

Chemicals contained in products

Package-type

Epson Package name; **SSOP2-16PIN**

JEITA Package name; **P-LSSOP16-04.40x06.60-0.8**

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

Weight; **0.11 [g]** *Note1

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content ※2		Application
					[mg]	[ppm]	
IC Die	IC Die	5.0	Silicon	7440-21-3	5.0	999894	Base material
			Boron	7440-42-8	0.00001	2	Dopant
			Phosphorus	7723-14-0	0.00003	5	Dopant
			Aluminum	7429-90-5	0.0001	20	Metalization
			Arsenic *Note3	7440-38-2	0.00003	5	Dopant
			Fluorine *Note3	7782-41-4	0.00001	2	Dopant
			Titanium *Note3	7440-32-6	0.0001	20	Metalization
			Molybdenum *Note3	7439-98-7	0.0001	20	Metalization
			Tungsten *Note3	7440-33-7	0.0002	30	Metalization
	Cobalt *Note3	7440-48-4	0.00001	2	Metalization		
	Stress buffer coat	0.10	Polyimide	-	0.10	1000000	Stress buffer coat *Note4
Package	Die Bonding material	0.22	Silver	7440-22-4	0.18	822222	Base material
			Epoxy resin	-	0.032	144444	Adhesive
			Phenol resin	-	0.007	33333	Adhesive
	Lead Frame Plating	1.3	Tin	7440-31-5	1.3	975000	Solder
			Silver	7440-22-4	0.033	25000	Solder
	Lead Frame	31	Copper	7440-50-8	28.9	945000	Conductor
			Silver	7440-22-4	0.15	5000	Inner lead plating
			Others *Note5	-	1.5	50000	Additive
	Bonding Wire	0.25	Gold	7440-57-5	0.25	1000000	Conductor
	Mold resin	73	Epoxy resin	-	14.5	200000	Base material
			Antimony Trioxide	1309-64-4	2.2	30000	Flame retardant
			Halogenated compound(Brominations epoxy)	-	2.2	30000	Flame retardant
			Silica	60676-86-0/-	49.5	682000	Filler
			Carbon black	1333-86-4	0.22	3000	Coloring agent
Hardening chemical(ex:Phenol resin)			-	3.6	50000	Hardening chemical	
	Organic phosphorous compound	-	0.36	5000	Hardening accelerator		

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 for the Cu type. And the carbon, silicon, and manganese are included for 42alloy type.