

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

ltc3220epf#pbf

(Engineering Calculation)

UTQFN 4mm X 4mm Exposed Pad

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**TOTAL MASS (g) : 0.02918**

COMPONENT MATERIAL	VENDOR/ INDUSTRY NAMES	CONSTITUENT NAME	CAS NUMBER	CONSTITUENT MASS (g)	CONSTITUENT (PPM) OF MATERIAL	CONSTITUENT (PPM) OF TOTAL PKG.		
Active Device	Linear Technology	Silicon (Si)	7440-21-3	0.001794	1000000	61480.078125		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	0.009974	975000	341807.3125		
		Iron (Fe)	7439-89-6	0.000246	24000	8430.37988281		
		Phosphorus (P)	7723-14-0	0.000003	300	102.809501648		
		Zinc (Zn)	7440-66-6	0.000007	700	239.888824463		
		Nickel (Ni)	7440-02-0	0.000000	0	0		
		Silicon (Si)	7440-21-3	0.000000	0	0		
		Magnesium (Mg)	7439-95-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000000	0	0		
<b>Lead Frame Total:</b>				<b>0.010230</b>	<b>1000000</b>	<b>350580.40625</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.000707	1000000	24235.1074219		
		<b>External Plating Total:</b>				<b>0.000707</b>	<b>1000000</b>	<b>24235.1074219</b>
		Inter. Plating Ni	7440-02-0	0.000000	0	0		
		Inter. Plating Ag	7440-22-4	0.000362	1000000	12405.6787109		
<b>Internal Plating Total:</b>				<b>0.000362</b>	<b>1000000</b>	<b>12405.6787109</b>		
Die Attach	ELECTRICALLY CONDUCTIVE ADHESIVE	Silver (Ag)	7440-22-4	0.000861	750000	29506.3242188		
		Tin (Sn)	7440-31-5	0.000000	0	0		
		Lead (Pb)	7439-92-1	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.000000	0	0		
		Indium (In)	7440-74-6	0.000000	0	0		
		Metal Oxide		0.000000	0	0		
		Antimony (Sb)	7440-36-0	0.000000	0	0		
		Resin (EP)		0.000287	250000	9835.44140625		
<b>Die Attach Total:</b>				<b>0.001148</b>	<b>1000000</b>	<b>39341.765625</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.001918	130000	65729.5390625		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.012685	860000	434712.8125		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.000148	10000	5071.93505859		
		<b>Encapsulation Total:</b>				<b>0.014751</b>	<b>1000000</b>	<b>505514.3125</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000188	1000000	6442.72851562		
					<b>TOTAL MASS (g) :</b>	<b>0.02918</b>		