

Package-type

Epson Package name; **QFP23-240PIN-S1**

JEITA Package name; **P-QFP240-3232-0.50**

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

Weight; **7.74 [g]*Note1**

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content *Note2		Application
					[mg]	[ppm]	
IC Die	IC Die	153	Silicon	7440-21-3	153	999893	Base material
			Boron	7440-42-8	0.0003	2	Dopant
			Phosphorus	7723-14-0	0.0008	5	Dopant
			Aluminum	7429-90-5	0.003	20	Metalization
			Arsenic *Note3	7440-38-2	0.0008	5	Dopant
			Fluorine *Note3	7782-41-4	0.0003	2	Dopant
			Titanium *Note3	7440-32-6	0.003	20	Metalization
			Molybdenum *Note3	7439-98-7	0.003	20	Metalization
			Tungsten *Note3	7440-33-7	0.005	30	Metalization
			Cobalt *Note3	7440-48-4	0.0003	2	Metalization
	Stress buffer coat	3.1	Polyimide	-	3.1	1000000	Stress buffer coat *Note4
Package	Die Bonding material	7.3	Silver	7440-22-4	5.0	681199	Base material
			Epoxy resin	-	1.5	204360	Adhesive
			Phenol resin	-	0.55	74932	Adhesive
			Inorganic powder	-	0.29	39510	Additive
	Lead Frame Plating	61	Tin	7440-31-5	60	980231	Solder
			Bismuth	7440-69-9	1.20	19769	Solder
	Lead Frame	1014	Copper	7440-50-8	958	944954	Conductor
			Silver	7440-22-4	5.1	5031	Inner lead plating
			Others *Note5	-	51	50015	Additive
	Bonding Wire	14	Gold	7440-57-5	14	1000000	Conductor
	Mold resin	6488	Epoxy resin	-	714	110012	Base material
			Antimony trioxide	1309-64-4	52	8000	Flame retardant
			Halogenated compound(Brominations epoxy)	-	52	8000	Flame retardant
			Silica	60676-86-0/-	4888	753480	Filler
			Carbon black	1333-86-4	65	10004	Coloring agent
Hardening chemical(ex:Phenol resin)			-	714	110012	Base material	
			Organic phosphorous compound	-	3.2	493	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.