-R | COMP | 9 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | COMP | 9 | 0 | |

STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V

| | | | | | | | |
|--------------------------|---------|-----------|---------|------|---|---|--|
| CY62147EV30LL (7C62147F) | 4527847 | 610548767 | CML-R | COMP | 3 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610548491 | TAIWN-G | COMP | 3 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610551587 | CML-R | COMP | 3 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610550592 | CML-RA | COMP | 3 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610527599 | CML-R | COMP | 3 | 0 | |
| CY62147EV30LL (7C62147F) | 4514985 | 610527600 | CML-R | COMP | 3 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | COMP | 3 | 0 | |

STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3

| | | | | | | | |
|--------------------------|---------|-----------|-------|-----|----|---|--|
| CY62137EV30LL (7C62137F) | 4516742 | 610539321 | CML-R | 128 | 45 | 0 | |
| CY62137EV30LL (7C62137F) | 4516742 | 610539321 | CML-R | 256 | 45 | 0 | |
| CY62137EV30LL (7C62137F) | 4516742 | 610539321 | CML-R | 128 | 54 | 0 | |

STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 192 HR 30C/60%RH, MSL3

| | | | | | | | |
|--------------------------|---------|-----------|-------|-----|----|---|--|
| CY62147EV30LL (7C62147F) | 4527847 | 610558767 | CML-R | 128 | 45 | 0 | |
| CY62147EV30LL (7C62147F) | 4527847 | 610558767 | CML-R | 264 | 45 | 0 | |

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Reliability Test Data

QTP #: 054302

| <i>Device</i> | <i>Fab Lot #</i> | <i>Assy Lot #</i> | <i>Assy Loc</i> | <i>Duration</i> | <i>Samp</i> | <i>Rej</i> | <i>Failure Mechanism</i> |
|---|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|
| STRESS: DYNAMIC LATCH-UP TESTING, 9.0V | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | TAIWN-G | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 6.5V, +/-300mA | | | | | | | |
| CY62147EV30LL (7C62147F) | 4514985 | 610527600 | CML-R | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 10V, +/-300mA | | | | | | | |
| CY62147EV30LL (7C62147F) | 4527847 | 610548767 | CML-R | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 9.5V, +/-300mA | | | | | | | |
| CY62147EV30LL (7C62147F) | 4516646 | 610527599 | CML-R | COMP | 3 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 8.5V, +/-200mA | | | | | | | |
| CY62148EV30LL (7C62148F) | 4527847 | 610548491 | TAIWN-G | COMP | 3 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610551587 | CML-R | COMP | 3 | 0 | |
| CY62148EV30LL (7C62148F) | 4527847 | 610550592 | CML-RA | COMP | 3 | 0 | |
| STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3 | | | | | | | |
| CY62147EV30LL (7C62147F) | 4516742 | 610537714 | CML-R | 168 | 50 | 0 | |
| CY62147EV30LL (7C62147F) | 4516742 | 610537714 | CML-R | 288 | 50 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610537739 | CML-R | 168 | 50 | 0 | |
| CY62147EV30LL (7C62147F) | 4516646 | 610537739 | CML-R | 288 | 50 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 168 | 50 | 0 | |
| STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3 | | | | | | | |
| CY62147EV30LL (7C62147F) | 4438656 | 610461414 | CML-RA | 300 | 42 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 300 | 49 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 500 | 48 | 0 | |
| CY62147EV30LL (7C62147F) | 4519690 | 610533058 | CML-RA | 1000 | 46 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 300 | 45 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 500 | 44 | 0 | |
| CY62147EV30LL (7C62147F) | 4447261 | 610506302N | CML-R | 1000 | 44 | 0 | |



Reliability Test Data

QTP #: 062206

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|--|-----------|------------|----------|----------|------|-----|-------------------|
| STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C, 1.85V, Vcc Max | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | 96 | 1519 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL, 500V | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | COMP | 9 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114, 2,200V | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | COMP | 9 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 6.5V, +/-200mA | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | COMP | 3 | 0 | |
| STRESS: STATIC LATCH-UP TESTING, 125C, 8.5V, +/-200mA | | | | | | | |
| CY62137FV18LL (7C62137G) | 4624056 | 610651979 | TAIWN-G | COMP | 3 | 0 | |



Reliability Test Data
QTP #: 070905

| Device | Fab Lot # | Assy Lot # | Assy Loc | Duration | Result |
|---------------------------|------------------|-------------------|-----------------|-----------------|---------------|
| STRESS: SORT YIELD | | | | | |
| 7C62135GC | 4640977 | | | COMP | COMPARABLE |



Reliability Test Data

QTP #: 134511

| <i>Device</i> | <i>Fab Lot #</i> | <i>Assy Lot #</i> | <i>Assy Loc</i> | <i>Duration</i> | <i>Samp</i> | <i>Rej</i> | <i>Failure Mechanism</i> |
|---------------|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|
|---------------|------------------|-------------------|-----------------|-----------------|-------------|------------|--------------------------|

STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C, 1.85V, Vcc Max (Core)

| | | | | | | | |
|--------------------------|---------|-----------|--------|------|----|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 168 | 76 | 0 | |
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 1000 | 76 | 0 | |

STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3

| | | | | | | | |
|--------------------------|---------|-----------|--------|------|----|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 500 | 77 | 0 | |
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 1000 | 76 | 0 | |

STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3

| | | | | | | | |
|--------------------------|---------|-----------|--------|-----|----|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 96 | 76 | 0 | |
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 168 | 65 | 0 | |

STRESS: HI-ACCEL SATURATION TEST, 110C, 85%RH, 1.85V, PRE COND 192 HR 30C/60%RH, MSL3

| | | | | | | | |
|--------------------------|---------|-----------|--------|-----|----|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 128 | 77 | 0 | |
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 264 | 77 | 0 | |

STRESS: HIGH TEMPERATURE STORAGE

| | | | | | | | |
|--------------------------|---------|-----------|--------|------|----|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | 1000 | 77 | 0 | |
|--------------------------|---------|-----------|--------|------|----|---|--|

STRESS: INTERNAL VISUAL

| | | | | | | | |
|--------------------------|---------|-----------|--------|------|---|---|--|
| CY62157EV30LL (7C62157F) | 4229219 | 611238363 | CML-RA | COMP | 5 | 0 | |
|--------------------------|---------|-----------|--------|------|---|---|--|

STRESS: SORT YIELD

| | | | | | | | |
|-----------|---------|----|----|------|------------|--|--|
| 7C62155FC | VARIOUS | NA | NA | COMP | EQUIVALENT | | |
|-----------|---------|----|----|------|------------|--|--|

STRESS: E-TEST YIELD

| | | | | | | | |
|-----------|---------|----|----|------|------------|--|--|
| 7C62155FC | VARIOUS | NA | NA | COMP | EQUIVALENT | | |
|-----------|---------|----|----|------|------------|--|--|

Document History Page

Document Title: QTP 062206: 2 MEG MOBL SRAM FAMILY, TECHNOLOGY R95LD-3R, SKYWATER
 Document Number: 001-84624

| Rev. | ECN No. | Orig. of Change | Description of Change |
|------|---------|-----------------|--|
| ** | 3810634 | NSR | Initial Spec Release. |
| *A | 4185355 | JYF | Template alignment and addition of polyimide qualification data. |
| *B | 4577861 | JYF | Sunset review: Updated QTP title page for template alignment. |
| *C | 6494696 | JYF | 1) Update on CY logo (recent) and Rel Contact person 2) Updated Technology/Fab Process Description Table: - Deleted most of the information and replaced with "Proprietary" - Changed Fab 4 to SkyWater 3) Updated Major Package Information Table: - Deleted Thermal Resistance Data 4) Reliability Tests Performed Table: - Added other HAST condition (130C/5.5V) and (110C/1.85V,85%RH) |
| | | FRA | Deleted Distribution and Posting in document history page. |