

# Chemicals contained in products

## Package-type

Epson Package name; **SSOP3-24PIN**

JEITA Package name; **P-LSSOP24-05.60x07.80-0.65**

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

Weight; **0.13 [g] \*Note1**

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content ※2		Application
					[mg]	[ppm]	
IC Die	IC Die	10	Silicon	7440-21-3	9.6	999894	Base material
			Boron	7440-42-8	0.00002	2	Dopant
			Phosphorus	7723-14-0	0.00005	5	Dopant
			Aluminum	7429-90-5	0.0002	20	Metalization
			Arsenic *Note3	7440-38-2	0.00005	5	Dopant
			Fluorine *Note3	7782-41-4	0.00002	2	Dopant
			Titanium *Note3	7440-32-6	0.0002	20	Metalization
			Molybdenum *Note3	7439-98-7	0.0002	20	Metalization
			Tungsten *Note3	7440-33-7	0.0003	30	Metalization
			Cobalt *Note3	7440-48-4	0.00002	2	Metalization
	Stress buffer coat	0.19	Polyimide	-	0.19	1000000	Stress buffer coat *Note4
Package	Die Bonding material	0.50	Silver	7440-22-4	0.41	817073	Base material
			Epoxy resin	-	0.061	121951	Adhesive
			Phenol resin	-	0.030	60976	Adhesive
	Lead Frame Plating	1.3	Tin	7440-31-5	1.3	975000	Solder
			Silver	7440-22-4	0.033	25000	Solder
			Copper	7440-50-8	43.5	945000	Conductor
	Lead Frame	46	Silver	7440-22-4	0.23	5000	Inner lead plating
			Others *Note5	-	2.3	50000	Additive
			Gold	7440-57-5	0.28	1000000	Conductor
	Bonding Wire	0.28	Gold	7440-57-5	0.28	1000000	Conductor
	Mold resin	72	Epoxy resin	-	5.8	80000	Base material
			Antimony Trioxide	1309-64-4	1.1	15000	Flame retardant
			Halogenated compound(Brominations epoxy)	-	0.72	10000	Flame retardant
			Silica	60676-86-0/-	59.0	819000	Filler
Carbon black			1333-86-4	0.22	3000	Coloring agent	
Hardening chemical(ex:Phenol resin)			-	5.0	70000	Hardening chemical	
Organic phosphorous compound			-	0.22	3000	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.