

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

ltc4228cufd-2#pbf

(Engineering Calculation)

QFN 4mm X 5mm Exp. Pad

(printed on: 2020-07-11 22:32:56)

**TOTAL MASS (g) : 0.051944**

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	0.003678	1000000	70806.7421875		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	0.019997	975000	384970.75		
		Iron (Fe)	7439-89-6	0.000492	24000	9471.70117188		
		Phosphorus (P)	7723-14-0	0.000006	300	115.508552551		
		Zinc (Zn)	7440-66-6	0.000014	700	269.519958496		
		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>0.020509</b>	<b>1000000</b>	<b>394827.5</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.000227	1000000	4374.07763672		
		<b>External Plating Total:</b>				<b>0.000227</b>	<b>1000000</b>	<b>4374.07763672</b>
		Inter. Plating Ni	7440-02-0	0.000000	0	0		
		Inter. Plating Ag	7440-22-4	0.000429	1000000	8258.86132812		
<b>Internal Plating Total:</b>				<b>0.000429</b>	<b>1000000</b>	<b>8258.86132812</b>		
Die Attach	ELECTRICALLY CONDUCTIVE ADHESIVE	Silver (Ag)	7440-22-4	0.001409	750000	27125.2578125		
		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)		0.000470	250000	9048.16992188		
<b>Die Attach Total:</b>				<b>0.001879</b>	<b>1000000</b>	<b>36173.4257812</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.003244	130000	62451.625		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.021457	860000	413077.8125		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.000250	10000	4812.85644531		
		<b>Encapsulation Total:</b>				<b>0.024951</b>	<b>1000000</b>	<b>480342.3125</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000271	1000000	5217.13574219		
					<b>TOTAL MASS (g) :</b>	<b>0.051944</b>		