Chemicals contained in products

Package-type

Epson Package name; **QFP25-128PIN / Halogen free**

JEITA Package name; **P-LQFP128-1420-0.50**

Lead frame plating; **Lead(Pb) Free**

Weight; **0.96** [g] *Note1

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content *Note2 [mg]	Content *Note2 [ppm]	Application
IC Die	IC Die	23.4	Silicon	7440-21-3	23.4	999914	Base material
			Boron	7440-42-8	0.00005	2	Dopant
			Phosphorus	7723-14-0	0.00012	5	Dopant
			Aluminum	7429-90-5	0.00047	20	Metalization
			Arsenic *Note3	7440-38-2	0.00012	5	Dopant
			Fluorine *Note3	7782-41-4	0.00005	2	Dopant
			Titanium *Note3	7440-32-6	0.00047	20	Metalization
			Tungsten *Note3	7440-33-7	0.00070	30	Metalization
			Cobalt *Note3	7440-48-4	0.00005	2	Metalization
	Stress buffer coat	0.5	Polyimide	-	0.5	1000000	Stress buffer coat *Note4
Package	Die Bonding material	3.6	Silver	7440-22-4	3.27	910000	Base material
			Acrylic resin	-	0.25	70000	Adhesive
			Epoxy resin	-	0.07	20000	Adhesive
	Lead Frame Plating	7.7	Tin	7440-31-5	7.7	1000000	Solder
	Lead Frame	273.4	Nickel	7440-02-0	0.3	30000	Conductor
			Silver	7440-22-4	0.26	1000	Inner lead plating
			Magnesium	7439-95-4	246.7	1000	Characteristic preserve
			Copper	7440-50-8	0.51	966000	Base material
			Silicon	7440-21-3	25.7	2000	Characteristic preserve
	Bonding Wire	1.5	Copper	7440-50-8	1.5	1000000	Conductor
	Mold resin	649.9	Epoxy resin	-	32.5	50000	Base material
			Phenol resin	-	32.5	50000	Base material
			Silica	60676-86-0	583.0	897000	Filler
			Carbon black	1333-86-4	1.95	3000	Coloring agent

Regarding the information of chemical substances

*Note1 The weight might be somewhat different depending on an individual built-in IC-chip specification like the size etc.

*Note2 Content data are estimated values based on supplier information and intended levels of content in product.
Actual measurements may vary from these values somewhat.

*Note3 Use or not-use of these substances depends on individual built-in IC-chip specification.

*Note4 The stress buffer coat may not be used depending on the individual model.