

PACKAGE MATERIAL DECLARATION DATASHEET

| | | | |
|--------------------------------|--|--------------------------------|---------------|
| Cypress Package Code | VZ | Body Size (mil/mm) | 300 mils |
| Package Weight – Site 1 | B1: 1,209.7800 mg B2: 1,434.5800 mg | Package Weight – Site 2 | 1,434.5800 mg |

SUMMARY

The 32L-SOJ Pb-Free package is compliant to RoHS. Cypress Ordering Part Number containing an “X” (e.g. CY7C1328G-133AXI, CY2308SXC-1HT) meet the of Directive 2002/95/EC (RoHS) requirement.

ASSEMBLY Site 1 – Package Qualification Report # 040803, 054502 (Note 1)

I. DECLARATION OF PACKAGED UNITS

A. BANNED SUBSTANCES

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS. Listed in the table below are materials that are neither contained nor intentionally added to this product.

| Substances / Compounds | Weight by mg | PPM | Analysis Report (Note 2) |
|--|--------------|-------|---------------------------|
| Cadmium and Cadmium Compounds | 0 | < 5.0 | CoA-VZ32-R CoA-VZ32-R1 |
| Hexavalent Chromium and its Compounds | 0 | <5.0 | |
| Lead and Lead Compounds | 0 | < 5.0 | |
| Mercury and Mercury Compounds | 0 | < 5.0 | |
| Polybrominated Biphenyls (PBB) | 0 | < 5.0 | |
| Polybrominated Diphenylethers (PBDE) | 0 | < 5.0 | |
| Asbestos | 0 | 0 | As per MSDS |
| Azo colorants | 0 | 0 | As per MSDS |
| Ozone Depleting Substances | 0 | 0 | As per MSDS |
| Polychlorinated Biphenyls (PCBs) | 0 | 0 | As per MSDS |
| Polychlorinated Napthalenes | 0 | 0 | As per MSDS |
| Radioactive Substances | 0 | 0 | As per MSDS |
| Shortchain Chlorinated Paraffins | 0 | 0 | As per MSDS |
| Tributyl Tin (TBT) and Triphenyl Tin (TPT) | 0 | 0 | As per MSDS |
| Tributyl Tin Oxide (TBTO) | 0 | 0 | As per MSDS |
| Formaldehyde | 0 | 0 | As per MSDS |

Note 1: Qualification reports are available at www.cypress.com. Access them by doing a Search on the Report #.

Note 2: Report available from Cypress Sales Offices or Distributors.

Note 3: Materials/substances not declared in Section I-A and I-B of this document are considered “non-existent in the product” or a natural impurity. In order to report exactly 100% material composition, some numbers were rounded to the nearest 0.01 percent. Cypress Semiconductor PMDD's are calculated using MSDS, Material Analysis Reports and Cypress Assembly site information.

Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B. MATERIAL COMPOSITION (Note 3)
B1. NiPdAu with Standard Mold Compound

| Material | Purpose of Use | Substance Composition | CAS Number | Weight by mg | % weight of substance per Homogenous material | PPM | % weight of substance per package |
|----------------------|------------------|--------------------------|------------|--------------|---|---------|-----------------------------------|
| Leadframe | Base Material | Cu | 7440-50-8 | 232.8447 | 95.3500% | 192,469 | 19.2469% |
| | | Fe | 7439-89-6 | 2.4420 | 1.0000% | 2,019 | 0.2019% |
| | | P | 7723-14-0 | 1.5873 | 0.6500% | 1,312 | 0.1312% |
| | | Zn | 7440-66-6 | 7.3260 | 3.0000% | 6,056 | 0.6056% |
| Lead Finish | External Plating | Ni | 7440-02-0 | 0.1930 | 96.5200% | 160 | 0.0160% |
| | | Pd | 7440-05-3 | 0.0035 | 1.7400% | 3 | 0.0003% |
| | | Au | 7440-57-5 | 0.0035 | 1.7400% | 3 | 0.0003% |
| Die Attach | Adhesive | Ag | 7440-22-4 | 0.2400 | 77.4200% | 198 | 0.0198% |
| | | Proprietary bismaleimide | ----- | 0.0200 | 6.4500% | 17 | 0.0017% |
| | | Proprietary polymer | ----- | 0.0200 | 6.4500% | 17 | 0.0017% |
| | | Methacrylate | ----- | 0.0100 | 3.2300% | 8 | 0.0008% |
| | | Acrylate ester | ----- | 0.0100 | 3.2300% | 8 | 0.0008% |
| | | Organic peroxide | ----- | 0.0100 | 3.2300% | 8 | 0.0008% |
| Die | Circuit | Si | 7440-21-3 | 0.9600 | 100.0000% | 794 | 0.0794% |
| Wire | Interconnect | Au | 7440-57-5 | 4.6000 | 100.0000% | 3,802 | 0.3802% |
| Mold Compound | Encapsulation | Solid Epoxy Resin | ----- | 76.7608 | 8.0000% | 63,450 | 6.3450% |
| | | Phenol Resin | ----- | 76.7608 | 8.0000% | 63,450 | 6.3450% |
| | | Antimony Trioxide | 1309-64-4 | 9.5951 | 1.0000% | 7,931 | 0.7931% |
| | | Carbon Black | 1333-86-4 | 9.5951 | 1.0000% | 7,931 | 0.7931% |
| | | Fused Silica | 60676-86-0 | 767.6080 | 80.0000% | 634,502 | 63.4502% |
| | | Crystalline Silica | 14808-60-7 | 19.1902 | 2.0000% | 15,863 | 1.5863% |
| Package Weight (mg): | | | | 1,209.7800 | % Total: | | 100.0000 |

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

B2. NiPdAu with Green Mold Compound

| Material | Purpose of Use | Substance Composition | CAS Number | Weight by mg | % weight of substance per Homogenous material | PPM | % weight of substance per package |
|----------------------|------------------|--------------------------|------------|--------------|---|---------|-----------------------------------|
| Leadframe | Base Material | Cu | 7440-50-8 | 329.7231 | 97.4100% | 229,839 | 22.9839% |
| | | Fe | 7439-89-6 | 8.1238 | 2.4000% | 5,663 | 0.5663% |
| | | P | 7723-14-0 | 0.2369 | 0.0700% | 165 | 0.0165% |
| | | Zn | 7440-66-6 | 0.4062 | 0.1200% | 283 | 0.0283% |
| Lead Finish | External Plating | Ni | 7440-02-0 | 4.0538 | 96.5200% | 2,826 | 0.2826% |
| | | Pd | 7440-05-3 | 0.0731 | 1.7400% | 51 | 0.0051% |
| | | Au | 7440-57-5 | 0.0731 | 1.7400% | 51 | 0.0051% |
| Die Attach | Adhesive | Ag | 7440-22-4 | 0.1360 | 80.0000% | 95 | 0.0095% |
| | | Proprietary bismaleimide | ----- | 0.0153 | 9.0000% | 11 | 0.0011% |
| | | Proprietary polymer | ----- | 0.0085 | 5.0000% | 6 | 0.0006% |
| | | Methacrylate | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| | | Acrylate ester | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| | | Organic peroxide | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| Die | Circuit | Si | 7440-21-3 | 2.3800 | 100.0000% | 1,659 | 0.1659% |
| Wire | Interconnect | Au | 7440-57-5 | 2.1400 | 100.0000% | 1,492 | 0.1492% |
| Mold Compound | Encapsulation | SiO2 | 60676-86-0 | 967.6080 | 89.0000% | 674,489 | 67.4489% |
| | | Phenol Resin | ----- | 54.3600 | 5.0000% | 37,893 | 3.7893% |
| | | Epoxy Resin | ----- | 65.2320 | 6.0000% | 45,471 | 4.5471% |
| Package Weight (mg): | | | | 1,434.5800 | % Total: | | 100.0000 |

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

| Type | Material | Lead PPM | Cadmium PPM | Cr VI PPM | Mercury PPM | PBB PPM | PBDE PPM | Analysis Report (Note2) |
|-------------|------------------------|----------|-------------|-----------|-------------|---------|----------|-------------------------|
| Tape & Reel | Cover tape | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-COVT-R |
| | Carrier tape | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-CART-R |
| | Plastic Reel | < 5.0 | < 5.0 | < 5.0 | < 10.0 | < 50.0 | < 45.0 | CoA-PLRL-R |
| Tube | Plastic Tube | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 1.0 | < 1.0 | CoA-PLTB-R |
| | End Plug | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 1.0 | < 1.0 | CoA-EPLG-R |
| Others | Shielding bag | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-SBAG -R |
| | Moisture Barrier bag | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-MBBG-R |
| | Protective Band | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-PROB-R |
| | Shipping and Inner Box | < 10.0 | < 4.0 | < 4.0 | < 5.0 | ----- | ----- | CoA-ABOX-R |
| | Dessicant | < 10.0 | < 2.0 | < 2.0 | < 1.0 | < 3.0 | < 3.0 | CoA-DESS-R |
| | Bubble Pack | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 100.0 | < 90.0 | CoA-BUBP-R |

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Note 4: Actual testing performed on package family basis. Engineering calculations were applied to derive individual package data.

ASSEMBLY Site 2 – Package Qualification Report # 104811 (Note 1)

I. DECLARATION OF PACKAGED UNITS

A. BANNED SUBSTANCES

Materials from Level A of the EIA/JIG/JGPSSI/EICTA Material Composition Declaration Guide and EU RoHS. Listed in the table below are materials that are neither contained nor intentionally added to this product.

| Substances / Compounds | Weight by mg | PPM | Analysis Report (Note 2) |
|--|--------------|-------|--------------------------|
| Cadmium and Cadmium Compounds | 0 | < 5.0 | CoA-VZ32-JT |
| Hexavalent Chromium and its Compounds | 0 | <5.0 | |
| Lead and Lead Compounds | 0 | < 5.0 | |
| Mercury and Mercury Compounds | 0 | < 5.0 | |
| Polybrominated Biphenyls (PBB) | 0 | < 5.0 | |
| Polybrominated Diphenylethers (PBDE) | 0 | < 5.0 | |
| Asbestos | 0 | 0 | As per MSDS |
| Azo colorants | 0 | 0 | As per MSDS |
| Ozone Depleting Substances | 0 | 0 | As per MSDS |
| Polychlorinated Biphenyls (PCBs) | 0 | 0 | As per MSDS |
| Polychlorinated Napthalenes | 0 | 0 | As per MSDS |
| Radioactive Substances | 0 | 0 | As per MSDS |
| Shortchain Chlorinated Paraffins | 0 | 0 | As per MSDS |
| Tributyl Tin (TBT) and Triphenyl Tin (TPT) | 0 | 0 | As per MSDS |
| Tributyl Tin Oxide (TBTO) | 0 | 0 | As per MSDS |
| Formaldehyde | 0 | 0 | As per MSDS |

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B. MATERIAL COMPOSITION (Note 3)

| Material | Purpose of Use | Substance Composition | CAS Number | Weight by mg | % weight of substance per Homogenous material | PPM | % weight of substance per package |
|----------------------|------------------|--------------------------|------------|--------------|---|---------|-----------------------------------|
| Leadframe | Base Material | Cu | 7440-50-8 | 329.7231 | 97.4100% | 229,839 | 22.9839% |
| | | Fe | 7439-89-6 | 8.1238 | 2.4000% | 5,663 | 0.5663% |
| | | P | 7723-14-0 | 0.2369 | 0.0700% | 165 | 0.0165% |
| | | Zn | 7440-66-6 | 0.4062 | 0.1200% | 283 | 0.0283% |
| Lead Finish | External Plating | Ni | 7440-02-0 | 4.0538 | 96.5200% | 2,826 | 0.2826% |
| | | Pd | 7440-05-3 | 0.0731 | 1.7400% | 51 | 0.0051% |
| | | Au | 7440-57-5 | 0.0731 | 1.7400% | 51 | 0.0051% |
| Die Attach | Adhesive | Ag | 7440-22-4 | 0.1360 | 80.0000% | 95 | 0.0095% |
| | | Proprietary bismaleimide | ----- | 0.0153 | 9.0000% | 11 | 0.0011% |
| | | Proprietary polymer | ----- | 0.0085 | 5.0000% | 6 | 0.0006% |
| | | Methacrylate | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| | | Acrylate ester | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| | | Organic peroxide | ----- | 0.0034 | 2.0000% | 2 | 0.0002% |
| Die | Circuit | Si | 7440-21-3 | 2.3800 | 100.0000% | 1,659 | 0.1659% |
| Wire | Interconnect | Au | 7440-57-5 | 2.1400 | 100.0000% | 1,492 | 0.1492% |
| Mold Compound | Encapsulation | SiO2 | 60676-86-0 | 967.6080 | 89.0000% | 674,489 | 67.4489% |
| | | Phenol Resin | ----- | 54.3600 | 5.0000% | 37,893 | 3.7893% |
| | | Epoxy Resin | ----- | 65.2320 | 6.0000% | 45,471 | 4.5471% |
| Package Weight (mg): | | | | 1,434.5800 | % Total: | | 100.0000 |

II. DECLARATION OF PACKAGING INDIRECT MATERIALS

| Type | Material | Lead PPM | Cadmium PPM | Cr VI PPM | Mercury PPM | PBB PPM | PBDE PPM | Analysis Report (Note2) |
|-------------|------------------------|----------|-------------|-----------|-------------|---------|----------|-------------------------|
| Tape & Reel | Cover tape | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-COVT-R |
| | Carrier tape | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-CART-R |
| | Plastic Reel | < 5.0 | < 5.0 | < 5.0 | < 10.0 | < 50.0 | < 45.0 | CoA-PLRL-R |
| Tube | Plastic Tube | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 1.0 | < 1.0 | CoA-PLTB-R |
| | End Plug | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 1.0 | < 1.0 | CoA-EPLG-R |
| Others | Shielding bag | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-SBAG -R |
| | Moisture Barrier bag | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-MBBG-R |
| | Protective Band | < 2.0 | < 2.0 | < 2.0 | < 2.0 | <5.0 | <5.0 | CoA-PROB-R |
| | Shipping and Inner Box | < 10.0 | < 4.0 | < 4.0 | < 5.0 | ----- | ----- | CoA-ABOX-R |
| | Dessicant | < 10.0 | < 2.0 | < 2.0 | < 1.0 | < 3.0 | < 3.0 | CoA-DESS-R |
| | Bubble Pack | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 100.0 | < 90.0 | CoA-BUBP-R |

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Document History Page

Document Title: 32L-SOJ PB-FREE PACKAGE MATERIAL DECLARATION DATASHEET
Document Number: 001-03013

| Rev. | ECN No. | Orig. of Change | Description of Change |
|------|---------|-----------------|--|
| ** | 385301 | EML | New document |
| *A | 1176605 | HLR | Changed Cypress Logo Added % weight of substance per Homogenous Material and % weight of substance per package on the Material Composition. Completed the RoHS Substances namely; Lead Cadmium, Mercury, Chromium VI, PBB and PBDE on Declaration of Packaging Indirect Materials table. Changed the value of Pd on Leadfinish. |
| *B | 2664946 | MAHA | Added material composition table for green mold compound for assembly site 1. Added reference QTP 054502 to assembly site 1. |
| *C | 3305135 | HLR Dcon | Added Note 4 on Footer Section. Deleted Tray and End Pin on Declaration of Indirect Materials Section. Replaced CML with WEB in distribution list. |
| *D | 3321883 | JARG | Added Assembly Site 2 |
| *E | 3676963 | HLR | Updated the material composition table of Assembly Site 1 and 2 to reflect 4 decimal places on values. |

Distribution: WEB

Posting: None

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