

## LINEAR TECHNOLOGY MATERIALS DECLARATION

LTC4227IUF2-2#PBF

(Engineering Calculation)

QFN 4mm X 5mm Exp. Pad

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TOTAL MASS (g): 0.051647

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	0.002468	1000000	6747.875		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	0.019997	975000	387184.53125		
		Iron (Fe)	7439-89-6	0.000492	24000	9526.16894531		
		Phosphorus (P)	7723-14-0	0.000006	300	116.172782998		
		Zinc (Zn)	7440-66-6	0.000014	700	271.069854736		
		Nickel (Ni)	7440-02-0	0.000000	0	0		
		Silicon (Si)	7440-21-3	0.000000	0	0		
		Magnesium (Mg)	7439-96-4	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>397097.9375</b>
		Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0
Exter. Plating Sn	7440-31-5			0.000227	1000000	4399.23046875		
<b>External Plating Total:</b>						<b>0.000227</b>	<b>1000000</b>	<b>4399.23046875</b>
Inter. Plating Ni	7440-02-0			0.000000	0	0		
Inter. Plating Ag	7440-22-4			0.000498	1000000	9642.34082031		
<b>Internal Plating Total:</b>						<b>0.000498</b>	<b>1000000</b>	<b>9642.34082031</b>
Die Attach	ELECTRICALLY CONDUCTIVE ADHESIVE	Silver (Ag)	7440-22-4	0.001346	750000	20661.4277344		
		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)		0.000449	250000	8693.59765625		
		<b>Die Attach Total:</b>				<b>0.001795</b>	<b>1000000</b>	<b>34755.0234375</b>
		Encapsulation	MULTIAROMATIC RESIN BOND FREE	Resin (EP)		0.003244	130000	62810.75
Bromine (Br)	40093-93-8			0.000000	0	0		
Silica (SiO2)	60676-86-0			0.021457	860000	415453.21875		
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	4840.53271484		
<b>Encapsulation Total:</b>						<b>0.024951</b>	<b>1000000</b>	<b>483104.53125</b>
Bond Wire Estimated	AFW/TANAKA/Kn	Gold (Au)	7440-57-5	0.000199	1000000	3853.06396484		

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