Chemicals contained in products

Package-type

Epson Package name ; **SQFN9-80PIN** **/ Halogen free**

JEITA Package name ;

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

Weight ; **0.22** [g] *Note1

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content ※2 [mg]	Content ※2 [ppm]	Application
IC Die	IC Die	21.7	Silicon	7440-21-3	21.7	999894	Base material
			Boron	7440-42-8	0.00004	2	Dopant
			Phosphorus	7723-14-0	0.00011	5	Dopant
			Aluminum	7429-90-5	0.00043	20	Metalization
			Arsenic *Note3	7440-38-2	0.00011	5	Dopant
			Fluorine *Note3	7782-41-4	0.00004	2	Dopant
			Titanium *Note3	7440-32-6	0.00043	20	Metalization
			Molybdenum *Note3	7439-98-7	0.00043	20	Metalization
			Tungsten *Note3	7440-33-7	0.00065	30	Metalization
			Cobalt *Note3	7440-48-4	0.00004	2	Metalization
	Stress buffer coat	0.43	Polyimide	-	0.43	1000000	Stress buffer coat *Note4
Package	Die Bonding material	0.36	Silver	7440-22-4	0.33	910000	Base material
			Acrylic resin	-	0.03	70000	Adhesive
			Epoxy resin	-	0.01	20000	Adhesive
	Lead Frame Plating	0.45	Tin	7440-31-5	0.5	1000000	Solder
	Lead Frame	89.98	Copper	7440-50-8	85.03	945000	Conductor
			Silver	7440-22-4	0.45	5000	Inner lead plating
			Others *Note5	-	4.5	50000	Additive
	Bonding Wire	0.80	Copper	7440-50-8	0.80	1000000	Conductor
	Mold resin	106.28	Epoxy resin	-	6.70	63000	Base material
			Silica	60676-86-0/-	93.53	880000	Filler
			Carbon black	1333-86-4	0.21	2000	Coloring agent
			Hardening chemical(ex:Phenol resin)	-	4.25	40000	Base material
			Organic phosphorous compound	-	0.53	5000	Hardening accelerator
			others	-	1.06	10000	Additive

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.

*Note5 The nickel, zinc, tin, silicon, iron, and the zinc oxide are included.

Internal