

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

ltc4162eufd-ffs#pbf

(Engineering Calculation)

QFN 4mm X 5mm Exp. Pad

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**TOTAL MASS (g) : 0.051721**

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	0.003400	1000000	65737.0625		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	0.019997	975000	386630.59375		
		Iron (Fe)	7439-89-6	0.000492	24000	9512.5390625		
		Phosphorus (P)	7723-14-0	0.000006	300	116.006576538		
		Zinc (Zn)	7440-66-6	0.000014	700	270.682006836		
		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>396529.8125</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.000227	1000000	4392.93701172		
		<b>External Plating Total:</b>				<b>0.000227</b>	<b>1000000</b>	<b>4392.93701172</b>
		Inter. Plating Ni	7440-02-0	0.000000	0	0		
		Inter. Plating Ag	7440-22-4	0.000429	1000000	8294.46972656		
<b>Internal Plating Total:</b>				<b>0.000429</b>	<b>1000000</b>	<b>8294.46972656</b>		
Die Attach	ELECTRICALLY CONDUCTIVE ADHESIVE	Silver (Ag)	7440-22-4	0.001310	750000	25328.1015625		
		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)		0.000437	250000	8449.14550781		
<b>Die Attach Total:</b>				<b>0.001747</b>	<b>1000000</b>	<b>33777.25</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.003244	130000	62720.8867188		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.021457	860000	414858.8125		
		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	4833.60742188		
		<b>Encapsulation Total:</b>				<b>0.024951</b>	<b>1000000</b>	<b>482413.3125</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000458	1000000	8855.16796875		
					<b>TOTAL MASS (g) :</b>	<b>0.051721</b>		