Compliant with IEC 62474/ D9.00 Compliant to IEC 61249-2-21:2003

| Semiconductor Device Type | (P8X) 020 QFN 5x5x0.9mm Matte Tin | Termination Base Alloy: Copper Alloy (Cu) | | | Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays) | | | | JEDEC 97 Product Marking and/or Pkg. Labeling e3 | |
|--|--|--|--|--|---|----------|---|--|--|----------|
| | | "Contained In" | % Total | | | 35.52 | (mg) Total | Mold Compound | % ot Total Weight | 52.91 |
| Basic Substance | CAS Number | Sub-Component | Weight | mg/part | ppm | | , | | | 52.51 |
| Silica, fused | 60676-86-0 | Mold Compound | 47.619 | 31.967 | 476,190 | _ [| Silica, fused | 60676-86-0 | 90.00 | |
| Epoxy Resin (NLP # 500-033-5) | Trade Secret | Mold Compound | 2.566 | 1.723 | 25,661 | Epoxy | Resin (NLP # 500-033-5) | Trade Secret | 4.85 | |
| Phenolic Resin | Trade Secret | Mold Compound | 2.566 | 1.723 | 25,661 | | Phenolic Resin | Trade Secret | 4.85 | 4 |
| Carbon Black | 1333-86-4 | Mold Compound | 0.159 35.362 | 0.107 | 1,587 | | Carbon Black | 1333-86-4 | 0.30 | <u> </u> |
| Copper | 7440-50-8 | Lead Frame | | 23.738 | 353,616 | | | Total | 100.00 | |
| Tin | 7440-31-5 | Lead Frame | 0.091 | 0.061 | 908 | 24.37 | (mg) Total | Lead Frame | % of Total Weight | 36.3 |
| 0" | 7440 00 4 | | | | 0.045 | | _ | | | |
| Silver | 7440-22-4 | Lead Frame | 0.692 | 0.464 | 6,915 | | Copper | 7440-50-8 | 97.42 | 4 |
| Zinc | 7440-66-6 | Lead Frame | 0.065 | 0.044 | 653 | | Tin | 7440-31-5 | 0.25 | 4 |
| Chromium | 7440-47-3 | Lead Frame | 0.091 | 0.061 | 908 | | Silver | 7440-22-4 | 1.91 | 4 |
| Silver | 7440-22-4 | Die Attach | 1.412 | 0.948 | 14,118 | | Zinc | 7440-66-6 | 0.18 | 4 |
| Acrylate resins Proprietary | Trade Secret | Die Attach | 0.326 | 0.219 | 3,258 | <u> </u> | Chromium | 7440-47-3 | 0.25 | 1 |
| Treated silica | Trade Secret | Die Attach | 0.036 | 0.024 | 362 | | | Total | 100.00 | |
| Heterocyclic organic compound | Trade Secret | Die Attach | 0.036 | 0.024 | 362 | 1.22 | (mg) Total | Die Attach | % of Total Weight | 1.81 |
| Silicon | 7440-21-3 | Chip (Die) | 4.160 | 2.793 | 41,600 | | Silver | 7440-22-4 | 78.00 | |
| Gold | 7440-57-5 | Wire Bond | 0.540 | 0.363 | 5,400 | | Acrylate resins Proprietary | Trade Secret | 18.00 | |
| Tin | 7440-31-5 | Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour | 4.280 | 2.873 | 42,800 | | Treated silica | Trade Secret | 2.00 | |
| | | TOTALS: | 100.000 | 67.130 | 1,000,000 | Heter | ocyclic organic compound | Trade Secret | 2.00 | |
| | 0.06713 | g Total Mass | | | | | | Total | 100.00 | |
| nis semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 115) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption (zero) | | | | | | | | | | |
| | | . 2002/30/20 (21 Guildally 2000) & Difference 201/100/20 (00 00 | ine 2011) and 2 | 2015/863/EU (3° | 1 March | 2.79 | Total (mg) | Chip (Die) | % of Total Weight | 4.16 |
| and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption pliance with the above EU Directives has been verified via inte | n (zero) nal design contro | ls, supplier declarations, and /or analytical test data. | · | | | 2.79 | Total (mg) Doped Silicon | Chip (Die) 7440-21-3 Total | % of Total Weight | |
| and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption pliance with the above EU Directives has been verified via intendemical substance is absent from the list above, the chemical porated's knowledge and belief as of the date of this document elow the threshold of regulatory concern for any regulatory so ting compounds used by Microchip meet the UL94 V0 flammab | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p | ls, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentra | the best of Mic | crochip Techno | ology | 0.36 | | 7440-21-3 | 100.00 | |
| and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption pliance with the above EU Directives has been verified via intended in the hemical substance is absent from the list above, the chemical porated's knowledge and belief as of the date of this documentelow the threshold of regulatory concern for any regulatory so ing compounds used by Microchip meet the UL94 V0 flammab (//ul.com/global/eng/pages/offerings/industries/chemicals/plast porotective "tubes" in which the specific product is shipped are | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p cs/ | Is, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentra lastics. You can access the UL iQTM family of databases to o | the best of Mic tion of the che btain a test rep | crochip Techno emical substan | ology ce, if any, is | | Doped Silicon | 7440-21-3 Total | 100.00 | |
| | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p cs/ made from polyvi form concerning knowledge and be a compiled based some information the average weig | Is, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentral lastics. You can access the UL iQTM family of databases to oinyl chloride (PVC) plastic. "Window envelopes" used to hold substances restricted by RoHS in Microchip Technology Inco ilief, as of the date listed in this form. Microchip Technology In on the ranges provided in Material Safety Data Sheets provide may not have been provided by subcontract assemblers and to of anticipated significant toxic metals components. These | the best of Mic tition of the che btain a test rep the packing sli rporated's sem corporated ca ed by raw material s | crochip Technomical substant port at p on the outer niconductor de ninot guarante rial suppliers. suppliers. | blogy ce, if any, is box and vices in e the supplier mation is | | Doped Silicon (mg) Total | 7440-21-3 Total | 100.00 100.00 % of Total Weight | 0.54 |
| is) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption pliance with the above EU Directives has been verified via interpreted's knowledge and belief as of the date of this document below the threshold of regulatory concern for any regulatory so ding compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds used by Microchip meet the UL94 V0 flammab induced by the compounds of the compounds of the compounds in the compounds of the c | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p cs/ made from polyvi form concerning knowledge and be to compiled based to compiled based some information the average weig evices (silicon IC) express or implie | Is, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentral lastics. You can access the UL iQTM family of databases to of anyl chloride (PVC) plastic. "Window envelopes" used to hold substances restricted by RoHS in Microchip Technology Incoller, as of the date listed in this form. Microchip Technology Inconthe ranges provided in Material Safety Data Sheets provide may not have been provided by subcontract assemblers and ht of anticipated significant toxic metals components. These in the finished parts. | the best of Mic tition of the che btain a test rep the packing sli rporated's sem ncorporated ca d by raw mate raw material s estimates do n | crochip Technomical substant port at pon the outer niconductor de annot guarante rial suppliers. Inforot include trace, limited produ | blogy ce, if any, is box and vices in e the Supplier mation is de levels of | | Doped Silicon (mg) Total | 7440-21-3 Total Wire Bond 7440-57-5 | 100.00 100.00 % of Total Weight | 0.54 |
| and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption piliance with the above EU Directives has been verified via interchemical substance is absent from the list above, the chemical riporated's knowledge and belief as of the date of this documen below the threshold of regulatory concern for any regulatory so ding compounds used by Microchip meet the UL94 V0 flammab://lul.com/global/eng/pages/offerings/industries/chemicals/plast://lul.c | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p cs/ made from polyvi form concerning knowledge and be to compiled based some information the average weig evices (silicon IC) express or implie subsidiaries are control to Material Conte | Is, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentral lastics. You can access the UL iQTM family of databases to oinyl chloride (PVC) plastic. "Window envelopes" used to hold substances restricted by RoHS in Microchip Technology Incoming the date listed in this form. Microchip Technology Incoming the ranges provided in Material Safety Data Sheets provide may not have been provided by subcontract assemblers and that of anticipated significant toxic metals components. These in the finished parts. In the finished parts. In the finished in Microchip's standard terms and conditions of sale and the conditions and shall not be liable for any damages, direct | the best of Michicon of the che btain a test rep the packing sli rporated's sem noorporated ca ed by raw mate raw material s estimates do n | p on the outer niconductor de innot guarante rial suppliers. Infor oot include trace, limited prodovided in Microposequential opnequential opnequent | blogy ce, if any, is box and vices in e the Supplier mation is the levels of cuct pochip's | 0.36 | Doped Silicon (mg) Total Doped Gold | 7440-21-3 Total Wire Bond 7440-57-5 Total Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 | 100.00 100.00 % of Total Weight | 0.54 |
| is) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption in pliance with the above EU Directives has been verified via interchemical substance is absent from the list above, the chemical riporated's knowledge and belief as of the date of this document below the threshold of regulatory concern for any regulatory so ding compounds used by Microchip meet the UL94 V0 flammabet/flucom/global/eng/pages/offerings/industries/chemicals/plast protective "tubes" in which the specific product is shipped are ain "reels" may be made from PVC plastic. Toriginal packing materials is true and correct to the best of its pleteness and accuracy of data in this form because it has been mation is often protected from disclosure as trade secrets and rided only as estimates of the average weight of these parts and ants, metals, and non-metal materials contained within silicon of cochip Technology Incorporated does not provide any warranty ranties provided by Microchip Technology Incorporated and its lations, sales order acknowledgement, and invoices. | n (zero) nal design contro substance is NOT t, there is no credi heme world-wide. lity standard for p cs/ made from polyvi form concerning knowledge and be t compiled based some information the average weig evices (silicon IC) express or implie subsidiaries are c to Material Conte n the information | is, supplier declarations, and /or analytical test data. an intentional ingredient in the semiconductor device and, to ble reason to believe that the unavoidable impurity concentral lastics. You can access the UL iQTM family of databases to of anyl chloride (PVC) plastic. "Window envelopes" used to hold substances restricted by RoHS in Microchip Technology Incollief, as of the date listed in this form. Microchip Technology Inconter ranges provided in Material Safety Data Sheets provide may not have been provided by subcontract assemblers and ht of anticipated significant toxic metals components. These in the finished parts. d, with respect to the information provided in this declaration ontained in Microchip's standard terms and conditions of sale and Declarations and shall not be liable for any damages, direct in Material Content Declarations (MCD) or independent third parts. | the best of Michicon of the che btain a test rep the packing sli rporated's sem noorporated ca ed by raw mate raw material s estimates do n | p on the outer niconductor de innot guarante rial suppliers. Infor oot include trace, limited prodovided in Microposequential opnequential opnequent | blogy ce, if any, is box and vices in e the Supplier mation is the levels of cuct pochip's | 0.36 | Doped Silicon (mg) Total Doped Gold (mg) Total | 7440-21-3 Total Wire Bond 7440-57-5 Total Plating on external leads (pins) - Matte Tin / annealed at 150°C for 1 hour | 100.00 100.00 % of Total Weight 100.00 % of Total Weight | 0.54 |

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