

Cypress Semiconductor Automotive Product Qualification Report

QTP#154906 VERSION **
January, 2017

| 64kb, 16kb and 4kb F-RAM Memory Automotive Product Qualification 130nm Technology, TI 300mm wafer Fab DMOS 6 | |
|---|--|
| CY15E004J-SXA / SXE | 4Kb I2C (512Kx8bits) 5V Serial F-RAM Memory |
| CY15E016J-SXA / SXE | 16Kb I2C (2,048Kx8bits) 5V Serial F-RAM Memory |
| CY15E064J-SXA / SXE | 64Kb I2C (8,192Kx8bits) 5V Serial F-RAM Memory |
| CY15B004J-SXA / SXE | 4Kb I2C (512Kx8bits) 3V Serial F-RAM Memory |
| CY15B016J-SXA / SXE | 16Kb I2C (2,048Kx8bits) 3V Serial F-RAM Memory |
| CY15B064J-SXA / SXE | 64Kb I2C (8,192Kx8bits) 3V Serial F-RAM Memory |
| CY15E004Q-SXA / SXE | 4Kb SPI (512Kx8bits) 5V Serial F-RAM Memory |
| CY15E016Q-SXA / SXE | 16Kb SPI (2,048Kx8bits) 5V Serial F-RAM Memory |
| CY15E064Q-SXA / SXE | 64Kb SPI (8,192Kx8bits) 5V Serial F-RAM Memory |
| CY15B004Q-SXA / SXE | 4Kb SPI (512Kx8bits) 3V Serial F-RAM Memory |
| CY15B016Q-SXA / SXE | 16Kb SPI (2,048Kx8bits) 3V Serial F-RAM Memory |
| CY15B064Q-SXA / SXE | 64Kb SPI (8,192Kx8bits) 3V Serial F-RAM Memory |

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

| QTP Number | Description of Qualification Purpose | Date |
|-------------------|--|--------------|
| 143905 | TI FR130 DMOS6 (300mm wafer fab) foundry transfer using the TR20005B (2Mb 2T2C F-RAM product) | January 2017 |
| 154404 | TI FR130 DMOS6 (300mm wafer fab) foundry qualification using the TR20011B (64kb industrial 2T2C F-RAM product) | January 2017 |
| 154906 | TI FR130 DMOS6 (300mm wafer fab) foundry qualification using the TA20011B (64kb Automotive 2T2C F-RAM product) | January 2017 |

| PRODUCT DESCRIPTION (for qualification) | |
|--|--|
| Qualification Purpose: Qualification of 130nm TA20011B 64kbit 2T2C FRAM foundry DMOS6 (300mm wafer fab). | |
| Marketing Part #: | CY15E004J-SXA / SXE, CY15E016J-SXA / SXE, CY15E064J-SXA / SXE, CY15B004J-SXA / SXE, CY15B016J-SXA / SXE, CY15B064J-SXA / SXE, CY15E004Q-SXA / SXE, CY15E016Q-SXA / SXE, CY15E064Q-SXA / SXE, CY15B004Q-SXA / SXE, CY15B016Q-SXA / SXE, CY15B064Q-SXA / SXE |
| Device Description: | 64kb, 16kb and 4kb F-RAM Serial Memory |
| Cypress Division: | Cypress Semiconductor Corporation – Memory Products Division (MPD) |

| TECHNOLOGY/FAB PROCESS DESCRIPTION | | | |
|---|----------------------------|--------------------|--------------|
| Number of Metal Layers: | Proprietary* | Metal Composition: | Proprietary* |
| Passivation Type and Thickness: | Proprietary* | | |
| Generic Process Technology/Design Rule (□-drawn): | 130nm | | |
| Gate Oxide Material/Thickness (MOS): | Proprietary* | | |
| Name/Location of Die Fab (prime) Facility: | Texas Instruments / Dallas | | |
| Die Fab Line ID/Wafer Process ID: | DMOS 6 / E035.1 | | |

*Texas Instruments' proprietary information is available with signed NDA.

PACKAGE AVAILABILITY

| PACKAGE | ASSEMBLY FACILITY SITE |
|-------------------|-------------------------------|
| 8-pin SOIC | UTAC, Thailand (UT) |

| MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION | |
|---|---------------------|
| Package Designation: | SZ815 |
| Package Outline, Type, or Name: | SOIC 8L (150mils) |
| Mold Compound Name/Manufacturer: | G600 / Sumitomo |
| Mold Compound Flammability Rating: | UL 94 V=0 pass |
| Mold Compound Alpha Emission Rate: | <0.1 |
| Oxygen Rating Index: >28% | 53% |
| Lead Frame Designation: | FMP |
| Lead Frame Material: | Copper |
| Substrate Material: | N/A |
| Lead Finish, Composition / Thickness: | Matte Sn |
| Die Backside Preparation Method/Metallization: | Backgrind |
| Die Separation Method: | Wafer Saw |
| Die Attach Supplier: | Henkel |
| Die Attach Material: | 8600 |
| Bond Diagram Designation | 002-10040 |
| Wire Bond Method: | Thermosonic |
| Wire Material/Size: | Au / 0.8 mil |
| Thermal Resistance Theta JA °C/W: | 147 C/W |
| Package Cross Section Yes/No: | Yes |
| Assembly Process Flow: | 001-97607 |
| Name/Location of Assembly (prime) facility: | UTAC, Thailand (UT) |
| MSL LEVEL | MSL3 |
| REFLOW PROFILE | 260C |

| ELECTRICAL TEST / FINISH DESCRIPTION | |
|---|-------------------------------|
| Test Location: | UTAC, Thailand / KYEC, Taiwan |

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 |
|--|---|------------|
| Data Retention (Plastic) | 125C, non-biased JESD22-A117 and JESD22-A103 | P |
| Endurance Test | MIL-STD-883, Method 883-1033 | P |
| High Temperature Operating Life Early Failure Rate | AEC-Q100-008 and JESD22-A108 Dynamic Operating Condition, Vcc = 3.6V, 125 C | P |
| High Temperature Operating Life Latent Failure Rate | JESD22-A108 Dynamic Operating Condition, Vcc = 3.6V, 125 C | P |
| High Accelerated Saturation Test (HAST) | JEDEC STD 22-A110: 130C, 85%RH, nnV Precondition: JESD22 Moisture Sensitivity Level 3 (192 Hrs., 30 C, 60% RH) | P |
| Pressure Cooker Test | JESD22-A102: 121 C, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level 3 (192 Hrs., 30 C, 60% RH) | P |
| Temperature Cycle | MIL-STD-883C, Method 1010, Condition C, -65 C to 150 C Precondition: JESD22 Moisture Sensitivity Level 3 (192 Hrs., 30 C, 60% RH) | P |
| Acoustic Microscopy | J-STD-020 Precondition: JESD22 Moisture Sensitivity Level 3 (192 Hrs., 30 C, 60% RH) | P |
| Electrostatic Discharge Human Body Model (ESD-HBM) | AEC-Q100-002 500V, 1,000V, 2,000V | P |
| Electrostatic Discharge Charge Device Model (ESD- CDM) | AEC-Q100-011 250V, 500V, 750V | P |
| Static Latch up | AEC-Q100-004, +/-140mA, 125C | P |
| Wire Bond Shear | AEC-Q100-001 | P |
| Wire Bond Pull | Mil-Std 883, Method 2011 | P |
| Solderability | JESD22-B102 | P |
| Physical Dimensions | JESD22-B100 and B108 | P |
| Electrical Distributions | AEC-Q100-009 | P |

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 | 13,575 Devices | 0 | N/A | N/A | 0 PPM |
| High Temperature Operating Life ^{1,2} Long Term Failure Rate | 576,000 DHRs | 0 | 0.7 | 55 | 29 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 #: 154906

| Device | package | Fab Lot# | Assy Lot# | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|---|------------|----------|-----------|----------|----------|------|-----|-------------------|
| STRESS: ACOUSTIC, MSL3 | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 22 | 0 | |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | COMP | 22 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | COMP | 22 | 0 | |
| STRESS: TEMPERATURE CYCLE CONDITION C (-65C TO 150C) , with MSL3 Preconditioning | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 85 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 80 | 0 | |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 500 | 80 | 0 | |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 80 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 80 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 80 | 0 | |
| STRESS: PRESSURE COOKER TEST(121C,100%RH, with MSL3 Preconditioning) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 168 | 80 | 0 | |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 168 | 80 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 168 | 80 | 0 | |
| STRESS: HIGH ACCELERATED SATURATION TEST(130C, 85%RH, with MSL3 Preconditioning) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 96 | 80 | 0 | |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 96 | 80 | 0 | |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 96 | 79 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(250V) | | | | | | | | |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(500V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 9 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(750V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(1000V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(1250V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(1500V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(1750V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-CHARGE DEVICE MODEL(2000V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT (500V) | | | | | | | | |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | COMP | 3 | 0 | |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT (1000V) | | | | | | | | |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | COMP | 3 | 0 | |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT (1100V) | | | | | | | | |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 | |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 | |
| STRESS: ESD-HUMAN BODY CIRCUIT (2000V) | | | | | | | | |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | COMP | 3 | 0 | |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 | |

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STRESS: ESD-HUMAN BODY CIRCUIT (2200V)

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 8 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 8 | 0 |

STRESS: ESD-HUMAN BODY CIRCUIT (3300V)

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 |

STRESS: STATIC LATCH-UP (+/-140mA 125C)

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 3 | 0 |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | COMP | 3 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 3 | 0 |

STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE, 125C

| | | | | | | | |
|---------------|------------|---------|-----------|----|----|------|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 96 | 1377 | 0 |
| FM25040B7-G | SZ815QTALC | 2604000 | 611604085 | UT | 96 | 464 | 0 |
| FM24C16B7-G | SZ815QTALC | 2604000 | 611604318 | UT | 96 | 675 | 0 |
| FM24CL64B7-G | SZ815QTALC | 2604000 | 611604320 | UT | 96 | 493 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 96 | 2939 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2617003 | 611626743 | UT | 96 | 2582 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 96 | 2578 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2628000 | 611627195 | UT | 96 | 2467 | 0 |

STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE, 125C

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|-----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 178 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 178 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 500 | 198 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 198 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 200 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 200 | 0 |

STRESS: AGED BOND STRENGTH

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 5 | 0 |
|---------------|------------|---------|-----------|----|------|---|---|

STRESS: 125C ENDURANCE AND DATA RETENTION 150C

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 80 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 77 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 77 | 0 |

STRESS: 25C ENDURANCE AND DATA RETENTION 25C

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 75 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 75 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 500 | 80 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 80 | 0 |

STRESS: 85C ENDURANCE AND DATA RETENTION 125C

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 80 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 500 | 80 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 80 | 0 |

STRESS: ENDURANCE AND HIGH TEMPERATURE OPERATING LIFE, 125C

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 80 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 1000 | 80 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 500 | 77 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | 1000 | 77 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 500 | 77 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | 1000 | 77 | 0 |

STRESS: PRE/POST LFR CRITICAL PARAMETER

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 32 | 0 |
|---------------|------------|---------|-----------|----|------|----|---|



| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | COMP | 32 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | COMP | 32 | 0 |

STRESS: CONSTRUCTIONAL ANALYSIS

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 5 | 0 |
|---------------|------------|---------|-----------|----|------|---|---|

STRESS: POST TEMPERATURE CYCLE WIRE BOND PULL

| | | | | | | | |
|---------------|------------|---------|-----------|----|-----|---|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | 500 | 5 | 0 |
|---------------|------------|---------|-----------|----|-----|---|---|

STRESS: WIRE BALL SHEAR

| | | | | | | | |
|---------------|------------|---------|-----------|----|-------|-----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | DIE#1 | 100 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | DIE#2 | 100 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | DIE#1 | 100 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | DIE#2 | 100 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | DIE#1 | 100 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | DIE#2 | 100 | 0 |

STRESS: WIRE BOND PULL

| | | | | | | | |
|---------------|------------|---------|-----------|----|-------|-----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | DIE#1 | 100 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | DIE#2 | 100 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | DIE#1 | 100 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | DIE#2 | 100 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | DIE#1 | 100 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | DIE#2 | 100 | 0 |

STRESS: SOLDERABILITY

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 15 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | COMP | 15 | 0 |
| CY15B064Q-SXE | SZ815QSARC | 2628000 | 611627194 | UT | COMP | 15 | 0 |

STRESS: PHYSICAL DIMENSIONS

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 30 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 30 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | COMP | 30 | 0 |

STRESS: ELECTRICAL DISTRIBUTION

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 30 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 30 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | COMP | 30 | 0 |

STRESS: FINAL VISUAL INSPECTION

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|------|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 2978 | 0 |
| CY15E064J-SXE | SZ815QTALC | 2605000 | 611606479 | UT | COMP | 2831 | 0 |
| CY15B064J-SXE | SZ815QSARC | 2605001 | 611607714 | UT | COMP | 2784 | 0 |

STRESS: LEAD INTEGRITY

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|---|---|
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | COMP | 5 | 0 |
|---------------|------------|---------|-----------|----|------|---|---|

STRESS: DYE PENETRATION TEST

| | | | | | | | |
|---------------|------------|---------|-----------|----|------|----|---|
| CY15B064Q-SXE | SZ815QSARC | 2604000 | 611604412 | UT | COMP | 15 | 0 |
| CY15E064J-SXE | SZ815QSARC | 2617003 | 611626749 | UT | COMP | 15 | 0 |
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