

**LINEAR TECHNOLOGY MATERIALS DECLARATION**

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(Engineering Calculation)

TO-220

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**TOTAL MASS (g) : 1.990193**

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	0.005902	1000000	2965.54101562		
Die Coat	Dow Corning	Silicone	69430-27-9	0.000000	0	0		
Lead Frame	Cu	Copper (Cu)	7440-50-8	1.428754	998500	717897.125		
		Iron (Fe)	7439-89-6	0.000000	0	0		
		Phosphorus (P)	7723-14-0	0.000000	0	0		
		Zinc (Zn)	7440-66-6	0.000000	0	0		
		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	0.002146	1500	1078.28723145		
<b>Lead Frame Total:</b>				<b>1.430900</b>	<b>1000000</b>	<b>718975.4375</b>		
Plating	PMI	Exter. Plating Pb	7439-92-1	0.000000	0	0		
		Exter. Plating Sn	7440-31-5	0.011398	1000000	5727.21679688		
		<b>External Plating Total:</b>				<b>0.011398</b>	<b>1000000</b>	<b>5727.21679688</b>
		Inter. Plating Ni	7440-02-0	0.010000	834028.375	5024.63769531		
		Inter. Plating Ag	7440-22-4	0.001990	165971.640625	999.902954102		
		<b>Internal Plating Total:</b>				<b>0.011990</b>	<b>1000000</b>	<b>6024.54052734</b>
Die Attach	95Pb / 5 Sn	Silver (Ag)	7440-22-4	0.000000	0	0		
		Tin (Sn)	7440-31-5	0.000128	50000	64.3153610229		
		Lead (Pb)	7439-92-1	0.002437	950000	1224.50415039		
		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)		0.000000	0	0		
<b>Die Attach Total:</b>				<b>0.002565</b>	<b>1000000</b>	<b>1288.81958008</b>		
Encapsulation	MULTI-AROMATIC RESIN Br/Sb FREE	Resin (EP)		0.054270	103000	27268.7070312		
		Bromine (Br)	40039-93-8	0.000000	0	0		
		Silica (SiO2)	60676-86-0	0.471567	895000	236945.328125		
		Antimony Trioxide (Sb2O3)	1309-64-4	0.000000	0	0		
		Metal Hydroxide		0.000000	0	0		
		Carbon Black (C)	1333-86-4	0.001054	2000	529.596801758		
		<b>Encapsulation Total:</b>				<b>0.526891</b>	<b>1000000</b>	<b>264743.625</b>
Bond Wire Estimated	AFW/TANAKA/ Kn	Gold (Au)	7440-57-5	0.000547	1000000	274.84765625		
					<b>TOTAL MASS (g) :</b>	<b>1.990193</b>		