

## Package-type

Epson Package name; **QFP20-184PIN**

JEITA Package name; **P-LQFP184-2020-0.40**

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

Weight; **1.34 [g]\*Note1**

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content *Note2		Application
					[mg]	[ppm]	
IC Die	IC Die	76	Silicon	7440-21-3	76	999894	Base material
			Boron	7440-42-8	0.0002	2	Dopant
			Phosphorus	7723-14-0	0.0004	5	Dopant
			Aluminum	7429-90-5	0.002	20	Metalization
			Arsenic *Note3	7440-38-2	0.0004	5	Dopant
			Fluorine *Note3	7782-41-4	0.0002	2	Dopant
			Titanium *Note3	7440-32-6	0.002	20	Metalization
			Molybdenum *Note3	7439-98-7	0.002	20	Metalization
			Tungsten *Note3	7440-33-7	0.002	30	Metalization
			Cobalt *Note3	7440-48-4	0.0002	2	Metalization
	Stress buffer coat	1.5	Polyimide	-	1.5	1000000	Stress buffer coat *Note4
Package	Die Bonding material	6.2	Silver	7440-22-4	4.2	675241	Base material
			Epoxy resin	-	1.30	209003	Adhesive
			Phenol resin	-	0.47	75563	Adhesive
			Inorganic powder	-	0.25	40193	Additive
	Lead Frame Plating	19	Tin	7440-31-5	19	979979	Solder
			Bismuth	7440-69-9	0.38	20021	Solder
	Lead Frame	295	Copper	7440-50-8	279	945103	Conductor
			Silver	7440-22-4	1.5	5083	Inner lead plating
			Others *Note5	-	15	49814	Additive
	Bonding Wire	7.4	Gold	7440-57-5	7.4	1000000	Conductor
	Mold resin	933	Epoxy resin	-	47	50038	Base material
			Antimony trioxide	1309-64-4	3.8	4072	Flame retardant
			Halogenated compound(Brominations epoxy)	-	8.4	9000	Flame retardant
			Silica	60676-86-0/-	753	806815	Filler
			Carbon black	1333-86-4	14	15001	Coloring agent
			Hardening chemical(ex:Phenol resin)	-	56	60002	Base material
			Organic phosphorous compound	-	4.7	5036	Hardening accelerator
others			-	47	50038	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 for the Cu type. And the carbon, silicon, and manganese are included for 42alloy type.