



Semiconductor Device Type: GL (EUX) 025 1.97x1.97x0.57 WLCSP SAC				Pattern (Graphic)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)				JEDEC 97 Product Marking and/or Pkg. Labeling e1																													
Basic Substance	CAS Number	Contained In Sub-Component	% Total Weight	mg/part	ppm	0.69 (mg) Total	Backside Coating	% of Total Weight	7.35																															
Silica	Proprietary	Backside Coating	4.153	0.392	41,528	<table border="1"> <tr><td>Silica</td><td>Proprietary</td><td>56.50</td></tr> <tr><td>Epoxy Resin</td><td>Proprietary</td><td>21.10</td></tr> <tr><td>Acrylic Resin</td><td>Proprietary</td><td>21.10</td></tr> <tr><td>Carbon Black</td><td>Proprietary</td><td>1.30</td></tr> <tr><td colspan="2">Total</td><td>100.00</td></tr> </table>	Silica	Proprietary	56.50	Epoxy Resin	Proprietary	21.10	Acrylic Resin	Proprietary	21.10	Carbon Black	Proprietary	1.30	Total		100.00																			
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Epoxy Resin	Proprietary	Backside Coating	1.551	0.147	15,509																																			
Acrylic Resin	Proprietary	Backside Coating	1.551	0.147	15,509																																			
Carbon Black	Proprietary	Backside Coating	0.096	0.009	956																																			
Organosilicate polymer	Trade Secret	PBO Layer	1.230	0.116	12,300	<table border="1"> <tr><td colspan="2">Total</td><td>100.00</td></tr> </table>	Total		100.00																															
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Copper	7440-50-8	Under Bump Metal	0.212	0.020	2,120																																			
Aluminum	7429-90-5	Under Bump Metal	0.077	0.007	774	<table border="1"> <tr><td>Organosilicate polymer</td><td>Trade Secret</td><td>100.00</td></tr> <tr><td colspan="2">Total</td><td>100.00</td></tr> </table>	Organosilicate polymer	Trade Secret	100.00	Total		100.00																												
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Nickel	7440-02-0	Under Bump Metal	0.042	0.004	421																																			
Vanadium	7440-62-2	Under Bump Metal	0.028	0.003	284	<table border="1"> <tr><td colspan="2">(mg) Total</td><td>Under Bump Metal</td><td>% of Total Weight</td><td>0.36</td></tr> <tr><td>Copper</td><td>7440-50-8</td><td>58.90</td><td></td><td></td></tr> <tr><td>Aluminum</td><td>7429-90-5</td><td>21.50</td><td></td><td></td></tr> <tr><td>Nickel</td><td>7440-02-0</td><td>11.70</td><td></td><td></td></tr> <tr><td>Vanadium</td><td>7440-62-2</td><td>7.90</td><td></td><td></td></tr> <tr><td colspan="2">Total</td><td>100.00</td><td></td><td></td></tr> </table>	(mg) Total		Under Bump Metal	% of Total Weight	0.36	Copper	7440-50-8	58.90			Aluminum	7429-90-5	21.50			Nickel	7440-02-0	11.70			Vanadium	7440-62-2	7.90			Total		100.00						
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Silicon	7440-21-3	Chip (Die)	76.390	7.219	763,900																																			
Aluminum	7429-60-5	Redistribution Layer	0.152	0.014	1,522																																			
Titanium	7440-32-6	Redistribution Layer	0.068	0.006	678																																			
Tin	7440-31-5	Solder Ball	13.944	1.318	139,443																																			
Silver	7440-22-4	Solder Ball	0.434	0.041	4,335																																			
Copper	7440-50-8	Solder Ball	0.072	0.007	723	<table border="1"> <tr><td colspan="2">(mg) Total</td><td>Chip (Die)</td><td>% of Total Weight</td><td>76.39</td></tr> <tr><td>Doped Silicon</td><td>7440-21-3</td><td>100.00</td><td></td><td></td></tr> <tr><td colspan="2">Total</td><td>100.00</td><td></td><td></td></tr> </table>	(mg) Total		Chip (Die)	% of Total Weight	76.39	Doped Silicon	7440-21-3	100.00			Total		100.00																					
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0.00945 g Total Mass			TOTALS:	100.000	9.450	1,000,000																																		
This 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 2015) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption (zero))																																								
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.																																								
If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.																																								
Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL iQTM family of databases to obtain a test report at http://ul.com/global/eng/pages/offers/industries/chemicals/plastics/																																								
The protective "tubes" in which the specific product is shipped are made from polyvinyl chloride (PVC) plastic. "Window envelopes" used to hold the packing slip on the outer box and certain "reels" may be made from PVC plastic.																																								
Microchip Technology Incorporated believes the information in this form concerning substances restricted by RoHS in Microchip Technology Incorporated's semiconductor devices in their original packing materials is true and correct to the best of its knowledge and belief, as of the date listed in this form. Microchip Technology Incorporated cannot guarantee the completeness and accuracy of data in this form because it has been compiled based on the ranges provided in Material Safety Data Sheets provided by raw material suppliers. Supplier information is often protected from disclosure as trade secrets and some information may not have been provided by subcontract assemblers and raw material suppliers. Information is provided only as estimates of the average weight of these parts and the average weight of anticipated significant toxic metals components. These estimates do not include trace levels of dopants, metals, and non-metal materials contained within silicon devices (silicon IC) in the finished parts.																																								
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Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.																																								
Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at http://echa.europa.eu/web/guest/candidate-list-table																																								
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						Silver	7440-22-4	3.00																																
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