Chemicals contained in products

EPSON
EXCEED YOUR VISION

Package-type

Epson Package name; **SOT23-5PIN**
JEITA Package name; **(P-SOT23-5)**
Lead frame plating; **Lead(Pb) Free**
Weight; **0.015** [g] *Note1

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content ※2 [mg]	Content ※2 [ppm]	Application
IC Die	IC Die	0.28	Silicon	7440-21-3	0.28	999894	Base material
			Boron	7440-42-8	0.000001	2	Dopant
			Phosphorus	7723-14-0	0.000001	5	Dopant
			Aluminum	7429-90-5	0.00001	20	Metalization
			Arsenic *Note3	7440-38-2	0.000001	5	Dopant
			Fluorine *Note3	7782-41-4	0.000001	2	Dopant
			Titanium *Note3	7440-32-6	0.00001	20	Metalization
			Molybdenum *Note3	7439-98-7	0.00001	20	Metalization
			Tungsten *Note3	7440-33-7	0.00001	30	Metalization
			Cobalt *Note3	7440-48-4	0.000001	2	Metalization
	Stress buffer coat	0.006	Polyimide	-	0.006	1000000	Stress buffer coat *Note4
Package	Die Bonding material	0.017	Silver	7440-22-4	0.015	890000	Base material
			Epoxy resin	-	0.002	110000	Adhesive
	Lead Frame Plating	0.35	Tin	7440-31-5	0.34	975000	Solder
			Silver	7440-22-4	0.009	25000	Solder
	Lead Frame	5.8	Copper	7440-50-8	5.5	945000	Conductor
			Silver	7440-22-4	0.029	5000	Conductor
			Others *Note5	-	0.29	50000	Inner lead plating
	Bonding Wire	0.030	Gold	7440-57-5	0.030	1000000	Conductor
	Mold resin	8.5	Epoxy resin	-	1.1	130000	Base material
			Antimony trioxide	1309-64-4	0.17	20000	Flame retardant
			Halogenated compound(brominations epoxy)	-	0.13	15000	Flame retardant
			Silica	60676-86-0/-	6.6	771000	Filler
			Carbon black	1333-86-4	0.026	3000	Coloring agent
			Hardening chemical(ex:Phenol resin)	-	0.51	60000	Hardening chemical
			Organic phosphorous compound	-	0.009	1000	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.