



## Material Declaration Table

**Package Type:** QFP 64  
**Package Code:** PQF064  
**Dimension:** 20 x 14 x 3.35 mm  
**IC Weight (mg):** 1700.0000  
**Assembly Location:** J-devices/Usuki  
**Product is RoHS Compliant**

部位名 Part Name	部位重量(mg) Part Weight	CAS No.	含有物質名 Contained material Name	使用目的 Purpose of use	含有量(mg) Contained material Weight	製品重量に対する含有率 Weight percent and ppm values per IC weight		部位重量に対する含有率 Weight percent and ppm values per part weight	
						w t %	p p m	w t %	p p m
チップ:Chip	19.6590	7440-21-3	シリコン Silicon(Si)	チップ材料 Chip Material	19.6590	1.1564%	11564	100.0000%	1000000
リードフレーム Lead frame	271.0900	7440-02-0	ニッケル Nickel(Ni)	リードフレーム材料 Lead frame material	112.1700	6.5982%	65982	41.3774%	413774
		7439-89-6	鉄 Iron (Fe)	リードフレーム材料 Lead Frame material	158.1200	9.3012%	93012	58.3275%	583275
		7440-22-4	銀 Silver (Ag)	Agパッキ Ag Plating	0.8000	0.0471%	471	0.2951%	2951
ダイ付け剤 Die attach	3.1640	7440-22-4	銀 Silver (Ag)	ダイ付け剤 Die attach	2.7370	0.1610%	1610	86.5000%	865000
		Trade Secret	エポキシ樹脂 Epoxy Resin (EP)	ダイ付け剤 Die attach	0.3320	0.0195%	195	10.5000%	105000
		Trade Secret	フェノール樹脂 Phenolic Resin	ダイ付け剤 Die attach	0.0950	0.0056%	56	3.0000%	30000
ボンディングワイヤー Bonding Wire	1.2400	7440-57-5	金 Gold (Au)	ワイヤー材料 Wire material	1.2400	0.0729%	729	100.0000%	1000000
封止樹脂 Encapsulation resin	1384.4470	Trade Secret	有機リン化合物 Organic phosphorus compounds (P)	硬化促進剤 Hardening accelerator	55.3779	3.2575%	32575	4.0000%	40000
		60676-86-0	シリカ Silica (SiO2)	添加剤 Additive	1257.0779	73.9458%	739458	90.8000%	908000
		1333-86-4	カーボンブラック Carbon black (C)	着色顔料 Coloring pigment	2.7689	0.1629%	1629	0.2000%	2000
		Trade Secret	エポキシ樹脂 Epoxy Resin (EP)	樹脂材料 Resin Material	69.2224	4.0719%	40719	5.0000%	50000
リードフレーム 半田メッキ Solder plating of Lead frame	20.4000	7440-69-9	ビスマス Bismuth (Bi)	半田メッキ Solder plating	0.4080	0.0240%	240	2.0000%	20000
		7440-31-5	錫 Tin (Sn)	半田メッキ Solder plating	19.9920	1.1760%	11760	98.0000%	980000
合計 Total	1700.0000				1700.0000	100.0000%	1000000		

### Disclaimer

In general, four decimal values are shown. However, some variance remains from package to package. The mass values presented are thought to be accurate to within 20 percent. The report does not include materials not intentionally added to our products (impurities), or material concentrations less than 1 ppm.

注) ヒ素はチップ中にイオン化し打ち込み、素子材料として含有していますが、微量のため表からは除外しています。チップ全面に打ち込む（現実には有り得ませんが、理論上の最大値）と仮定して、チップ重量に対し11ppmの含有となります。

Note) This product contains Arsenic(As) as a device material through ion implantation, however, it is not listed in the table due to the minuscule quantities. Given that Arsenic is implanted into entire surface of the chip (That situation is improbable in reality and the theoretical maximum value is calculated), it would be 11ppm per a chip weight.

**Document History Page**

Document Title: Material Declaration Datasheet (MDDS) - QFP 64 (PQF064) (E1) - J-devices/Usuki - Au Wire  
Document Number: 002-13699

Rev.	ECN No.	Orig. of Change	Description of Change
**	5307339	AAC	Initial Release.
*A	5348751	AAC	Updated Specs Title. Updated Package Type. Added Package Code. Added Package Dimension. Added (mg) on IC Weight. Added Assembly Location. Updated Document Title on Document History Page. Added Assembly Location on Document Title on History Page.